Funding Application

**Competition**  
Regional FHWA

**Application Type**  
Manufacturing/Industrial Centers

**Status**  
submitted

**Submitted:**  
April 11th, 2022 11:23 AM

**Prepopulated with screening form?**  
Yes

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**Project Information**

1. **Project Title**  
Zero-Emission Cargo-Handling Equipment Incentive Program

2. **Regional Transportation Plan ID**  
This type of project has only recently become available for funding under IIJA/BIL. The NWSA and its partners just published the 2020 Update to the Northwest Ports Clean Air Strategy

3. **Sponsoring Agency**  
Northwest Seaport Alliance

4. **Cosponsors**  
Port of Tacoma, Port of Seattle

5. **Does the sponsoring agency have "Certification Acceptance" status from WSDOT?**  
No

6. **If not, which agency will serve as your CA sponsor?**  
WSDOT Olympic Region in Pierce County

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**Contact Information**

1. **Contact name**  
Nicola Graham

2. **Contact phone**  
12533839444

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ngraham@nwseaportalliance.com

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**Project Description**

1. **Project Scope**  
The Zero-Emission Cargo-Handling Equipment Incentive Program will support the tenants of the Northwest Seaport Alliance (NWSA) to retire their diesel equipment early and replace them with zero-emission (battery-electric or hydrogen) equivalent units. The program will help the NWSA and its tenants meet the goals of the Northwest Ports Clean Air Strategy, eliminating all seaport-related emissions by 2050. Cargo-handling equipment (CHE) is a priority activity sector to target in the near-term, as equipment stays on the terminal for its entire lifetime, meaning near-port communities in the Seattle and Tacoma Harbors are living side-by-side with these resulting diesel exhaust emissions.

Zero-emission (ZE) technology for port CHE is rapidly evolving and being deployed at terminals, especially in Europe and Southern California. ZE technology is currently more readily available for smaller pieces of equipment used on the terminals, especially forklifts and yard tractors. Larger pieces (i.e. reachstackers and top-picks) are still in development. This
Program would be open to any ZE equipment replacements, but is most likely to be used to replace yard tractors in the near-term for this reason.

The Program would cover up to 50% of the cost of the replacement unit and necessary charging/fueling infrastructure, capped at $220,000 per unit. The structure of this program is similar to a previous CMAQ funded drayage scrap and replace program administered by the Port of Seattle and Puget Sound Clean Air Agency (PSCAA). The total CMAQ funding of $4.4 million, together with $4.4 million of matching dollars, would fund 20 pieces of ZE cargo-handling equipment. The purchase price of a new battery electric terminal tractor is roughly three times more than a comparable new, Tier 4 diesel terminal tractor and the electric model requires substantial infrastructure upgrades to support charging. This funding would help bridge that gap, making the upgrade much more achievable and affordable.

2. Project Justification, Need, or Purpose
The Zero-Emission Cargo-Handling Equipment Incentive Program will reduce Diesel Particulate Matter (DPM) and greenhouse gas (GHG) emissions by 100% from each piece of diesel equipment replaced. The project will result in the total elimination of DPM and GHG from 20 pieces of equipment, resulting in a reduction of 12.46 tons of PM2.5 and 10,678 tons of GHG over the lifetime of the project. In the Tacoma/Seattle area, diesel exhaust presents the greatest public health risk of all toxic air pollutants, consistent with many other urban areas around the country. Goods movement operations, like port terminals and rail yards, typically depend on diesel powered equipment, meaning that communities near these facilities are disproportionately impacted by diesel pollution.

ZE cargo-handling equipment is an emerging technology in port applications and as such, significant financial incentives are needed to make the technology accessible to private operators. The purchase price of a new battery electric terminal tractor is roughly three times greater than a comparable new, Tier 4 diesel machine and requires substantial infrastructure upgrades to support charging. While operational costs for battery electric terminal tractors (fuel/energy and maintenance) are lower than for diesel machines, the 7-year total cost of ownership for battery-electric machines is estimated to be greater than diesel machines by nearly $200,000 in the “San Pedro Bay Ports Clean Air Action Plan 2018 Feasibility Assessment for Cargo-Handling Equipment”, indicating that the purchase price is a significant barrier to adoption. The assessment also shows that operating battery-electric terminal tractors can be economically viable, given the proper incentives, demonstrating the need for this funding.

Project Location

1. Project Location
Port of Tacoma and Seattle marine terminals (Harbor Island), Port of Tacoma - Tideflats

2. Please identify the county(ies) in which the project is located. (Select all that apply.)
King, Pierce

3. Crossroad/landmark nearest the beginning of the project
N/A

4. Crossroad/landmark nearest the end of the project
N/A

5. Map and project graphics
nwsa_facilitiesservicesguide_digital_0.pdf,
Seattle_Harbor_Terminal_Fact_Sheets_11.19.21.pdf,
Tacoma_Harbor_Terminal_Fact_Sheets_03.24.22.pdf

Plan Consistency

1. Is the project specifically identified in a local comprehensive plan?
Yes

2. If yes, please indicate the (1) plan name, (2) relevant section(s), and (3) page number where it can be found.
One Tacoma Comprehensive Plan Environmental + Watershed Health Goal EN-3: Ensure that all Tacomans have access to clean air and water, can experience nature in their daily lives and benefit from development that is designed to lessen the impacts of natural hazards and environmental contamination and degradation, now and in the future. Page 4-2

Seattle 2035 Comprehensive Plan Climate Goal EN G3: Reduce Seattle’s greenhouse gas emissions by 58 percent from 2008 levels by 2030 and become carbon neutral by 2050. A related policy is EN 3.6 Reduce the emissions associated with the life cycle of goods and services by encouraging the use of durable, local products and recycled-content or reused
3. If no, please describe how the project is consistent with the applicable local comprehensive plan, including specific local policies and provisions the project supports. In addition, please describe how the project is consistent with a transit agency plan or state plan, if applicable.

The project supports a number of goals in the Pierce County Comprehensive Plan (updated 2021).

Under the Economic Vitality element of the Plan, the project design especially meets goal EC-1.2 (Create and encourage partnerships between government and business), and EC-1.2.4 (Create new mechanisms to fund infrastructure and support commercial and industrial development).

The overall goal of the project, in replacing diesel equipment at the port with zero-emission replacements, meets the Air Quality goals in the Pierce County Comprehensive Plan (GOAL ENV-3 Attain a high level of air quality to ensure a reduction in adverse health impacts and to provide clear visibility for the scenic views). With the project supporting the introduction of zero-emission equipment, this especially meets goal ENV-3.7 (Pursue the use of alternative cleaner-burning fuels) and ENV-3.10 (Encourage new use of new technologies and strategies that minimize impacts on air quality and greenhouse gas emissions from increased industrial uses within the Employment Centers).

Federal Functional Classification

1. Functional class name
   00 Not applicable (transit, enhancements, Etc.)

Support for Centers

1. Describe the relationship of the project to the center(s) it is intended to support. Identify the designated regional growth or manufacturing/industrial center(s) and whether or not the project is located within the center or along a corridor connecting to the center(s).

Northwest Seaport Alliance and port facilities are located in the Port of Tacoma Manufacturing/Industrial Center and the Duwamish Manufacturing/Industrial Center. The program would incentivize marine terminal operators in the NWSA’s two harbors (Seattle and Tacoma) to retire diesel equipment early and replace them with zero-emission (ZE) equivalent units.

Criteria: Development and User Benefit

1. Describe how the project will benefit or support the development plans and activities of the manufacturing/industrial center. Please provide a citation of the corresponding policies and/or specific project references in a subarea plan or in the comprehensive plan.

Northwest Seaport Alliance facilities are located in the Port of Tacoma Manufacturing/Industrial Center and the Duwamish Manufacturing/Industrial Center. The program would incentivize tenants of the NWSA in the NWSA’s two harbors (Seattle and Tacoma) to retire diesel equipment early and replace them with zero-emission (ZE) equivalent units.

NWSA marine terminal operators rely on cargo-handling equipment to move containers and breakbulk cargo on and off vessels, around the terminal, and on and off drayage trucks. Terminal operations depend on the reliability and efficiency of this equipment every day. As ZE cargo-handling equipment has fewer moving parts and thus requires less maintenance and downtime compared to diesel equipment, ZE equipment will improve the efficiency of each terminal that participates in the program, resulting in significant maintenance cost savings. Financially healthy terminal operators are able to expand their business, take on more cargo, and hire more workers, contributing to the overall health and activity of the Manufacturing/Industrial Center.

Healthy MICs are dependent on the viability of the NWSA’s facilities, which anchor the MICs. The PSRC Regional Centers Framework notes that “Moving freight and goods to and through MICs is critical, on trucks, as well as other modes, such as marine, air and rail”. The MICs are ecosystems that are based on the existence of the ports – this program will improve the efficiency and operations of the terminals, which will in turn improve the overall vitality of the MICs.

2. Describe how the project will support the establishment of new jobs/businesses or the retention of existing jobs/businesses, including those in the industry clusters identified in the adopted regional economic strategy.
The program will modernize equipment at NWSA’s terminals in Seattle and Tacoma, helping to retain cargo business and the good-paying, family-wage jobs at these terminals. The ZE Cargo-Handling Equipment Incentive Program will help implement the Container Port elements of the Cities of Tacoma and Seattle Comprehensive Plans. The marine terminals of the NWSA are part of a broader entwined industrial ecosystem, as seen most recently by the breadth of COVID-related supply chain issues. Supporting these businesses will help support the broader supply chain, all businesses that work with our terminal operators.

New skills will be needed to operate and maintain zero-emission equipment, which relies on battery technology or hydrogen fuel cells, entirely different from the diesel engines the current equipment use. There is the potential for new jobs to be created by the widespread adoption of new zero-emission technology at NWSA terminals, as the equipment will have different maintenance requirements focused on electrical engineering as opposed to diesel engine mechanics. Zero-emission pieces will be added to existing fleets. As terminal operators will continue to operate other existing diesel equipment in their fleet, there will still be a significant need for existing jobs specialized in maintaining this diesel equipment alongside demands for new skills and jobs created by the introduction of new ZE equipment in the fleet.

3. Describe how the project will support the existing and planned employment densities in the manufacturing/industrial center.

The program will support industry in the Port of Tacoma Manufacturing/Industrial Center and the Duwamish Manufacturing/Industrial Center by helping the maritime industry’s transition to the green economy, positioning both MICs for future growth. ZE cargo-handling equipment is an emerging technology in port applications and as such, financial incentives are needed to make the technology accessible to private operators. The ZE Cargo-Handling Equipment Incentive Program will help participants bridge the cost gap between new diesel equipment and the additional cost of a ZE equivalent.

The purchase price of a new battery electric terminal tractor is roughly three times greater than a comparable new, Tier 4 diesel machine and requires substantial infrastructure upgrades to support charging. While operational costs for battery electric terminal tractors (fuel/energy and maintenance) are lower than for diesel machines, the 7-year total cost of ownership for battery-electric machines is estimated to be greater than diesel machines by nearly $200,000 in the “San Pedro Bay Ports Clean Air Action Plan 2018 Feasibility Assessment for Cargo-Handling Equipment”, indicating that the purchase price is a significant barrier to adoption. The San Pedro assessment also shows that despite higher up-front costs, operating battery-electric terminal tractors can be economically viable given the proper incentives.

With the support of CMAQ funding, the marine industries in these two MICs will be able to reduce their upfront investment, operating and maintenance costs, and be able to support their future development, leading to both job retention and the potential for further investment and job creation.

4. Describe how the project will benefit a variety of user groups, including freight commuters, residents, and/or commercial users.

The Zero-Emission Cargo-Handling Equipment Incentive Program will reduce Diesel Particulate Matter (DPM) and greenhouse gas (GHG) emissions by 100% from each piece of diesel equipment replaced. The project will result in the total elimination of DPM and GHG from 20 pieces of equipment, resulting in a reduction of 12.46 tons of PM2.5 and 10,678 tons of GHG over the lifetime of the project. This will improve air quality for port workers and residents of near-port communities living near NWSA terminals in Seattle and Tacoma. It will also improve local air quality around the terminals, helping create a healthy environment in the Tideflats and in South Seattle/Duwamish Valley for pedestrians and bicyclists. Furthermore, it will reduce GHG emissions which contribute to climate change. Reducing our air pollutant and GHG emissions will help the port maintain its social license to operate with our near-port communities, and help meet community expectations that industry in both MICs reduce their impact on the environment.

Criteria: Circulation, Mobility, and Accessibility

1. Describe how the project provides and/or enhances opportunities for freight movement.

A single terminal operates as a complex, intra-dependent system, with a range of different types of cargo-handling equipment operated in careful coordination to move cargo between vessels to peel-off piles to trucks to rail cars. This individual ecosystem of freight movement on one terminal is then connected to the broader supply chain ecosystems of the Puget Sound region and the rest of the country. Delays caused by any single piece of equipment have the potential to affect the utilization of the other pieces of equipment in the chain. The growing adoption of ZE equipment will result in each terminal having to adapt their operations to account for ZE equipment working alongside existing diesel equipment. Increasing the number of equipment deployed to offset efficiency losses can create other challenges. ZE equipment improves the operational efficiency of a terminal as there is less maintenance...
downtime and associated costs compared to a diesel piece of equipment, primarily due to the lack of moving parts. The San Pedro Bay Ports Clean Air Action Plan 2018 Feasibility Assessment for Cargo-Handling Equipment found that battery-electric yard tractor maintenance costs were approximately 30% less per unit than the diesel baseline maintenance costs, based on 2018 usage and maintenance data at the Ports of LA and Long Beach.

2. **Describe how the project completes a physical gap, provides an essential link, or removes a barrier in the Freight & Goods component of the regional transportation system.**

Improving on-terminal efficiency is the first step of efficiently moving goods onwards onto the rest of the supply chain throughout the gateway. The program will preserve essential freight movement by supporting the transition to zero emissions port terminals. Our regional economy, and that of Washington State, is dependent on the goods moving through our facilities. The positive effects of improving the efficiency of these terminals will reverberate beyond Tacoma and Seattle.

As any charging infrastructure is installed on-terminal for battery-electric cargo-handling equipment, installation will create opportunities for the terminal operator to either simultaneously install EV charging for staff passenger vehicles and/or terminal fleet vehicles, or lay the conduit for future installations during construction. Combining these two installations, or preparing for future installations, will reduce construction costs and potential upgrades to the electrical system. The home ports of Seattle and Tacoma and the NWSA are currently conducting two electrification planning studies for the North and South Harbors – the South Harbor Electrification Roadmap in Tacoma, as listed as an early action of the NWSA Clean Air Implementation Plan, and the Seattle Waterfront Clean Energy Study. These two electrification studies, conducted in partnership with the two utilities – Tacoma Power and Seattle City Light – will establish the baseline electrification needs of the two waterfronts, and the substantial upgrades required to electrify the whole waterfront. These two studies will be completed by 2023, long before this Program would be established, and will help identify any major grid capacity constraints.

3. **Describe how the project improves access for one or more modes to major employment sites.**

The program will improve on-terminal efficiency and movement of goods both on-terminal and outside to the gate to the broader supply chain. Improving the on-terminal efficient use of the cargo-handling equipment will result in more cargo being moved overall, and more trucks will be able to be serviced at each terminal, resulting in less congestion outside the gate.

4. **Describe how the project provides opportunities for active transportation that can lead to public health benefits.**

The program would eliminate diesel particulate matter (DPM) and greenhouse gas (GHG) emissions from the diesel versions they replace, in turn reducing absolute DPM and GHG emissions in the two MICs. By reducing DPM and GHG emissions, the program will help create a healthier environment for people to feel safer and more inclined to walk and cycle, as they will have fewer pollutants to breathe.

5. **Describe how the project promotes Commute Trip Reduction (CTR) and other TDM opportunities.**

n/a

6. **Public health improvement description**

N/A

7. **Public health improvement description**

N/A

**Criteria: Equity**

1. **Identify the population groups to be served by the project.**

In the Tacoma/Seattle area, diesel exhaust presents the greatest public health risk of all toxic air pollutants, consistent with many other urban areas around the country. Goods movement operations, like port terminals and rail yards, typically depend on diesel powered equipment, meaning that communities near these facilities are disproportionately impacted by diesel pollution. The project locations are near the Downtown, East Side, Hilltop, and Northeast Tacoma neighborhoods of Tacoma, the ancestral lands of the Puyallup Tribe of Indians, as well as the City of Fife, and the Duwamish, South Park, West Seattle and Georgetown neighborhoods in Seattle. Many of these neighborhoods are disproportionately impacted by air pollution due to their proximity to the port industrial complex and the I-5 corridor. In addition, neighborhood income demographics pose environmental justice concerns. Specifically, the census tract that includes the project locations and surrounding census tracts all score a 9 or 10 out of 10 for the “diesel pollution and disproportionate impacts” index, according to the Washington State Department of Health. In addition, many properties controlled by the NWSA and Port of Tacoma lie within the boundaries of the Puyallup Indian Reservation, indicating impacts on indigenous communities.
3. Describe how the project is addressing those disparities or gaps and providing a benefit to the population groups identified under question 1 above.

The Zero-Emission Cargo-Handling Equipment Incentive Program would reduce the diesel pollution load on all communities near the port industrial complex, including those bearing a disproportionate pollution load and/or environmental justice concerns. The program would help remove diesel equipment entirely from the fleet, removing the pollution burden.

4. Describe the public outreach process that led to the development of the project.

The Zero-Emission Cargo-Handling Equipment Program was developed following three years of extensive community and industry outreach in the development of the Northwest Ports Clean Air Strategy, formally adopted by NWSA Managing Members in April 2021. The NWSA and home ports conducted a series of public workshops (one in person and others held online during 2020) where community members voiced concerns about air pollutants and greenhouse gases in both the Seattle and Tacoma Harbors resulting from port activities, especially from diesel drayage trucks and cargo-handling equipment, where emissions stay in proximity to them. International Longshore and Warehouse Union (ILWU) Local #23 represents 1,500 longshore workers at the Northwest Seaport Alliance. ILWU workers handle billions of dollars of cargo imported and exported from around the world. ILWU workers are routinely exposed to diesel exhaust as they work on the terminals, in close proximity to vessels that burn diesel continuously, and most containers at the port are moved by equipment that run on diesel. ILWU workers are routinely exposed to diesel exhaust and thereby experience increased risk of health impacts and associated decreased productivity. ILWU is a strong partner of the NWPCA. During one-on-one meetings with our marine terminal operators, to discuss near-term concrete actions and programs to deliver in the first 5 years of the NWPB, and dwell on and near Harbor Island, the percentage of foreign-born people living there and persons with language other than English spoken at home are higher than the Washington State average. The Zero-Emission Cargo-Handling Equipment Incentive Program would reduce the diesel pollution load on all communities near the port industrial complex, including those bearing a disproportionate pollution load and/or environmental justice concerns.

Contributing to the high score on the “diesel pollution and disproportionate impacts” index, many of the neighborhoods nearby the project locations experience elevated levels of poverty when compared with the surrounding county and the rest of the state. For example, in the census tract that includes the Tacoma project location, the percentage of persons below the poverty line is more than double the rate in Pierce County and the rest of the state (42.7%). In the Hilltop and East side neighborhood census tracts closest to the Tacoma terminal locations, the percentage of the population below the poverty line is also more than double the Pierce County and state-wide totals. The life expectancy of populations within these census tracts (around 75 years) are lower than the state average (about 80 years). In the Duwamish Valley and Beacon Hill census tract that includes the Seattle terminal locations, on and near Harbor Island, the percentage of foreign-born people living there and persons with language other than English spoken at home are higher than the Washington State average. The Zero-Emission Cargo-Handling Equipment Incentive Program would reduce the diesel pollution load on all communities near the port industrial complex, including those bearing a disproportionate pollution load and/or environmental justice concerns.

In addition to the near-port communities, port workers bear a disproportionate burden of the health impacts associated with diesel exhaust, as they spend their days working in or near diesel equipment. This project would reduce impacts to the workers that operate the diesel cargo-handling equipment at our Seattle and Tacoma terminals, and those that work in proximity to them. International Longshore and Warehouse Union (ILWU) Local #23 represents 1,500 longshore workers at the Northwest Seaport Alliance. ILWU workers handle billions of dollars of cargo imported and exported from around the world. ILWU workers are exposed to diesel, grain, and break bulk. ILWU workers face the most immediate exposure to diesel exhaust as they work on the terminals, in close proximity to vessels that burn diesel continuously, and most containers at the port are moved by equipment that run on diesel. ILWU workers are routinely exposed to diesel exhaust and thereby experience increased risk of health impacts and associated decreased productivity. ILWU is a strong partner of the NWPCA.

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Throughout the strategy update process, the NWSA and strategy partners are incorporating external feedback through targeted interviews and a stakeholder committee. This collaboration is building in part on the foundational work of the Port of Seattle (POS) Port-Community Action Team (PCAT) which includes the residents of South Park and Georgetown

2. Identify the disparities or gaps in the transportation system / services for these populations that need to be addressed.

See above

3. Describe how the project is addressing those disparities or gaps and providing a benefit to the population groups identified under question 1 above.

The Zero-Emission Cargo-Handling Equipment Incentive Program would reduce the diesel pollution load on all communities near the port industrial complex, including those bearing a disproportionate pollution load and/or environmental justice concerns. The program would help remove diesel equipment entirely from the fleet, removing the pollution burden.

4. Describe the public outreach process that led to the development of the project.

The Zero-Emission Cargo-Handling Equipment Program was developed following three years of extensive community and industry outreach in the development of the Northwest Ports Clean Air Strategy, formally adopted by NWSA Managing Members in April 2021. The NWSA and home ports conducted a series of public workshops (one in person and others held online during 2020) where community members voiced concerns about air pollutants and greenhouse gases in both the Seattle and Tacoma Harbors resulting from port activities, especially from diesel drayage trucks and cargo-handling equipment, where emissions stay in proximity to them. International Longshore and Warehouse Union (ILWU) Local #23 represents 1,500 longshore workers at the Northwest Seaport Alliance. ILWU workers handle billions of dollars of cargo imported and exported from around the world. ILWU workers are exposed to diesel, grain, and break bulk. ILWU workers face the most immediate exposure to diesel exhaust as they work on the terminals, in close proximity to vessels that burn diesel continuously, and most containers at the port are moved by equipment that run on diesel. ILWU workers are routinely exposed to diesel exhaust and thereby experience increased risk of health impacts and associated decreased productivity. ILWU is a strong partner of the NWPCA. During one-on-one meetings with our marine terminal operators, to discuss near-term concrete actions and programs to deliver in the first 5 years of the NWPB, and dwell on and near Harbor Island, the percentage of foreign-born people living there and persons with language other than English spoken at home are higher than the Washington State average. The Zero-Emission Cargo-Handling Equipment Incentive Program would reduce the diesel pollution load on all communities near the port industrial complex, including those bearing a disproportionate pollution load and/or environmental justice concerns.

Contributing to the high score on the “diesel pollution and disproportionate impacts” index, many of the neighborhoods nearby the project locations experience elevated levels of poverty when compared with the surrounding county and the rest of the state. For example, in the census tract that includes the Tacoma project location, the percentage of persons below the poverty line is more than double the rate in Pierce County and the rest of the state (42.7%). In the Hilltop and East side neighborhood census tracts closest to the Tacoma terminal locations, the percentage of the population below the poverty line is also more than double the Pierce County and state-wide totals. The life expectancy of populations within these census tracts (around 75 years) are lower than the state average (about 80 years). In the Duwamish Valley and Beacon Hill census tract that includes the Seattle terminal locations, on and near Harbor Island, the percentage of foreign-born people living there and persons with language other than English spoken at home are higher than the Washington State average. The Zero-Emission Cargo-Handling Equipment Incentive Program would reduce the diesel pollution load on all communities near the port industrial complex, including those bearing a disproportionate pollution load and/or environmental justice concerns.

Throughout the strategy update process, the NWSA and strategy partners are incorporating external feedback through targeted interviews and a stakeholder committee. This collaboration is building in part on the foundational work of the Port of Seattle (POS) Port-Community Action Team (PCAT) which includes the residents of South Park and Georgetown
5. **Describe how this outreach influenced the development of the project.**

The extensive community outreach conducted through the development of the NWPCAS and Implementation Plan drove the need for the development of a program focused on moving equipment to zero-emissions. Our outreach with industry and marine terminal operator partners about logistics of such a program, and how to navigate the grant funding terrain, led to the development of the program structure. Terminal operators communicated that they were frustrated with the short timeframes for putting together a grant application for other funding opportunities, and needed more time and flexibility to adapt their fleet replacement plans for when funding becomes available. During one-on-one meetings with marine terminal operators, NWSA staff were able to discuss equipment fleet replacement plans, and opportunities and concerns about introducing emerging zero-emission technology. Tenants were especially concerned about costs, infrastructure needs, and technology availability/viability to do the work required.

6. **Is the project in an area of low, medium, or high displacement risk?**

   Yes - both MICs are in moderate displacement risk areas

7. **If the project is in an area of medium or high displacement risk, identify the broader mitigation strategies in place by the jurisdiction to address those risks.**

The project locations will be on NWSA marine terminals in both Seattle and Tacoma. Both locations (Tacoma Tideflats and Seattle’s Harbor Island) score as a moderate displacement risk. The ports brought this committee together at key points in the strategy development process to develop recommendations for the NWPCAS and review drafts. Examples of representatives from the community include groups like local labor unions, the Duwamish Valley PCAT, Communities for a Healthy Bay, Front and Centered, and the Tacoma Urban League.

The NWSA holds monthly public meetings of their elected Commissioners, to hear concerns of the local community. The need to incorporate electric cargo handling equipment into operations throughout the NWSA’s gateway is frequently expressed by Port Commissioners and the public, especially the need to accelerate adoption of this new technology in the Puget Sound region.

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**Criteria: Safety and Security**

1. **Describe how the project addresses safety and security.**

   The program will help improve the air quality locally by eliminating air pollutants such as PM2.5 and NOx, helping improve local air quality and safety. Noise will be eliminated from diesel engines.
2. **Describe how the project helps protect vulnerable users of the transportation system, by improving pedestrian safety and addressing existing risks or conditions for pedestrian injuries and fatalities, and/or adding or improving facilities for pedestrian and bicycle safety and comfort.**

There are non-motorized facilities in both harbors near our container terminals, such as Jack Block Park near our Seattle terminals, and the Gog-le-hi-te wetlands on the Tacoma Tideflats. The project improves the comfort of vulnerable users of the transportation system not only by improving the air they breathe, but also by reducing noise associated with the operation of heavy-duty diesel cargo-handling equipment.

3. **Describe how the project reduces reliance on enforcement and/or designs for decreased speeds.**

All NWSA terminals have anti-idling requirements for heavy-duty diesel cargo-handling equipment included in our leases. Converting the fleet to zero-emissions vehicles will eliminate the necessity for enforcement of these rules.

4. **Does your agency have an adopted safety policy (e.g., Vision Zero, Target Zero, etc.)? How did these policies inform the development of the project?**

All container terminals managed by the NWSA have safety policies for the movement of cargo-handling equipment designed to protect workers on the terminals from accidents with cargo handling equipment, such as the use of back-up alarms to alert workers of approaching equipment. Eliminating operating diesel noise from cargo-handling equipment will make it easier for workers to focus attention on back-up alarms and other audible warning devices.

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**Criteria: Air Quality and Climate Change**

1. Please select one or more elements in the list below that are included in the project's scope of work, and provide the requested information in the pages to follow.

   - Alternative Fuels or Vehicle Technology

**Air Quality and Climate Change: Alternative Fuels or Technology**

1. **Describe the change in fuel or vehicle technology.**
   Replacement of old and heavily-used non-road diesel equipment on port terminals with zero-emission equivalent unit (battery-electric or hydrogen)

2. **How many vehicles/equipment are affected?**
   Target: 20 pieces of cargo-handling equipment

3. **What are the current conditions (model year, fuel type, etc.) of the vehicles/equipment?**
   Tier 0 - 3 diesel non-road equipment (ports - cargo-handling equipment)

4. **Describe the annual activity per vehicle/equipment (e.g. miles traveled per vehicle, amount of fuel used per engine, etc.)**
   Mixed fleet, across different terminals. To be eligible for program - minimum 500 hours of use annually.

5. **Please describe the source of the alternative fuel or technology data provided above (e.g. manufacturer data, EPA/DOE data, previous projects, etc.)**
   Based upon previous DERA and WA Clean Diesel grant applications, using EPA DEQ modeling inputs.

**Air Quality and Climate Change: CMAQ Questions**

1. For CMAQ projects: PSRC will utilize the “Useful Life” table included in the “Air Quality Guidance” document contained in the Call for Projects. If you have an alternate useful life figure for your project, please explain and provide the appropriate documentation supporting the deviation from the approved Useful Life table.
   n/a

2. For CMAQ projects: Is the project located as a 7 of 10 for diesel pollution and disproportionate impacts in the Washington Environmental Health Disparities map?
   Yes - both project locations (Port of Tacoma and Duwamish MICs) score between 7-10 on the Health Disparities map for diesel pollution

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**Criteria: Project Readiness and Financial Plan**
1. What is the PSRC funding source being requested?
   - CMAQ

2. Has this project received PSRC funds previously?
   - No

3. If yes, please provide the project’s PSRC TIP ID
   - N/A

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Total Request: $4,400,000.00

Total Estimated Project Cost and Schedule

Other

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$8,800,000.00

Expected year of completion for this phase: 2026

Summary

1. Estimated project completion date
   - 09/2026

2. Total project cost
   - $8,800,000.00

Funding Documentation

1. Documents
   - 2021_12_NWSA_NWPCAS_Implementation_Plan_Stylized-LT-91CL273.pdf,
   - 2022_NWSA_Document-I2-2-2021_FINAL.pdf,
   - Husky_terminal_support_letter.pdf,
   - Support_Letter_for_NWSA_CMAQ_Grant_-_Matson.pdf,
   - Support_Letter_for_NWSA_CMAQ_Grant_-_TOTE_signed.pdf,

2. Please enter your description of your financial documentation in the text box below.

Local match will be supplied by port tenants - currently unsecured as each tenant will apply for program once established, although are aware and supportive of program. Tenants will work with the NWSA to prepare their application under the Tenant Engagement Program, an early action of the Northwest Ports Clean Air Strategy (action listed on page 3 and 76/77 of attached NWSA Implementation Plan document).

The NWSA has included funds in its 2022-2026 Capital Investment Plan (2022-26, page 34 of 2022 budget document attached) for Port-Wide Infrastructure, in support of NWSA’s infrastructure or environmental improvements, which this program would be a part of. The Air Quality and Sustainable Practices program at the NWSA, which would manage the project, includes this project under its mission on page 37 of the attached budget document.

As the local match is to be provided by the tenants themselves, as they apply to the program, specific tenants cannot provide documentation to prove the funds are committed until they are accepted - this is key to the program design. The NWSA and home ports were able to use CMAQ funds in this way in a previous CMAQ drayage truck scrapping program, where truck owners were not required to commit their funds at the grant application stage. A number of tenants are extremely interested in the program when it launches, and have submitted letters of support (attached) indicating their interest in participating in the program as currently designed.

Project Readiness: PE
1. Are you requesting funds for ONLY a planning study or preliminary engineering? 
   No
2. What is the actual or estimated start date for preliminary engineering/design? 
   Not applicable
3. Is preliminary engineering complete? 
   No
4. What was the date of completion (month and year)? 
   N/A
5. Have preliminary plans been submitted to WSDOT for approval? 
   No
6. Are there any other PE/Design milestones associated with the project? Please identify and provide dates of completion. You may also use this space to explain any dates above. 
   N/A
7. When are preliminary plans expected to be complete? 
   Not applicable

Project Readiness: NEPA

1. What is the current or anticipated level of environmental documentation under the National Environmental Policy Act (NEPA) for this project? 
   Categorical Exclusion (CE)
2. Has the NEPA documentation been approved? 
   No
3. Please provide the date of NEPA approval, or the anticipated date of completion (month and year). 
   12/2023

Project Readiness: Right of Way

1. Will Right of Way be required for this project? 
   No
2. What is the actual or estimated start date for right of way? 
   N/A
3. What is the estimated (or achieved) completion date for the right of way plan and funding estimate (month and year)? 
   N/A
4. Please describe the right of way needs of the project, including property acquisitions, temporary construction easements, and/or permits. 
   N/A
5. What is the zoning in the project area? 
   N/A
6. Discuss the extent to which your schedule reflects the possibility of condemnation and the actions needed to pursue this. 
   N/A
7. Does your agency have experience in conducting right of way acquisitions of similar size and complexity? 
   N/A
8. If not, when do you expect a consultant to be selected, under contract, and ready to start (month and year)? 
   N/A
9. In the box below, please identify all relevant right of way milestones, including the current status and estimated completion date of each. 
   N/A

Project Readiness: Construction

1. Are funds being requested for construction?
2. Do you have an engineer's estimate?
N/A

3. Engineers estimate document
N/A

4. Identify the environmental permits needed for the project and when they are scheduled to be acquired.
N/A

5. Are Plans, Specifications & Estimates (PS&E) approved?
N/A

6. Please provide the date of approval, or the date when PS&E is scheduled to be submitted for approval (month and year).
N/A

7. When is the project scheduled to go to ad (month and year)?
N/A

**Other Considerations**

1. **Describe any additional aspects of your project not requested in the evaluation criteria that could be relevant to the final project recommendation and decision-making process.**

The Zero-Emission Cargo-Handling Equipment Incentive Program will support the tenants of the Northwest Seaport Alliance (NWSA) to retire their diesel equipment early and replace them with zero-emission (battery-electric or hydrogen) equivalent units at the port. The program will help the NWSA and its tenants meet the goals of the Northwest Ports Clean Air Strategy, eliminating all seaport-related emissions by 2050. Cargo-handling equipment is a priority activity sector to target in the near-term, as equipment stays on the terminal for its entire lifetime, meaning near-port communities in the Seattle and Tacoma Harbors are living side-by-side with these resulting diesel emissions.

Zero-emission technology in the port cargo-handling equipment sector is rapidly evolving and being deployed at terminals, especially in Europe and Southern California. ZE technology is currently more readily available for smaller pieces of equipment, especially forklifts and yard tractors. Larger pieces of equipment (e.g. reachstackers and top-picks) are still in development. Battery electric terminal tractors are an emerging technology in port applications and as such, significant financial incentives are needed to make the technology accessible to private operators. The purchase price of a new battery electric terminal tractor is roughly three times greater than a comparable new, Tier 4 diesel machine and requires substantial infrastructure upgrades to support charging. While operational costs for battery electric terminal tractors (fuel/energy and maintenance) are lower than for diesel machines, the 7-year total cost of ownership for battery-electric machines is estimated to be greater than diesel machines by nearly $200,000 in the “San Pedro Bay Ports Clean Air Action Plan 2018 Feasibility Assessment for Cargo-Handling Equipment”, indicating that the purchase price is a significant barrier to adoption. The assessment also shows that operating battery-electric terminal tractors can be economically viable, given the proper incentives, demonstrating the need for this CMAQ funding.

In December 2009 the EPA designated the Tacoma-Pierce County area, where the Tacoma Harbor project location is, a “non-attainment area”, because it was in violation of the EPA’s National Ambient Air Quality 24-hour standard for PM2.5. After significant efforts from the county, cities, ports, and local agencies, the air quality of this area has improved. EPA re-designated the area as “maintenance/attainment” in March 2015, as the area meets the PM2.5 24-hour standard and has an approved maintenance plan. The Zero Emission Cargo-Handling Equipment Incentive Program would provide additional reductions of PM2.5, helping the region to remain in attainment of the federal standards. Based on EPA’s 2014 National Air Toxics Assessment (NATA), both King and Pierce Counties, Washington, were identified as an area where all or part of the population is exposed to diesel PM concentrations above the 80th percentile and is on the EPA 2020 National Priority Area list. The Puget Sound Clean Air Agency further estimates that 70 percent of the potential cancer risk in the Puget Sound area from air toxics stems from highly toxic diesel fine particles. Those cancer risks are 10 to 100 times higher than the EPA’s acceptable cancer risk values.

In 2008, the Ports of Tacoma, Seattle, and Vancouver B.C. adopted the NWPCAS, a joint effort to go above and beyond regulations to reduce air pollution and climate forcing emissions from port related activities in the Puget Sound/Georgia Basin Airshed. The strategy was updated in 2013, to include overarching emission targets for 2015 and 2020, aimed at reducing air pollutant and greenhouse gas emissions. In addition, each industry sector, including cargo handling equipment, trucks, ocean-going vessels, locomotives, harbor
vessels, and port administration, have different sub-goals within the NWPCAS to help accomplish these overarching goals. The NWSA adopted the NWPCAS upon its formation in 2015 and is a full partner in implementation and development. The overarching goals of the previous NWPCAS were to reduce:

- Diesel particulate matter emissions per metric ton of cargo by 80% by 2020, to decrease immediate and long-term health effects on adjacent communities, relative to 2005.
- NWSA DPM emissions per metric ton of cargo were reduced by 80% between 2005 and 2016.

2. Greenhouse gas emissions per metric ton of cargo by 15% by 2020, to limit contributions to climate change and reduce associated environmental, health, and economic impacts, relative to 2005.
- NWSA GHG emissions per metric ton of cargo were reduced by 17% between 2005 and 2016.

As confirmed in the 2016 Puget Sound Maritime Emissions Inventory, the three U.S. ports achieved these goals ahead of schedule by 2016. As of 2016, the combined total progress for the three entities together is a 79% reduction in DPM per ton of cargo and 12% reduction in GHG per ton of cargo, relative to 2005 levels.

The strategy partners recently updated the NWPCAS, setting a new long-term vision as well as specific objectives and actions over the next 5 years to drive progress towards achieving the vision. The updated vision is for ports to phase out all seaport-related emissions entirely by 2050 or sooner, which is aligned with reducing air pollution impacts on neighboring communities, local and regional greenhouse gas targets, and the international response to climate change. Achieving the vision will require a significant shift towards zero emission equipment, vehicles, and vessel operations, including electric cargo handling equipment, shore power for ocean-going vessels, and zero emission drayage trucks. This program is a first step towards implementing electric cargo handling equipment in the Pacific Northwest, a key strategy for phasing out port related emissions.

This program would be open to any ZE equipment replacements that meet the usage and ownership criteria, but is expected to be used by tenants to purchase zero-emission yard tractors in the near-term for this reason. Switching from diesel to electric equipment is the best solution from an emissions perspective as it both eliminates associated air pollution impacts and is in alignment with the IPCC’s pathways to limit global warming to 1.5 °C, especially in regions like the Pacific Northwest where electricity is extremely low carbon.

Burning diesel fuel emits approximately 250 g CO2 per kWh based on the energy content of the fuel, while the emission factor for electricity delivered by the local utility in the South Harbor (Tacoma Power) for example is 1.5 g CO2e per kWh, over 99% lower than diesel.

In the Tacoma/Seattle area, diesel exhaust presents the greatest public health risk of all toxic air pollutants, consistent with many other urban areas around the country. Goods movement operations, like port terminals and rail yards, typically depend on diesel powered equipment, meaning that communities near these facilities are disproportionately impacted by diesel pollution. By replacing diesel equipment with ZE equivalent units, this would completely eradicate the diesel pollution resulting from that piece of equipment.

Having the technology successfully implemented at our port complex will be extremely important for building confidence with other operators and could be a catalyst for expanded adoption of battery-electric equipment in the future.

The program will reduce Diesel Particulate Matter (DPM) and greenhouse gas (GHG) emissions by 100% from each piece of diesel equipment replaced. The project will result in the total elimination of DPM and GHG from 20 pieces of equipment, resulting in a reduction of 12.46 tons of PM2.5 and 10,678 tons of GHG over the lifetime of the project. This will improve air quality for port workers and residents of near-port communities living near NWSA terminals in Seattle and Tacoma. It will also improve local air quality around the terminals, helping create a healthy environment in the Tideflats and in South Seattle/Duwamish Valley for pedestrians and bicyclists.

**Describe any innovative components included in your project: these could include design elements, cost saving measures, or other innovations.**

The overall program design is innovative and has been designed to overcome many of the problems port staff have encountered in previous individual grant applications, and has incorporated feedback from ongoing discussions with marine terminal operators. The management of the program has been modelled on the success of previous port and NWSA-managed drayage truck scrapping programs, partially funded by a previous CMAQ grant. NWSA and home port staff have had success in partnering with marine terminal operators in upgrading old diesel equipment to new Tier 4 equipment in the past through individual grant applications to federal and state funding programs (e.g. DERA, WA State Clean Diesel, WA State DERA) for each piece of equipment. Although successful, terminal operators have often not been able to participate in a funding application due to the unpredictable timing of funding, and this frustration was communicated to port staff frequently during the NWPCAS development outreach in 2020-21. This more reliable and predictable program design will help more tenants participate and plan their fleet upgrades, allowing more older diesel equipment to be eliminated than in the one-off grant applications.
3. Describe the process that your agency uses to determine the benefits of projects; this could include formal cost-benefit analysis, practical design, or some other process by which the benefits of projects are determined.

All NWSA projects are ultimately determined by our Managing Members (5 Port of Seattle Commissioners and 5 Port of Tacoma Commissioners) at their monthly public meetings, where individual projects must be voted on and approved by the majority of both Commissions for all projects costing over $300,000, per Master Policy. Commissioners use a range of metrics to make their ultimate decision on a project - whether the project supports the maritime industry on the two waterfronts, impacts on operations, an alternatives analysis, and a review by each Environmental team (Air Quality, Water Quality, Remediation, Planning, Permitting and Habitat Restoration).

Any grant proposal must be presented and approved by an internal Grant Steering Committee of NWSA Executives (CEO, Deputy CEO, Chief Commercial Officer, Chief Financial Officer, Department Directors) incorporating an assessment of cost-benefit analysis, emission reductions, and our 5 year CIP (Capital Investment Plan).

4. Describe the jurisdiction’s Apprenticeship Utilization Program / Ordinance in place for projects over $1 million with at least 15% Apprenticeship Utilization or programs that prioritize the use of local hire and the diversification of the workforce.

The NWSA does not currently have its own apprenticeship program, although it does take on high-school and undergraduate/graduate interns. The NWSA Air Quality and Sustainable Practices team is currently hosting a UW Hershmann Fellow for one year. The NWSA has been working to formalize and reactivate these programs. Our small works and consultant rosters are maintained by the Municipal Research and Services Center (MRSC), a shared statewide roster service.

The marine terminal operators who would participate in the program employ ILWU labor (International Longshore and Warehouse Union), providing well-paying family-wage jobs.

5. Final documents
also are a major center for bulk, breakbulk, project/heavy-lift cargoes, automobiles and trucks. In addition to international and domestic container handling capabilities, our marine cargo facilities handle more than 80% of commerce between the lower 48 states and Alaska.

The Center of Your Supply Chain

Everett
Renton
Puyallup

Rail Connections
Transit Time 3-4 Days

Round trips to Portland

SQUARE FOOTAGE BY CITY

Chicago
18 international  •  3 domestic

St Louis
Departures

St Paul

Houston

Dallas
5th 250

5

Tacoma
Seattle

DISTRIBUTION SERVICES
Warehousing

delivery in 2020.

Near terminal transload facilities

temperature sensitive commodities.

We are the #1 US gateway for containerized refrigerated exports.

2 zones, serving both harbors. Activate your own site or partner with

Fumigation services

TECHNOLOGY SOLUTIONS

Point-of-rest yards nearby.

facilities with multiple piers for offloading and first

2 state-of-the-art, full-service auto processing

options for regional shipments.

Midwest destinations, and more short-haul service

Up to 10,000-foot trains now departing for key

Modernization of Husky and T-5 will add cranes,
## CONTAINER TERMINALS

<table>
<thead>
<tr>
<th>Area</th>
<th>Berthing</th>
<th>Berth Depth</th>
<th>Cranes</th>
<th>Truck Lanes</th>
<th>Scales</th>
<th>Reefer Plugs</th>
<th>Rail Service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NORTH HARBOR • SEATTLE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-5</td>
<td>185 acres</td>
<td>2,900 ft</td>
<td>50 ft</td>
<td>4</td>
<td>6/2</td>
<td>8</td>
<td>Off-dock</td>
</tr>
<tr>
<td></td>
<td>75 ha</td>
<td>884 m</td>
<td>15.2 m</td>
<td>4x16 wide</td>
<td>inbound/outbound</td>
<td>8</td>
<td>On-dock</td>
</tr>
<tr>
<td>T-18</td>
<td>196 acres</td>
<td>4,440 ft</td>
<td>50 ft</td>
<td>10</td>
<td>20/9</td>
<td>22</td>
<td>On-dock</td>
</tr>
<tr>
<td></td>
<td>79 ha</td>
<td>1,353 m</td>
<td>15.2 m</td>
<td>7x24 wide</td>
<td>inbound/outbound</td>
<td>12 @ Gate 1</td>
<td>1,227</td>
</tr>
<tr>
<td>T-30</td>
<td>82 acres</td>
<td>2,685 ft</td>
<td>50 ft</td>
<td>6</td>
<td>13</td>
<td>11</td>
<td>Near-dock</td>
</tr>
<tr>
<td></td>
<td>33 ha</td>
<td>818 m</td>
<td>15.2 m</td>
<td>3x23 wide</td>
<td>13</td>
<td>11</td>
<td>Near-dock</td>
</tr>
<tr>
<td>T-115</td>
<td>96 acres</td>
<td>1,600 ft</td>
<td>30 ft</td>
<td>Barge</td>
<td>8/6/4</td>
<td>5</td>
<td>On-dock</td>
</tr>
<tr>
<td></td>
<td>39 ha</td>
<td>488 m</td>
<td>9.2 m</td>
<td>Barge</td>
<td>inbound/outbound</td>
<td>5</td>
<td>On-dock</td>
</tr>
<tr>
<td><strong>SOUTH HARBOR • TACOMA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Sitcum</td>
<td>108 acres</td>
<td>2,200 ft</td>
<td>51 ft</td>
<td>5</td>
<td>8/6</td>
<td>6</td>
<td>Near-dock</td>
</tr>
<tr>
<td></td>
<td>43.7 ha</td>
<td>671 m</td>
<td>15.5 m</td>
<td>4x18 wide</td>
<td>inbound/outbound</td>
<td>6</td>
<td>Near-dock</td>
</tr>
<tr>
<td>Husky</td>
<td>118 acres</td>
<td>2,960 ft</td>
<td>51 ft</td>
<td>8</td>
<td>7/4</td>
<td>7</td>
<td>On-dock</td>
</tr>
<tr>
<td></td>
<td>48 ha</td>
<td>902 m</td>
<td>15.5 m</td>
<td>8x24 wide</td>
<td>inbound/outbound</td>
<td>7</td>
<td>On-dock</td>
</tr>
<tr>
<td>East Sitcum</td>
<td>36 acres</td>
<td>900 ft</td>
<td>51 ft</td>
<td>4</td>
<td>5/2</td>
<td>2</td>
<td>On-dock</td>
</tr>
<tr>
<td></td>
<td>15 ha</td>
<td>274 m</td>
<td>15.5 m</td>
<td>3x15 wide</td>
<td>inbound/outbound</td>
<td>2</td>
<td>On-dock</td>
</tr>
<tr>
<td>PCT</td>
<td>189 acres</td>
<td>2,087 ft</td>
<td>51 ft</td>
<td>7</td>
<td>10/6</td>
<td>6</td>
<td>On-dock</td>
</tr>
<tr>
<td></td>
<td>76 ha</td>
<td>636 m</td>
<td>15.5 m</td>
<td>7x23 wide</td>
<td>inbound/outbound</td>
<td>6</td>
<td>On-dock</td>
</tr>
<tr>
<td>WUT</td>
<td>142 acres</td>
<td>2,600 ft</td>
<td>51 ft</td>
<td>6</td>
<td>9/4</td>
<td>7</td>
<td>On-dock</td>
</tr>
<tr>
<td></td>
<td>57 ha</td>
<td>792 m</td>
<td>15.5 m</td>
<td>4x18 wide</td>
<td>inbound/outbound</td>
<td>7</td>
<td>On-dock</td>
</tr>
<tr>
<td>TOTE</td>
<td>48 acres</td>
<td>3</td>
<td>51 ft</td>
<td>N/A</td>
<td>5/4</td>
<td>4</td>
<td>Off-dock</td>
</tr>
<tr>
<td></td>
<td>19 ha</td>
<td>RO/RO ramps</td>
<td>15.5 m</td>
<td></td>
<td>inbound/outbound</td>
<td>4</td>
<td>Off-dock</td>
</tr>
</tbody>
</table>

*Includes on-dock intermodal yard acreage, except for 6CP properties.*
## NON-CONTAINER TERMINALS

<table>
<thead>
<tr>
<th>Area</th>
<th>Berthing</th>
<th>Berth Depth</th>
<th>Wharf Height</th>
<th>Cargo</th>
<th>Rail Service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NORTH HARBOR • SEATTLE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-46*</td>
<td>87 acres</td>
<td>2,930 ft</td>
<td>50 ft</td>
<td>18.5 ft</td>
<td>Alternative Maritime Use</td>
</tr>
<tr>
<td><strong>SOUTH HARBOR • TACOMA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-7</td>
<td>22 acres</td>
<td>1,800 ft</td>
<td>51 ft</td>
<td>18 ft</td>
<td>Breakbulk Autos</td>
</tr>
<tr>
<td>East Blair</td>
<td>19 acres</td>
<td>1,200 ft</td>
<td>51 ft</td>
<td>21.5 ft</td>
<td>Breakbulk Autos</td>
</tr>
<tr>
<td>Blair</td>
<td>15 acres</td>
<td>600 ft</td>
<td>51 ft</td>
<td>22 ft</td>
<td>Autos</td>
</tr>
<tr>
<td>West Hylebos</td>
<td>24 acres</td>
<td>800 ft</td>
<td>35 ft</td>
<td>21 ft</td>
<td>Bulk</td>
</tr>
</tbody>
</table>

*Note: T-46 is being redeveloped for alternative maritime use.

## LAND & FACILITIES

### Intermodal rail facilities

**On-dock intermodal yards (IY), working track**
- Hyundai IY (WUT), S. Harbor • 16,864 ft (5,140 m)
- North IY (East Sitcum/Husky), S. Harbor • 22,793 ft (6,947 m)
- PCT IY (PCT), S. Harbor • 23,544 ft (7,176 m)
- Terminal 5 IY (T-5), N. Harbor • 18,000 ft (5,486 m)
- Terminal 18 IY (T-18), N. Harbor • 7,600 ft (2,317 m)

**Near-dock intermodal yards (IY), working track**
- South Intermodal Yard, S. Harbor • 8,645 ft (2,635 m)
- BNSF Seattle Intermodal Gateway, N. Harbor • 19,600 ft (5,974 m)
- Union Pacific ARGO Yard, N. Harbor • 16,600 ft (5,060 m)

**Off-dock intermodal yards (IY), working track**
- BNSF South Seattle Intermodal Facility • 10,400 ft (3,170 m)

### Land ownership
- 1,758 acres (711 ha) in King and Pierce counties, Washington state

### Container terminals
- 10 terminals; 1,200 acres (486 ha); 50 cranes

### Non-container terminals
- 5 terminals; 130 acres (53 ha)

### Waterway depth
- 50 ft MLLW (-15.5 m MLLW) or greater
DISTRIBUTION SERVICES

Warehousing
Adjacent to the 2nd largest concentration of warehousing on the West Coast. Over 6.2 million sq ft of new space scheduled for delivery in 2020.

Near terminal transload facilities
Specialized buildings, equipment and skilled-labor for handling retail, agricultural and industrial cargo. 100+ transload facilities in the greater Puget Sound region.

Cold storage facilities
We are the #1 US gateway for containerized refrigerated exports. Over 2.3 million sq ft of warehousing for frozen, chilled, and temperature sensitive commodities.

FTZ #5 & #86
2 zones, serving both harbors. Activate your own site or partner with a 3PL operating within our zones.

Fumigation services
Conveniently located near container terminals in both harbors. On-terminal fumigation available for breakbulk shipments.

RAIL SERVICE

2
Class 1 railroads
BNSF & UP

5th
Morning service to Chicago

Over 50
Weekly departures

Up to 6
Weekly short-haul round trips to Portland

International & Domestic rail service available at both harbors
The world’s largest shipping lines connect our harbors with major ports throughout the Asia Pacific, Oceania, Latin America, the Mediterranean, Middle East, Europe and Alaska and Hawaii. As the closest U.S. port to Asia and a frequent first and last port of call on international ocean services, shippers can count on faster transits and greater flexibility from NWSA routings. We also handle more than 80% of commerce between the lower 48 states and Alaska.

In addition to international and domestic container handling capabilities, our marine cargo facilities also are a major center for bulk, breakbulk, project/heavy-lift cargoes, automobiles and trucks.
At The Northwest Seaport Alliance, the customer comes first. We’re investing in big-ship ready terminals and infrastructure to deliver solutions for your rapidly changing supply chain needs now and into the future.

**More Big-Ship Terminals**
Modernization of Husky and T-5 will add cranes, berth depth and reconfigure the terminals to handle the largest ships most efficiently.

**Expanded Rail Connections**
Up to 10,000-foot trains now departing for key Midwest destinations, and more short-haul service options for regional shipments.

**Auto Processing Options**
2 state-of-the-art, full-service auto processing facilities with multiple piers for offloading and first point-of-rest yards nearby.

**Technology Solutions**
NWSA is committed to delivering a port community platform and other technologies to increase terminal fluidity and cargo visibility.

For more information, please contact our business development team.

Sue Coffey  
253.592.6241  
scoffey@nwseaportalliance.com

Tom Bellerud  
253.383.9405  
tbellerud@nwseaportalliance.com
<table>
<thead>
<tr>
<th>OPERATED BY:</th>
<th>SSA Terminals (Seattle Terminals), LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEBSITE:</td>
<td></td>
</tr>
<tr>
<td>FIRMS CODE:</td>
<td>Y400</td>
</tr>
<tr>
<td>HOURS OF OPERATION:</td>
<td></td>
</tr>
<tr>
<td>ACREAGE:</td>
<td>185 acres (75 hectares)</td>
</tr>
<tr>
<td>CRANE RAIL BERTHING:</td>
<td>2,900 feet (844 meters)</td>
</tr>
<tr>
<td>TERMINAL BERTHING:</td>
<td>Approximately 2,900 feet (883.9 meters) of total berth. 2,000 feet (609.6 meters) of berth at a depth of 50 feet (15.2 meters) MLLW. 900 feet (228.6 meters) of berth has 45-foot (13.7 meters) MLLW; 1,500 lease berth length at 46 feet MLLW</td>
</tr>
<tr>
<td>WHARF HEIGHT:</td>
<td>19.12 feet (5.8 meters)</td>
</tr>
<tr>
<td>CRANES:</td>
<td></td>
</tr>
<tr>
<td>REEFER PLUGS:</td>
<td>1,500 (coming soon)</td>
</tr>
<tr>
<td>TRUCK LANES:</td>
<td>8 lanes (6 in-gate, 2 out-gate)</td>
</tr>
<tr>
<td>TRUCK SCALES:</td>
<td>8</td>
</tr>
<tr>
<td>YARD OPERATION:</td>
<td></td>
</tr>
<tr>
<td>HANDLING EQUIPMENT:</td>
<td>6 top picks, 1 side pick and 21-yard tractors</td>
</tr>
<tr>
<td>RAIL ACCESS:</td>
<td>On-dock rail: 30 acres, 6 tracks, capacity for 54 double-stack rail cars (rail currently not in use)</td>
</tr>
<tr>
<td>HIGHWAY ACCESS:</td>
<td>2.1 miles to I-5; 1.5 Miles to I-90 (via I-5)</td>
</tr>
<tr>
<td>SUPPORT SERVICES:</td>
<td>Reefer maintenance and repair; Chassis maintenance and repair, Reefer washing and steam cleaning, Roadability check for trucks exiting terminal with carrier’s equipment, auto lot/loading and conventional loading</td>
</tr>
<tr>
<td>EFFICIENCIES:</td>
<td>Out-gate bypass lane for trucks without carrier’s equipment</td>
</tr>
<tr>
<td>SECURITY:</td>
<td>Terminal fully secured and monitored 24/7; TWIC required for terminal access</td>
</tr>
<tr>
<td>PRIMARY CLIENTS:</td>
<td></td>
</tr>
</tbody>
</table>
### Seattle Harbor: Terminal 18

**Address:**

1050 SW Spokane St. • Seattle, WA 98134 • Seattle, WA 98106

**Website:**

http://t18.tideworks.com

**Firms Code:**

X117

**Hours of Operation:**

Monday-Friday: Gate Open 0800-1200 and 1300-1630; Night, Weekend & Holiday: Check website for current information

**Acreage:**

196 acres (79 hectares)

**Vessel Handling Capacity:**

18,000 TEU vessel; 2 x 18,000 TEU vessel

**Crane Rail Berthing:**

4,440 feet (1,353 meters)

**Terminal Berthing:**

Over 6,000 linear ft (1,828 meters) berth space; Container terminal 4,900 ft (1,493.5 meters) of berth at -50 ft (-15.2 meters) MLLW

**Wharf Height:**

17.7 feet (5.39 meters)

**Cranes:**

7 Super Post-Panamax (7 x 24-wide reach); 3 Post-Panamax (3 x20-wide reach)

**Reefer Plugs:**

1,250

**Truck Lanes:**

29 lanes (20 inbound, 9 outbound)

**Truck Scales:**

22 (12 at Gate 1; 8 at Gate 4; 2 at Gate 3)

**Yard Operation:**

Grounded imports, exports and empties; limited number of containers on wheels

**Handling Equipment:**

42 top picks, 6 side picks, 85 yard tractors, 8 rubber tire gantry cranes

**Rail:**

7,600 ft. of working track; on-dock rail capacity for 54 double-stack railcars

**Highway Access:**

1.3 miles to I-5 & 1.5 Miles to I-90 (via I-5)

**Support Services:**

Reefer M&R, washing and steam cleaning; chassis M&R; roadablity check for trucks exiting terminal with carrier’s equipment

**Efficiencies:**

Optical Character Recognition (OCR) technology, Radio Frequency ID Program for trucker information being implemented

**Security:**

Terminal fully secured and monitored 24/7; 4 primary, 4 secondary Radiation Portal Monitor (RPM) installed at out-gate; U.S. Customs & Border Protection office located at out-gate

**Primary Clients:**

ANL, CMA CGM, COSCO SHIPPING Lines, Hamburg Sud, Hapag-Lloyd, HMM, Maersk, MSC, Ocean Network Express (ONE), OOCL, SM Line, Westwood Shipping, Wan Hai, Yang Ming, ZIM
## Seattle Harbor: Terminal 30

**Operated By:** SSA Terminals

**Website:** [http://t30.tideworks.com](http://t30.tideworks.com)

**Firms Code:** X197

**Hours of Operation:** Monday-Friday: Queue opens at 0615, Gate open: 0700-1630; Night, Weekend, Holiday: Check website for particular transaction information along with nights, weekends and holiday gates.

**Acreage:** 82 acres (33 hectares)

**Vessel Handling Capability:** 10,500 TEU vessel; 1 x 10,500 TEU vessel

**Crane Rail Berthing:** 2,685 feet (818 meters)

**Terminal Berthing:** 2,700 linear feet (823 meters) of non-contiguous berthing, of which 1,850 feet (563.9 meters) is -50 feet (15.2 meters) in depth.

**Wharf Height:** 18.16 feet (5.5 meters)

**Cranes:** 3 Super Post-Panamax (3 x 23-wide reach), 3 Panamax (3 x 13-wide reach)

**Reefer Plugs:** 535

**Truck Lanes:** 13

**Truck Scales:** 11

**Yard Operation:** Imports, Exports, IPI and Empties are all grounded. Hazardous cargo is wheeled.

**Handling Equipment:** 15 top-picks, 1 side-pick, 25-yard tractors, 5 forklifts, 24 yard carts

**Rail Access:** Near-dock; across the street from BNSF Railway (SIG Yard), within 2 miles of Union Pacific (Argo Yard)

**Highway Access:** 1.3 miles to I-5/I-90

**Support Services:** Reefer M&R, washing and steam cleaning; chassis and container M&R

**Efficiencies:** "Gate vision" - gate operation is Optical Character Recognition (OCR), License plate reader (LPR) at gate

**Security:** Port Security cameras; terminal is fully secured and monitored 24/7

**Primary Clients:** CMA CGM, COSCO SHIPPING Lines, Evergreen, OOCL, Yang Ming
<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operated By:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Website:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Firms Code:</strong></td>
<td>X127</td>
</tr>
<tr>
<td><strong>Hours of Operation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Acreage:</strong></td>
<td>86.5 acres (35 hectares)</td>
</tr>
<tr>
<td><strong>Vessel Handling Capability:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Crane Rail Berthing:</strong></td>
<td>1,400 feet (427 meters)</td>
</tr>
<tr>
<td><strong>Terminal Berthing:</strong></td>
<td>3,000’ of berth at a water depth along the T-46 apron of -50 feet (-15.2 meters) MLLW</td>
</tr>
<tr>
<td><strong>Wharf Height:</strong></td>
<td>18.5 feet (5.7 meters)</td>
</tr>
<tr>
<td><strong>Cranes:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Reefers Plugs:</strong></td>
<td>538</td>
</tr>
<tr>
<td><strong>Truck Lanes:</strong></td>
<td>17 lanes (9 in-gate (one double-bobtail), 8 out-gate (2 bypass)</td>
</tr>
<tr>
<td><strong>Truck Scales:</strong></td>
<td>7</td>
</tr>
<tr>
<td><strong>Yard Operation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Handling Equipment:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rail Access:</strong></td>
<td>Near-dock rail delivery to both Burlington Northern and Union Pacific rail ramps</td>
</tr>
<tr>
<td><strong>Highway Access:</strong></td>
<td>1 mile to I-5/I-90</td>
</tr>
<tr>
<td><strong>Support Services:</strong></td>
<td>Urban industrial zoning, utilities scaled for maritime and heavy industrial use. Operations building, Gear locker/Maintenance shop, Administration Building (2 floors available), Maintenance &amp; Repair building</td>
</tr>
<tr>
<td><strong>Efficiencies:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Security:</strong></td>
<td>Fenced and lighted with security cameras and fire alarm system. Terminal security in place</td>
</tr>
<tr>
<td><strong>Primary Clients:</strong></td>
<td>Alternative maritime use</td>
</tr>
</tbody>
</table>
### SEATTLE HARBOR – TERMINAL 115

6700 W. Marginal Way, SW • Seattle, WA 98106  
Contact: Blaine Burk | 253-888-4405 | bburk@nwseaportalliance.com

<table>
<thead>
<tr>
<th>OPERATED BY:</th>
<th>Northland Services, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEBSITE:</td>
<td><a href="http://www.lynden.com/ml/">http://www.lynden.com/ml/</a></td>
</tr>
<tr>
<td>FIRMS CODE:</td>
<td>X565</td>
</tr>
<tr>
<td>HOURS OF OPERATION:</td>
<td>Monday-Thursday: Gate open 0700-2000; Friday 0700-1700; Warehouse hours Monday-Friday 0700-1700</td>
</tr>
<tr>
<td>ACREAGE:</td>
<td>96 acres (39 hectares)</td>
</tr>
<tr>
<td>CRANE RAIL BERTHING:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>TERMINAL BERTHING:</td>
<td>4 berths: 1200 feet wharf consisting of 3 berths with ro-ro ramps and a 4th 350 feet berth with ro-ro ramp</td>
</tr>
<tr>
<td>WHARF HEIGHT:</td>
<td>18.72 feet (5.7 meters)</td>
</tr>
<tr>
<td>CRANES:</td>
<td>Full-service barge operation specializing in breakbulk as well as containerized cargoes, ro-ro and crawler cranes</td>
</tr>
<tr>
<td>REEFER PLUGS:</td>
<td>780</td>
</tr>
<tr>
<td>TRUCK LANES:</td>
<td>18 lanes (8 in-gate, 6 out-gate, 4 bobtail)</td>
</tr>
<tr>
<td>TRUCK SCALES:</td>
<td>5</td>
</tr>
<tr>
<td>YARD OPERATION:</td>
<td>Forklift and top handler delivery</td>
</tr>
<tr>
<td>HANDLING EQUIPMENT:</td>
<td>88 forklifts/top pick combinations, 3 yard tractors, 3 crawler cranes</td>
</tr>
<tr>
<td>RAIL ACCESS:</td>
<td>Rail car access utilizing 900 feet (274 meters) of Burlington Northern track, plus 4,000 LF storage track</td>
</tr>
<tr>
<td>HIGHWAY ACCESS:</td>
<td>2.4 miles to I-5 2.5 miles to I-90 (via I-5)</td>
</tr>
<tr>
<td>SUPPORT SERVICES:</td>
<td>Special project, breakbulk, container (LTL and FTL) and bulk tank handling; stevedoring services available; cross-dock on terminal for handling of household goods, container and chassis repair, steel fabrication, steel shop, and hazardous materials, reefer maintenance</td>
</tr>
<tr>
<td>EFFICIENCIES:</td>
<td>Terminal operator monitors CB channel #4; automatic out-gate with ground sensors</td>
</tr>
<tr>
<td>SECURITY:</td>
<td>Terminal fully secured and monitored 24/7</td>
</tr>
<tr>
<td>PRIMARY CLIENTS:</td>
<td>Alaska Marine Lines, Aloha Marine Lines</td>
</tr>
<tr>
<td><strong>OPERATED BY:</strong></td>
<td>The Northwest Seaport Alliance</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td><strong>WEBSITE:</strong></td>
<td><a href="http://www.nwseaportalliance.com">www.nwseaportalliance.com</a></td>
</tr>
<tr>
<td><strong>FIRMS CODE:</strong></td>
<td>X218</td>
</tr>
<tr>
<td><strong>GENERAL MANAGER:</strong></td>
<td>Bob Meyer</td>
</tr>
<tr>
<td><strong>CONTACT:</strong></td>
<td>253-383-9437</td>
</tr>
<tr>
<td><strong>HOURS OF OPERATION:</strong></td>
<td>Monday-Friday: Gate open 0800-1700 (Closed 12noon-1:00p.m. daily)</td>
</tr>
<tr>
<td><strong>ACREAGE:</strong></td>
<td>19 acres (8 hectares)</td>
</tr>
<tr>
<td><strong>TERMINAL BERTHING:</strong></td>
<td>1,200 lineal feet (366 meters) of contiguous berth with a water depth of -51 feet (-15.5 meters) MLLW</td>
</tr>
<tr>
<td><strong>WHARF HEIGHT:</strong></td>
<td>21.5 feet (6.5 meters)</td>
</tr>
<tr>
<td><strong>PIER LOAD CAPACITY:</strong></td>
<td>1,000 PSF; equipped with a 120 ft. x 110 ft. heavy lift pad w/2,000 PSF strength rating</td>
</tr>
<tr>
<td><strong>CARGO HANDLED:</strong></td>
<td>Breakbulk and Ro/Ro cargoes</td>
</tr>
<tr>
<td><strong>RAIL ACCESS:</strong></td>
<td>On-dock rail spur</td>
</tr>
<tr>
<td><strong>HIGHWAY ACCESS:</strong></td>
<td>2 miles from I-5 via Port of Tacoma Road; I-90 (E/W) 30 miles north via I-5 or SR-18</td>
</tr>
<tr>
<td><strong>SUPPORT SERVICES:</strong></td>
<td>Dedicated customer service office</td>
</tr>
<tr>
<td><strong>EFFICIENCIES:</strong></td>
<td>120' section of removable bull rail</td>
</tr>
<tr>
<td><strong>SECURITY:</strong></td>
<td>Terminal area is lighted, fully secured and monitored 24/7</td>
</tr>
<tr>
<td><strong>PRIMARY CLIENTS:</strong></td>
<td>Eukor Car Carriers, Hyundai-GLOVIS, “K” Line Ro/Ro, NYK Ro/Ro, MOL Ro/Ro, Wallenius Wilhelmsen Ocean (WWO), other carriers on inducement</td>
</tr>
</tbody>
</table>
### TACOMA HARBOR: WEST SITCUM TERMINAL

<table>
<thead>
<tr>
<th>OPERATED BY:</th>
<th>SSA Terminals (Tacoma), LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEBSITE:</td>
<td><a href="www.ssamarine.com/locations/ssa-terminals-tacoma">SSA Terminals (Tacoma), LLC</a>; <a href="https://www.matson.com/ocean-services/port-locations/tacoma.html">Matson at Port of Tacoma</a></td>
</tr>
<tr>
<td>FIRMS CODE:</td>
<td>X335</td>
</tr>
<tr>
<td>HOURS OF OPERATION:</td>
<td>Mon/Tues/Thurs: Gate open 0800-1630, Wed/Fri: 0700-2200 (closed 12Noon-1:00PM daily)</td>
</tr>
<tr>
<td>ACREAGE:</td>
<td>122.4 acres (49.5 hectares)</td>
</tr>
<tr>
<td>VESSEL HANDLING CAPABILITY:</td>
<td>8,000 TEU vessel; 1 x 8,000 TEU vessel</td>
</tr>
<tr>
<td>CRANE RAIL BERTHING:</td>
<td>Approximately 2,200 lineal feet (671 meters) of contiguous berth at a depth of -51 feet (-15.5 meters) MLLW</td>
</tr>
<tr>
<td>TERMINAL BERTHING:</td>
<td>Same</td>
</tr>
<tr>
<td>WHARF HEIGHT:</td>
<td>18.8 feet (5.7 meters)</td>
</tr>
<tr>
<td>CRANES:</td>
<td>4 Post-Panamax (4x18-wide reach), 4 Panamax (4x14-wide reach)</td>
</tr>
<tr>
<td>REEFER PLUGS:</td>
<td>875</td>
</tr>
<tr>
<td>TRUCK LANES:</td>
<td>14 lanes (8 in-gate, 6 out-gate)</td>
</tr>
<tr>
<td>TRUCK SCALES:</td>
<td>6</td>
</tr>
<tr>
<td>YARD OPERATION:</td>
<td>Wheeled import, wheeled/ground export, wheeled/ground empties</td>
</tr>
<tr>
<td>HANDLING EQUIPMENT:</td>
<td>4 top picks, 2 side picks</td>
</tr>
<tr>
<td>RAIL:</td>
<td>Near-dock (SIM Yard)</td>
</tr>
<tr>
<td>HIGHWAY ACCESS:</td>
<td>2.2 miles from I-5, SR-509 (N/S), I-90 (E/W) 30 Miles North via I-5 or SR-18</td>
</tr>
<tr>
<td>SUPPORT SERVICES:</td>
<td>Can work breakbulk, auto, and military vessels in addition to container vessels; full-service dock (bull rail w/power and water)</td>
</tr>
<tr>
<td>SECURITY:</td>
<td>Terminal area is lighted, fully secured and monitored 24/7</td>
</tr>
<tr>
<td>PRIMARY CLIENTS:</td>
<td>Matson</td>
</tr>
<tr>
<td><strong>TACOMA HARBOR: HUSKY TERMINAL</strong></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>OPERATED BY:</strong> Husky Terminal</td>
<td></td>
</tr>
<tr>
<td><strong>WEBSITE:</strong> <a href="http://www.huskyterminal.com">www.huskyterminal.com</a></td>
<td></td>
</tr>
<tr>
<td><strong>FIRMS CODE:</strong> Z693</td>
<td></td>
</tr>
<tr>
<td><strong>HOURS OF OPERATION:</strong> Monday – Friday; Gate open 0800-1700 (closed 1130-1300 daily for lunch)</td>
<td></td>
</tr>
<tr>
<td><strong>ACREAGE:</strong> 118 acres (48 hectares)</td>
<td></td>
</tr>
<tr>
<td><strong>VESSEL HANDLING CAPABILITY:</strong> 14,000 TEU vessel; 2 x 14,000 TEU vessel</td>
<td></td>
</tr>
<tr>
<td><strong>CRANE RAIL BERTHING:</strong> Approximately 2,960 lineal feet (902 meters) of contiguous berth space at a depth of -47 to -51 feet (-15.5 meters) MLLW</td>
<td></td>
</tr>
<tr>
<td><strong>TERMINAL BERTHING:</strong> Same</td>
<td></td>
</tr>
<tr>
<td><strong>WHARF HEIGHT:</strong> 18 feet (5.5 meters)</td>
<td></td>
</tr>
<tr>
<td><strong>CRANES:</strong> 8 cranes total (Super Post-Panamax 8x24 wide reach)</td>
<td></td>
</tr>
<tr>
<td><strong>REEFER PLUGS:</strong> 440</td>
<td></td>
</tr>
<tr>
<td><strong>TRUCK LANES:</strong> 9 in-gate lanes in Lot F, 4 out-gate lanes on terminal</td>
<td></td>
</tr>
<tr>
<td><strong>TRUCK SCALES:</strong> 3 inbound Weigh-In-Motion scales (Lot F)</td>
<td></td>
</tr>
<tr>
<td><strong>YARD OPERATION:</strong> 8 RTG, 21 TP, 61 UTRS, 5 Speed Loaders</td>
<td></td>
</tr>
<tr>
<td><strong>RAIL ACCESS:</strong> On-dock (NIM Yard)</td>
<td></td>
</tr>
<tr>
<td><strong>HIGHWAY ACCESS:</strong> 2.2 miles from I-5 via Port of Tacoma Road, I-90 (E/W) 30 Miles North via I-5 or SR-18</td>
<td></td>
</tr>
<tr>
<td><strong>SUPPORT SERVICES:</strong> Served by many transload and distribution centers (including cold storage)</td>
<td></td>
</tr>
<tr>
<td><strong>SECURITY:</strong> Terminal area is lighted, fully secured and monitored 24/7</td>
<td></td>
</tr>
<tr>
<td><strong>PRIMARY CLIENTS:</strong> Hapag-Lloyd, HMM, Ocean Network Express (ONE), Yang Ming Line, ZIM</td>
<td></td>
</tr>
</tbody>
</table>
Tacoma Harbor EAST SITCUM TERMINAL
<table>
<thead>
<tr>
<th><strong>OPERATED BY:</strong></th>
<th>Available for lease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WEBSITE:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>FIRMS CODE:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>HOURS OF OPERATION:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ACREAGE:</strong></td>
<td>36 acres (15 hectares)</td>
</tr>
<tr>
<td><strong>VESSEL HANDLING CAPABILITY:</strong></td>
<td>5,500 TEU vessel, 1x 5,500 TEU vessel</td>
</tr>
<tr>
<td><strong>CRANE RAIL BERTHING:</strong></td>
<td>Approx. 900 feet (274 meters) of contiguous berth at a depth of -51 feet (-15.5 meters) MLLW</td>
</tr>
<tr>
<td><strong>TERMINAL BERTHING:</strong></td>
<td>900 feet (274 m)</td>
</tr>
<tr>
<td><strong>WHARF HEIGHT:</strong></td>
<td>18 feet (5.5 meters)</td>
</tr>
<tr>
<td><strong>CRANES:</strong></td>
<td>3 Post-Panamax cranes (3x15 wide reach), 1 Panamax crane (1x14 wide reach)</td>
</tr>
<tr>
<td><strong>REEFER PLUGS:</strong></td>
<td>300</td>
</tr>
<tr>
<td><strong>TRUCK LANES:</strong></td>
<td>7 lanes (5 in-gate, 2 out-gate)</td>
</tr>
<tr>
<td><strong>TRUCK SCALES:</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>YARD OPERATION:</strong></td>
<td>Straddle Carriers for full cargo, top/side pick for empty block</td>
</tr>
<tr>
<td><strong>HANDLING EQUIPMENT:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>RAIL ACCESS:</strong></td>
<td>On-dock</td>
</tr>
<tr>
<td><strong>HIGHWAY ACCESS:</strong></td>
<td>2.5 miles from I-5 via Port of Tacoma Road, I-90 (E/W) 30 miles North via I-5 or SR-18</td>
</tr>
<tr>
<td><strong>SUPPORT SERVICES:</strong></td>
<td>50,000 square foot of warehouse for breakbulk. Served by many transload and distribution centers (including cold storage)</td>
</tr>
<tr>
<td><strong>EFFICIENCIES:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SECURITY:</strong></td>
<td>Terminal area is lighted, fully secured and monitored 24/7</td>
</tr>
<tr>
<td><strong>PRIMARY CLIENTS:</strong></td>
<td>Alternative maritime use</td>
</tr>
</tbody>
</table>
### TACOMA HARBOR – PIERCE COUNTY TERMINAL

**4015 SR-509 N. Frontage Rd • Tacoma, WA 98421 • USA**  
Terminal Contact: Everport Terminal Services, Inc. | 385-77-5522 | customerservice@abpiusa.com  
Rail Contact: Steve Anderson | 253-287-4112 | sanderson@everport-terminals.com

| OPERATED BY: | Everport Terminal Services, Inc. |
| WEBSITE: | www.etslink.com |
| FIRMS CODE: | X215 |
| HOURS OF OPERATION: | Monday-Friday, Gates open 0700-1600 |
| ACREAGE: | 155 acres (76 hectares) |
| VESSEL HANDLING CAPABILITY: | 14,000 TEU vessel, 1x14,000 TEU Vessel |
| CRANE RAIL BERTHING: | Same |
| TERMINAL BERTHING: | Approx. 2,087 feet (636 meters) of contiguous berth with a depth of -51 feet (15.5 meters) MLLW |
| WHARF HEIGHT: | 21 feet (6.4 meters) |
| CRANES: | 7 Post-Panamax (7x23-wide reach) |
| REEFER PLUGS: | 654 |
| TRUCK LANES: | 16 lanes (10 in-gate, 6 out-gate) |
| TRUCK SCALES: | 6 |
| YARD OPERATION: | Wheeled/grounded import, grounded export, grounded empties |
| HANDLING EQUIPMENT: | Straddle Carriers, Side Pick, Top Pick, UTR |
| RAIL ACCESS: | On-Dock (PIM Yard); 23,544 feet of working track |
| HIGHWAY ACCESS: | 2.5 miles from I-5 via Port of Tacoma Road, I-90 (E/W) 30 miles North via I-5 or SR-18 |
| SUPPORT SERVICES: | ABPI Customer Service 385-777-5522 |
| EFFICIENCIES: | Free Flow |
| SECURITY: | Terminal area is lighted, fully secured and monitored 24/7 |
| PRIMARY CLIENTS: | CMA-CGM, COSCO SHIPPING Lines, Evergreen, OOCL |
Tacoma Harbor
TERMINAL 7
# TACOMA HARBOR – TERMINAL 7 (T-7)

<table>
<thead>
<tr>
<th>OPERATED BY</th>
<th>The Northwest Seaport Alliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEBSITE</td>
<td><a href="http://www.nwseaportalliance.com">www.nwseaportalliance.com</a></td>
</tr>
<tr>
<td>FIRMS CODE</td>
<td>X216</td>
</tr>
<tr>
<td>HOURS OF OPERATION</td>
<td>Monday – Friday: Gate Open 0800-1700</td>
</tr>
<tr>
<td>ACREAGE</td>
<td>14 acres</td>
</tr>
<tr>
<td>TERMINAL BERTHING</td>
<td>Approximately 2,700 lineal ft (822 m) of contiguous berth at a depth of -51 ft (-15.5 m) MLLW</td>
</tr>
<tr>
<td>WHARF HEIGHT</td>
<td>18 feet (5.5 meters)</td>
</tr>
<tr>
<td>CARGO</td>
<td>Breakbulk and Autos</td>
</tr>
<tr>
<td>RAIL ACCESS</td>
<td>On-dock, North Intermodal Yard (NIM) (2 rail spurs alongside the terminal area for unloading direct to boxcar)</td>
</tr>
<tr>
<td>HIGHWAY ACCESS</td>
<td>3 miles from I-5 via Port of Tacoma Road, I-90 (E/W), 30 miles north via I-5 or SR-18</td>
</tr>
<tr>
<td>SECURITY</td>
<td>Terminal area is lighted, fully secured and monitored 24/7</td>
</tr>
<tr>
<td>PRIMARY CLIENTS</td>
<td>Hyundai-GLOVIS, “K” Line Ro/Ro, MOL Ro/Ro, NYK Ro/Ro, Wallenius Wilhelmsen Logistics (WWL), other carriers on inducement</td>
</tr>
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**Updated 03/24/22**
Tacoma Harbor
TOTE MARITIME ALASKA TERMINAL
<table>
<thead>
<tr>
<th><strong>FIRMS CODE</strong></th>
<th>X339</th>
</tr>
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</table>
| **HOURS OF OPERATION** | Monday-Friday: Gate open 0800-2300  
Vehicle Dept. Mon / Tues / Thurs: 0800-1600  
Wed / Fri: 0800-1500 (Deliveries); 0800-1600 (Pickup) |
| **ACREAGE** | 48 acres (19 hectares) |
| **TERMINAL BERTHING** | 2 dolphin piers (one operating, one layup) with a depth of -40 feet MLLW |
| **WHARF HEIGHT** | 17.5 feet (5.3 meters) |
| **REEFER PLUGS** | 140 |
| **TRUCK LANES** | 5 inbound, 2 outbound |
| **TRUCK SCALES** | 4 |
| **YARD OPERATION** | Wheeled |
| **HANDLING EQUIPMENT** | 3 ramps used to move trailers and chassis between terminal and vessel, 1 top pick, 32 utility tractor rigs |
| **RAIL ACCESS** | Off-dock |
| **HIGHWAY ACCESS** | 3.5 miles from I-5 via Port of Tacoma Road, I-90 (E/W) 30 miles North via I-5 or SR-18 |
| **SUPPORT SERVICES** | Reefer washing, steam cleaning, maintenance, and repair. Served by many transload and distribution centers (including cold storage). |
| **EFFICIENCIES** | Gate turn time 20 min |
| **SECURITY** | Terminal area is lighted, fully secured and monitored 24/7 |
| **PRIMARY CLIENTS** | TOTE Maritime Alaska |
**OPERATED BY:** Washington United Terminals  
**WEBSITE:** www.uswut.com  
**FIRMS CODE:** Z705  
**HOURS OF OPERATION:** Monday-Friday; Gate open 0800-1630  
**ACREAGE:** 133 acres (53.8 hectares)  
**VESSEL HANDLING CAPABILITY:** Up to 18,000 TEU vessel  
**CRANE RAIL BERTHING:** Approx. 2,600 feet (792 meters) of contiguous berth at a depth of -51 feet (-15.5 meters) MLLW  
**TERMINAL BERTHING:** Same  
**WHARF HEIGHT:** 21.5 feet (6.6 meters)  
**CRANES:** 2 Super Post-Panamax (2 x 24 wide reach), 4 Post-Panamax (4 x 18 wide reach)  
**REEFER PLUGS:** 884  
**TRUCK LANES:** 13 (9 in-gate, 4 out-gate), 2 reversible  
**TRUCK SCALES:** 7  
**YARD OPERATION:** Mixed ground and wheeled  
**HANDLING EQUIPMENT:** Modern fleet of container handling equipment (reach-stackers, top picks, side picks, rubber-tired gantry cranes)  
**RAIL ACCESS:** On-dock, Hyundai Intermodal Yard  
**HIGHWAY ACCESS:** Interstate 5 is 1.3 miles away  
**SUPPORT SERVICES:** Served by many transload and distribution centers (including cold storage)  
**EFFICIENCIES:** Automated in/out gate processing, Optical Character Recognition (OCR) Technology  
**SECURITY:** CTPAT facility; Terminal area is lighted, fully secured and monitored 24/7  
**PRIMARY CLIENTS:** HMM, Ocean Network Express (ONE), Hapag-Lloyd, Yang Ming Line
<table>
<thead>
<tr>
<th><strong>OPERATED BY:</strong></th>
<th>Available for lease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WEBSITE:</strong></td>
<td></td>
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<tr>
<td><strong>FIRMS CODE:</strong></td>
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</tr>
<tr>
<td><strong>HOURS OF OPERATION:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ACREAGE:</strong></td>
<td>23 acres (9.3 hectares)</td>
</tr>
<tr>
<td><strong>TERMINAL BERTHING:</strong></td>
<td>1,030 lineal feet (313.9 meters) with a water depth of -32 feet (-9.75 meters) MLLW</td>
</tr>
<tr>
<td><strong>WHARF HEIGHT:</strong></td>
<td>18 feet (5.5 meters)</td>
</tr>
<tr>
<td><strong>PIER LOAD CAPACITY:</strong></td>
<td>600 PSF</td>
</tr>
<tr>
<td><strong>CARGO HANDLED:</strong></td>
<td>Breakbulk, Bulk</td>
</tr>
<tr>
<td><strong>TRUCK LANES:</strong></td>
<td>2 gated entry/exit points to the site</td>
</tr>
<tr>
<td><strong>RAIL ACCESS:</strong></td>
<td>Off-dock, Rail access along the front of property outside the fence line</td>
</tr>
<tr>
<td><strong>HIGHWAY ACCESS:</strong></td>
<td>2 miles from I-5, SR-509 (N/S); 1-90 (E/W) 30 miles North via I-5 or SR-18</td>
</tr>
<tr>
<td><strong>OTHER FEATURES:</strong></td>
<td>Paved yard with asphalt surface designed to support maritime/cargo handling loads; utilities scaled for maritime &amp; heavy industrial use; award-winning stormwater treatment system; includes office, repair shop with an oil/water separator and other outbuildings.</td>
</tr>
<tr>
<td><strong>SECURITY:</strong></td>
<td>Terminal area is lighted, fenced</td>
</tr>
<tr>
<td><strong>PRIMARY CLIENTS:</strong></td>
<td>Alternative Maritime Use, privately-operated</td>
</tr>
</tbody>
</table>
March 24, 2022

Re: NWSA CMAQ Grant

To Whom It May Concern:

This letter is being written to affirm Husky Terminal’s support of the NWSA’S application for CMAQ Grant funding for a Zero-Emission Cargo-Handling Equipment Incentive Program.

Husky Terminal has worked closely with the Port of Tacoma and NWSA in previous years on a number of ways to reduce air and climate pollutants from the port, through port electrification efforts and by introducing cleaner diesel equipment. Notably, we are currently working closely with the NWSA on the DERA funded shore power project, due for completion in 2023.

Husky staff have worked with NWSA Air Quality & Sustainable Practices staff on the development of the updated Northwest Ports Clean Air Strategy and the NWSA Implementation Plan (2021-26), especially on the goals for cargo-handling equipment. There can be significant costs and disruption associated with the fueling and charging infrastructure needs of new equipment, based on our experience installing shore power. Zero-emission cargo-handling equipment is also currently prohibitively expensive without substantial grant funding to bring the cost down to being comparable with a new diesel version. The NWSA’s proposal for this Incentive Program would help bridge that affordability gap, and is definitely a program we would be interested in.

There are numerous reasons for Husky Terminal’s commitment to electric cargo-handling equipment projects. They include but are not limited to:

- impact on the environment; especially at locations of high air pollutant emissions;
- reduced emissions to be absorbed by the workforce improving both health and fitness;
- reduced costs to the company in maintenance and fuel;
- ability to use newer technology to monitor and manage equipment operations and prevent out-of-service issues and critical damage to the equipment before it occurs; and
- allows Husky to maintain the highest standard as an industry leader in innovation, minimized costs and efficiencies

Husky Terminal hopes that this CMAQ grant be approved to contribute to our vision of a cleaner, safer environment and workplace. We have been at the Tacoma Harbor of the NWSA for decades. Through that time, we have forged a relationship with the entire community. Husky Terminal would be proud to help do our part in keeping that community strong, clean and vibrant.
Respectfully,

Brenda Martin  
Vice President  
Terminal Services  
Husky Terminal & Stevedoring, LLC  
Brenda.Martin@huskyterminal.net  
Direct (253) 680-2803  
Cell (562) 254-4574
March 30, 2022

Re: NWSA CMAQ Grant

To Whom It May Concern:

This letter is to express Matson’s support of the Northwest Seaport Alliance (“NWSA”) in its application for Congestion Mitigation and Air Quality (“CMAQ”) Grant funding for a Zero-Emission Cargo-Handling Equipment Incentive Program.

Matson is an ocean carrier and has worked closely with the Port of Tacoma and NWSA in previous years on a number of ways to improve the air by introducing cleaner equipment into terminal operations. Matson is excited about the greater use of zero-emission cargo-handling equipment. However, zero-emission cargo-handling equipment and its associated charging infrastructure is not economically viable at this time without substantial support such as grant funding to bring down the costs as compared with existing diesel technology. The NWSA’s proposal for this Incentive Program would help bridge that affordability gap.

Matson supports a CMAQ grant to NWSA to help contribute to a cleaner environment and workplace.

Respectfully,

[Signature]

Rich Kinney
Senior Vice President
Network Operations
March 28, 2022

Re: NWSA CMAQ Grant

To Whom It May Concern:

This letter is being written to affirm TOTE’s support of the NWSA’S application for CMAQ Grant funding for a Zero-Emission Cargo-Handling Equipment Incentive Program.

TOTE has worked closely with the Port of Tacoma and NWSA in previous years on a number of ways to reduce air and climate pollutants from the port, through port electrification efforts and by introducing cleaner diesel equipment. Notably, we were the first terminal in Tacoma to install shore power for our vessels using a DERA grant, with all our vessels plugging into the grid.

TOTE staff have worked with NWSA Air Quality & Sustainable Practices staff on the development of the updated Northwest Ports Clean Air Strategy and the NWSA Implementation Plan (2021-26), especially on the goals for cargo-handling equipment. There can be significant costs and disruption associated with the fueling and charging infrastructure needs of new equipment, based on our experience installing shore power. Zero-emission cargo-handling equipment is also currently prohibitively expensive without substantial grant funding to bring the cost down to being comparable with a new diesel version. The NWSA’s proposal for this Incentive Program would help bridge that affordability gap, and is definitely a program we would be interested in.

There are numerous reasons for TOTE’s commitment to electric cargo-handling equipment projects. They include but are not limited to:

▪ impact on the environment; especially at locations of high air pollutant emissions;
▪ reduced emissions to be absorbed by the workforce improving both health and fitness;
▪ reduced costs to the company in maintenance and fuel;
▪ ability to use newer technology to monitor and manage equipment operations and prevent out-of-service issues and critical damage to the equipment before it occurs; and
▪ allows TOTE to maintain the highest standard as an industry leader in innovation, minimized costs and efficiencies

TOTE hopes that this CMAQ grant be approved to contribute to our vision of a cleaner, safer environment and workplace. We have been at the Tacoma Harbor of the NWSA for decades. Through that time, we have forged a relationship with the entire community. TOTE would be proud to help do our part in keeping that community strong, clean and vibrant.

Respectfully,

Christopher Rye
Vice President Operations, TOTE Maritime Alaska
April 11, 2022

Re: SSA Marine Letter of Support for the NWSA CMAQ Grant Application

This letter is being written to affirm SSA Marine’s support of the NWSA’S application for CMAQ Grant funding for a Zero-Emission Cargo-Handling Equipment Incentive Program.

SSA Marine has worked closely with the Ports of Seattle, Tacoma and NWSA since the development of the Northwest Ports Clean Air Strategy in the mid-2000s on a number of projects and programs to reduce air pollutants and climate greenhouse gases from port operations, including replacement of cargo-handling equipment with newer, cleaner diesel engines and low and zero-emissions technologies. Most recently we have worked the NWSA on the installation of shore power at Terminal 5 in Seattle, which opened at the beginning of this year, and to deploy zero-emissions yard trucks at the South Intermodal Yard (SIM) in Tacoma.

SSA Marine staff have worked with NWSA Air Quality & Sustainable Practices staff on the development of the updated Northwest Ports Clean Air Strategy and the NWSA Implementation Plan (2021-2026), particularly on the goals for cargo-handling equipment (CHE). There can be significant cost and operational considerations associated with the fueling and charging infrastructure needs of zero-emissions CHE, which is currently prohibitively expensive without substantial grant funding to bring the cost down to being comparable with a new diesel equipment. Due to operational needs, there is no zero-emissions technology that currently allows for a 1:1 replacement, resulting in a doubling of costs to achieve the NWSA’s zero-emissions goals. The NWSA’s application for CMAQ funding to create an incentive program for zero-emissions CHE would help bridge that affordability gap for marine terminal operators in Seattle and Tacoma.

SSA Marine supports the NWSA application for CMAQ funding to further the implementation of the Northwest Ports Clean Air Strategy goals.

Respectfully,

Sarah Mouriño
Sustainability Director
The Northwest Seaport Alliance 2022 Budget

Operating Budget and Capital Investment Plan adopted: November 8, 2021
In June 2021, Inbound Logistics magazine named The Northwest Seaport Alliance in its annual list of “Green 75” supply chain partners. This is the fourth consecutive year that the NWSA has been recognized for its environmental programs and commitment to sustainability.

In August 2021, Logistics Management Magazine awarded The Northwest Seaport Alliance with a 2021 Quest for Quality award in the West Coast Port category. This is the fifth consecutive year that the NWSA has earned this award. The NWSA ranked second highest among U.S. West Coast ports in the magazine’s annual readership survey of transportation providers. Ports were evaluated on ease of doing business, value, ocean carrier network, intermodal network, and operations. The NWSA was one of only four West Coast ports to earn the honor this year.

In June, 2021 the Northwest Ports Clean Air Strategy was named as Runner-Up in the International Association of Ports and Harbors’ (IAPH) World Ports Sustainability Program Awards in the Climate and Energy category. The IAPH established the World Ports Sustainability Program in 2018. Guided by the 17 United Nations Sustainable Development Goals, it aims to unite sustainability efforts of ports worldwide, encouraging international cooperation between all partners involved in the maritime supply chain.

The Northwest Seaport Alliance joined Green Marine in 2016 and has maintained its continued improvement every year since joining. Green Marine is a voluntary marine industry initiative with the goal of achieving levels of environmental performance that exceed regulatory requirements in areas such as air emissions, greenhouse gases, cargo waste management, community impacts (noise, dust, odors and light), water and land pollution prevention and environmental leadership. There are currently more than 100 ship owners, port authorities, terminals, and shipyards from coast to coast, in Canada and the United States, participating in the program.
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Tables

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<td>V-5</td>
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To: Managing Members  
Date: November 8, 2021  
Subject: The Northwest Seaport Alliance Operating Budget and Five-Year Capital Investment Plan

Staff is pleased to present the 2022 Northwest Seaport Alliance (NWSA) Budget. This document informs interested parties about the NWSA’s overall goals and strategies, as well as the business environment in which we operate. It highlights our focus on strategic investments that will deliver competitive financial results, build infrastructure for future growth in an environmentally sustainable manner, and continue to create jobs and economic wealth for the Puget Sound region.

What a difference a year makes. After the pandemic-related decline in business activity in 2020, 2021 was a year of significant business growth with increased consumer demand that has created congestion across the maritime supply chain. Shipping alliances, terminal operators, rail and trucking partners, and ILWU labor are working to process cargo as fast as possible to keep store shelves stocked and businesses running smoothly across Washington and the inland markets our gateway serves. The NWSA has helped create off-dock yards to reduce congestion and is working with cargo owners, truckers, and labor to eliminate the backlog of cargo.

Additionally, the NWSA has made and continues to make critical investments to service large ships and increase our gateway capacity. We completed construction of a new wharf and the purchase of eight new cranes at Husky Terminal in the Tacoma Harbor in 2019 and will open the first phase of the redevelopment of Terminal 5 in Seattle in January 2022. These two significant investments alone total over 500 million dollars and provide the NWSA with additional terminals in both harbors capable of handling the largest vessels in the transpacific trade. The additional off-dock yards along with the opening of Phase 1 of Terminal 5 will help ease the congestion in our gateway.

The NWSA creates significant economic activity and family wage jobs in the Puget Sound region and across the state. We provide manufacturers and agricultural producers throughout the nation valuable access to foreign markets. NWSA and our customers’ business activities generate more than 58,400 direct and indirect jobs and $12.4 billion of business output based on the most recent study released in 2019 for 2017 data. The NWSA is also an environmental leader in reducing cargo-related air emissions and stormwater pollution.

The current NWSA’s Strategic Business Plan includes:

- Improve the efficiency and cost competitiveness of the supply chain
- Enhance NWSA, local and regional transportation infrastructure
- Advance the NWSA’s market position in the international and domestic shipping industry
- Increase revenue through growth and diversification
- Advance environmental stewardship

The challenges of 2020 and 2021 have positioned our gateway for significant opportunities to grow our market share and increase jobs in the region this upcoming year. The NWSA will continue to invest in the facilities and infrastructure necessary to keep our position as a leading North American port. Our team is focused on promoting responsible financial and environmental stewardship, fostering operational excellence through the gateway, and increasing business activities and job growth across the region.

John Wolfe  
Chief Executive Officer
Budget Document Overview

The Budget Document consists of these major sections:

I. **Overview**: This section provides information about the NWSA's facilities and customers. It examines the economic context of the NWSA's operating environment, and outlines the NWSA's organizational structure.

II. **Budget Message**: This includes an overview of the budget challenges and opportunities, revenue types and expenditures. The Budget Message outlines the priorities and issues for the budget year and describes changes from the previous year.

III. **Business Outlook**: This section describes the NWSA's overall goals and strategies. It includes assumptions, potential obstacles and trends that staff used to develop the forecast. These serve as the foundation for the Operating Budget.

IV. **Operating Budget**: This section provides a summary of the assumptions that form the basis for the NWSA's operating budget. This section includes the operating budget with revenue and expenses by line of business, and details of expected operating costs. This section also provides a five-year financial forecast for the alliance.

V. **Five-Year Capital Investment Plan (CIP)**: The CIP consists of all capitalized and expensed projects that the NWSA plans to complete in the next five years. Capitalized projects affect the NWSA's Profit and Loss statement through depreciation while expensed projects flow directly to the NWSA's net income in the year the expenses are incurred. This section provides details on the CIP including the impact of the capital spending on profitability.

VI. **Environmental Stewardship and Planning**: This section provides a historical context for the environmental challenges facing the two ports and their surrounding communities. This section also discusses the role of the NWSA Planning and Logistics department and its work to integrate all aspects of the alliance.
I The Northwest Seaport Alliance Overview

Marine Cargo Operating Partnership

The Northwest Seaport Alliance (NWSA) was formed when the ports of Seattle and Tacoma joined forces in August 2015 to unify management of marine cargo facilities and business to strengthen the Puget Sound gateway and attract more marine cargo and jobs to the region.

NWSA Strengths and Advantages

Located in the Pacific Northwest in Washington state, the NWSA offers short transit times between the US and Asia, and the terminal and landside infrastructure necessary to quickly move cargo to the U.S. Midwest. NWSA strengths and advantages include:

• One gateway, two harbors and multiple terminal facilities offering more choices for shippers using the gateway.
• Naturally deep water and marine terminals with big-ship handling capabilities.
• Vessel service from the three international container shipping alliances and all major international container carriers. In all, sixteen international and four domestic container carriers make regular port calls at NWSA facilities.
• Dual service from the two West Coast transcontinental railroads (UP, BNSF) with competitive transit times to Chicago and major Midwest markets.
• Excellent on-dock rail facilities and inland rail service
• Located near the second largest concentration of warehousing on the US West Coast.
• Over 100 transload warehouses supplying logistics services to shippers using the gateway, many rail served.

International & Domestic Trade

The NWSA ranks among the world’s top 60 container gateways and is the fourth-largest gateway for containerized cargo in the United States. Retention and growth of cargo volumes shipped between Asia and major distribution points in the Pacific Northwest, Midwest, Ohio Valley, and the East Coast is a primary focus for the alliance. The NWSA also has a very active trade with Alaska and Hawaii.

The NWSA is a major center for bulk, breakbulk, and project/heavy-cargoes. The NWSA is the Northwest home port for processing Kia, Mazda, and Mitsubishi automobiles and trucks while The Port of Tacoma has a separate facility that processes Nissan and Volvo vehicles.

The value of NWSA’s two-way international trade totaled more than $65.7 billion in 2020. Imports were $51.0 billion and exports were $14.7 billion. Through July 2021, the two ports handled roughly $43.9 billion of trade. Based on dollar volume, China (including Hong Kong) is the NWSA’s largest trading partner. Other major international trading partners include:

• China/Hong Kong
• Japan
• Vietnam
• Republic of Korea
• Taiwan
• Thailand
• Indonesia
• Malaysia
• Philippines

Seattle-Tacoma is recognized as “The “Gateway to Alaska””, with more than 80 percent of trade between Alaska and the lower 48 states handled at the two harbors. In 2020, nearly 2.7 million metric tons of domestic cargo were shipped between Alaskan ports and NWSA terminals. Matson, TOTE Maritime Alaska, Northland, and Alaska Marine Lines are the primary shipping lines plying the Alaska trade. Trade with Alaska is estimated at $5.4 billion, making it NWSA’s fourth largest trading partner based on value of trade. The NWSA also provides connections to Hawaii with service from Matson and Aloha Marine Lines.

Port of Seattle & Port of Tacoma

The Port of Seattle was created September 5, 1911, in an effort by citizens to ensure public ownership of the Seattle harbor. The Port of Seattle was the first autonomous municipal corporation in the United States specifically tasked to develop harbor and port facilities to encourage commerce. The Port opened Fishermen’s Terminal in 1914, its first
warehouse in 1915 and began working on the creation of Harbor Island.

The Port of Tacoma was created on November 5, 1918, by the voters of Pierce County to create job opportunities through trade, as well as promote economic development in Pierce County and the state of Washington.

The Port of Seattle and the Port of Tacoma’s geographic boundaries lie within King and Pierce counties, respectively. They are situated on Elliott and Commencement bays in Puget Sound. Because of this strategic location, they offer efficient connections to sea, rail, highway, and air transportation networks.

King and Pierce Counties

King and Pierce counties are the first and second most populous metropolitan areas in the state of Washington. The two counties represent a combined population of approximately 3.1 million or 41% of the population of the state of Washington.

Located about halfway between the Oregon and Canadian borders, King and Pierce counties cover 3,916 square miles.

Ports Economic Impact

In 2019, the ports of Tacoma and Seattle announced the results of a joint economic impact study for the NWSA and the two seaports. The ports serve as a major economic engine for Pierce County, King County, and the state of Washington, creating thousands of family-wage jobs and serving as a catalyst for economic development.

According to the study, in 2017 the two ports' marine cargo activities are related to 58,400 jobs in Washington state that contribute $12.4 billion in total business output. Cargo-handling and leasing activities generated more than $136 million in local and state taxes in Washington.

NWSA Facilities and Services

The ports have licensed to the NWSA facilities related to maritime commerce, including facilities for containerized cargo, automobiles, logs, breakbulk cargo, heavy-lift cargo and project cargoes, as well as intermodal rail terminal operations. The NWSA’s four major waterways – two in Seattle and two in Tacoma – provide 33 ship berths on waterways that are about 51 feet deep. The NWSA facilities are located near I-5 and I-90, allowing access to the Puget Sound market and beyond.

BNSF Railway and the Union Pacific Railroad serve the NWSA’s nine on-dock and near-dock intermodal rail yards. The NWSA’s intermodal rail facilities help save shippers and shipping lines both time and money for cargo destined for Midwest locations.

In Tacoma, Tacoma Rail, a division of Tacoma Public Utilities, provides switching and terminal rail service. Arrival and departure tracks help ensure efficient and reliable access to the mainline railroads.

The NWSA is both a landlord and an operating organization. The NWSA’s maritime marketing efforts focus on attracting cargo and additional shipping lines to its facilities. The NWSA also works with charter shippers and others to move their cargoes through both NWSA and customer-operated facilities in Puget Sound.

Many of the two home ports' efforts are focused on industrial development and real estate. They each work to attract major manufacturing and warehouse/distribution centers to King and Pierce counties.

See Figures 1-1 and 1-2 for an overview of The Northwest Seaport Alliance facilities located in Seattle and Tacoma, respectively.

The Northwest Seaport Alliance governance

The NWSA is a separate governmental entity established as a Port Development Authority (PDA), similar to Public Development Authorities formed by cities and counties. In 2015, the ports successfully sought and received an amendment to Washington law RCW 53 that allows the ports of Tacoma and Seattle to form a PDA for management of maritime activities.

The NWSA is governed by the two ports as equal members, with each port acting through its elected commissioners. Each Port Commission is a Managing Member of the NWSA, with each Managing Member being represented by its Port Commission. Votes by the Managing Members require a simple majority from each commission.

Each port remains a separate legal entity, independently governed by its own elected
commissioners. Each port has granted to the PDA a license for the PDA’s exclusive use, operation and management of certain facilities, including the collection of revenues. Ownership of the licensed facilities remains with the ports, not the PDA.

The ports remain responsible for their own debt and debt service; the PDA will not borrow funds.

The ports set up an initial 50/50 investment in the PDA; operating income is reported, and cash is distributed back to the ports on a monthly basis. The PDA has its own annual operating budget and five-year capital investment plan.

The ports contribute to capital construction subject to Managing Members approval; capital funding does not come from working capital generated by the NWSA.

**NWSA Managing Members**

The Managing Members are the commissions for each of the two ports. The citizens of Pierce and King counties each elect a five-member Port Commission to govern the ports of Tacoma and Seattle. Each Commission seat is elected every four years, on a staggered basis.

The Managing Members are the final authority for approval of the NWSA’s annual budget, long-term leases, policies, long-range development plans, and all construction projects and spending in amounts exceeding the authority of the Chief Executive Officer.

The members of the commissions at the time of this publication are:

**Port of Seattle**
- Stephanie Bowman
- Ryan Calkins
- Sam Cho
- Fred Felleman
- Peter Steinbrueck

**Port of Tacoma**
- Kristin Ang
- Deanna Keller
- Dick Marzano
- John McCarthy
- Don Meyer

**NWFA Managing Members Meetings**

Managing Member meetings are open to the public and are held at various locations in both King and Pierce counties and online.

For the location and agenda for upcoming Managing Member meeting, as well as minutes for previous Managing Member meetings, you can visit the website at [www.nwseaportalliance.com](http://www.nwseaportalliance.com).

The NWSA streams all Managing Member meetings live on the website and are archived for future viewing.

Citizens may contact the Managing Members by calling 800-657-9808. Correspondence may be mailed to:

The Northwest Seaport Alliance
P.O. Box 2985
Tacoma, WA 98401-2985

**Organizational Structure**

The NWSA’s daily operations are led by the Chief Executive Officer and the NWSA Executive Team. See the Organizational Chart (Figure I-3 on page I-8).

**Executive Team**

The Executive Team is comprised of the following positions:

- Chief Executive Officer (CEO)
- Deputy CEO
- General Counsel
- Chief Commercial and Strategy Officer
- Chief Financial Officer
- Chief Operations Officer
- Director of Engineering
- Director of Environmental Programs
- Senior Manager for Government Affairs
- Senior Manager for Communications

The Executive Team oversees all business activities and departments, and with the Managing Members, provides long-term strategic direction. The Executive Team ensures compliance with all regulations relevant to NWSA and port activities, including public meetings and information, environmental protection, labor relations, procurement, security, financial management and other issues. The Chief Operations Officer, Director of Engineering and Director of Environmental Programs provide day to day
management of some port staff working on both Port and NWSA related items.

**Commercial Group**

Led by the Chief Commercial and Strategy Officer, the Commercial Group is comprised of the Business Development team, the Marketing & Business Services Team, and the Real Estate team.

**Business Development:** International and domestic container, breakbulk, and bulk cargo are core business segments for the NWSA. The Business Development team is responsible for cargo and terminal business development and management, and customer service for these cargos. The Business Development team plays an important role coordinating efforts with the entire supply chain, including customers, terminal facilities, railroads, and trucking companies. This team pursues and implements operational improvements to enhance overall efficiency at the NWSA’s terminals.

As one of the northernmost gateways on the U.S. West Coast, the Pacific Northwest has long been the primary hub for waterborne trade with Alaska, as well as a major gateway for trans-Pacific trade.

The gateway’s on-dock and near-dock intermodal rail yards, along with international and domestic rail services to the U.S. Midwest, are key assets and are an integral part of the NWSA business. Relationship management with Tacoma Rail, BNSF and Union Pacific (UP) and other rail stakeholders are key functions of this team.

While a significant portion of the Business Development team is focused on the container and associated intermodal business, the NWSA has a robust non-container business. Comprised of breakbulk (Roll On and Roll Off also known as RoRo), bulk and auto cargoes, these non-container businesses make a significant contribution to revenue and further diversify the gateway’s business portfolio. Additionally, the NWSA’s Tacoma Harbor is designated as a strategic military port for transport of military cargoes.

Auto customers of the NWSA include Kia, Mazda, and Mitsubishi. These imports are processed on property leased by Auto Warehousing Company (AWC), the largest auto processor on the U.S. West Coast. The Port of Tacoma has a separate auto facility with its tenant, Wallenius Wilhelmsen which processes Nissan and Volvo imports.

Exports of petroleum products and molasses add to the diversified cargo mix.

The NWSA offers competitive rates and full service to all customers. To help facilitate and grow business, the NWSA has trade and business development representation in Alaska, New Jersey, Hong Kong, China, Vietnam, and Korea.

**Marketing and Business Services Team:** This team supports the Business Development team and is responsible for research, data analysis, advertising and marketing activities. This team also manages and administers the NWSA tariff. It also supports the goals of the Commercial Group by providing strategic market research and business intelligence, cargo volume tracking and forecasting.

**Real Estate Team:** Non-terminal industrial and commercial properties and facilities in the Seattle and Tacoma harbor are included in the assets assigned to the NWSA. These properties are a significant source of revenue for the NWSA. Real estate personnel are responsible for leasing, divesting and managing the Port’s real estate portfolio.

Located in an industrial zone with room for growth, tenants offer a broad range of services for the NWSA’s international and domestic customers including warehousing and distribution, manufacturing and marine services.

**Operations Group**

The Operations Group is responsible for the daily operations of NWSA facilities at both ports.

The Operations Group provides coordination with vessel arrivals and departures, and with the associated stevedores. The Operations group orders and manages labor at the North Intermodal Yard and other locations in Tacoma, and is also responsible for customer service. The major focus of this department is to ensure the proper processing of all vessels and freight shipments moving through the Puget Sound gateway.

The Operations Department, in conjunction with Tacoma Rail, is responsible for rail service delivery at the Tacoma Harbor intermodal yards. This department also operates the North Intermodal Yard (NIM). The NIM is the only port on the U.S. West Coast with dedicated rail services personnel. Both harbors offer competitive rail service via BNSF Railway and the UP.
Railroad, and are a major gateway for handling discretionary cargo destined for the Midwest.

**Support Services**

Support services such as maintenance, security, government affairs, communications, engineering, environmental programs, planning and financial services are provided by NWSA staff and / or service agreements between the alliance and the two ports. Costs for these services are charged by the ports to the alliance based on agreed upon methodologies including direct charge and purchased services.

**Commitment to Fiscal Stewardship**

The NWSA is intended to support the credit profiles of both ports, and its financial framework is intended to preserve both ports’ commitment to financial strength and fiscal stewardship.

Both ports have a solid track record of prudent financial management and strong financial results, including solid debt service coverage and ample liquidity balances.

The ports are committed to ensuring that existing bond pledges and covenants will not be negatively affected. Outstanding bonds will remain obligations of each individual port.

To maintain the rights of each port’s existing bondholders, the charter prohibits the NWSA from issuing debt.
Figure I-1.... Northwest Seaport Alliance Facilities – Seattle Harbor
Figure I-2. Northwest Seaport Alliance Facilities – Tacoma Harbor
Figure I-3: The Northwest Seaport Alliance Organizational Chart
II Budget Message

NWSA Goals

The NWSA has identified seven strategic initiatives to maintain and grow the maritime business in the Puget Sound. The seven high level strategic initiatives, and supporting priorities are listed below. Please see Appendix E for the detailed metrics and measures:

1. Business Development and Commercial Initiatives
   a. Complete modernization of T5 dock, berth and power infrastructure in the Seattle Harbor to meet future container industry demand, increase throughput, and position The Northwest Seaport Alliance gateway strategically
   b. Maximize gateway cargo potential and diversification and enhance supply chain networks
   c. Complete redevelopment of Husky Terminal and Pier 4 in the Tacoma Harbor to increase container throughput and respond to container industry changes

2. Gateway Operations
   a. Enhance cargo and transportation (waterway, roadway and rail) visibility within the gateway to drive improved service delivery
   b. Enhance and improve service delivery key performance indicators (KPIs) with a move toward real-time reporting and analytics
   c. Support Port-area infrastructure investments that support the efficient flow of cargo to and from NWSA facilities
   d. Design and develop appropriate rail support infrastructure in coordination with Tacoma Rail and the Class 1 railroads

3. Financial Performance
   a. Effectively Manage Operating Activities to Deliver Expected Financial Results

4. Environmental Stewardship
   a. Effectively Manage and monitor the clean truck and clean air strategies and pursue improvements that support the green gateway strategy
   b. Continued focus on water quality at NWSA and tenant run facilities
   c. Develop and implement a green gateway communications strategy

5. Government Affairs
   a. Continue to pursue Harbor maintenance tax reform
   b. Support establishment of a Federal West Coast port competitiveness strategy

6. Planning and Logistics
   a. Continue engagement in regional transportation and land use planning
   b. Complete a facilities infrastructure plan
   c. Leverage grant opportunities to fund strategic cargo facilities and infrastructure
   d. Support harbor deepening and maintenance dredging in both harbors

7. Organizational Performance
   a. Engage and participate in Diversity, Equity and Inclusion (DEI) training
   b. Continue development and implementation of applications that enhance the business and provide a competitive advantage
Budget Environment

The NWSA operates principally in two industries: terminal services and property rentals. Terminal services involve marine-oriented services including dockage, cargo-handling, storage and related activities. Property rentals include facilities and land used for container terminals, industrial activities, and storage.

As described in further detail in Section III, increased competition from Canadian ports as well as ports located on the U.S. West, Gulf and East coasts, have resulted in reduced cargo market share for the Puget Sound gateway. The expansion of the Panama Canal has made the all-water route to the Gulf and East coasts more attractive for cargo owners. While the recent demand for cargo has resulted in high utilization of our terminals, NWSA staff continue to work on future projects to regain and grow our market share.

Revenues

The NWSA has both fixed and variable revenue streams. The majority of NWSA’s revenue comes from fixed revenue streams, primarily from leased properties. The leased properties are mainly container terminals, buildings, and industrial and commercial land. The NWSA’s container terminal leases with shipping carriers can last 20 years or longer depending on carrier requirements. Building and land leases with more than one-year remaining are considered fixed. Minimum crane hours and minimum intermodal lift requirements specified in certain terminal leases are considered fixed.

The balance of NWSA revenue comes from variable services provided to customers. These services include intermodal lifts for rail car loading above minimums and per unit charges for automobile unloading and breakbulk cargo. Variable revenues also include equipment rental on an hourly basis for crane hours above minimums and straddle carriers used by terminal leaseholders and month to month building or land leases.

GASB 87: The NWSA has adopted the new accounting standard for leases known as GASB 87 for 2021 for audited financial reporting. GASB 87 will move a significant amount of revenue from Lease income in Operating Revenue to Lease Interest Income which is included in non-operating revenue.

For clarity and to avoid confusion, the impact of GASB 87 will not be incorporated into this budget document.

2022 Budget

The NWSA has developed an overall operating budget with projected revenue of $206.8 million. Operating income is budgeted to be $84.8 million, resulting in an operating margin of 40.8 percent. The NWSA net distributable revenue of $98.9 million, which includes grant and interest. Distributable Cash of $122.1 million will be distributed evenly between the two home ports. Each port’s portion of net income will be included as revenue in their financial reports.

NWSA financial performance reflects the investments it is making to successfully complete our customer commitments while meeting the NWSA financial goals. The operating and capital budgets are based on the cargo forecast in Section III.

Capital Investment Plan Highlights

NWSA projects for the next five years reflect a focus on strategic container terminal development in both harbors. With this focus the NWSA has reviewed potential assets for revenue generation to ensure that financial and economic growth goals are met.

Major 2022 – 2026 capital projects include the following:

Seattle Harbor
- Terminal 5 wharf redevelopment, including a rail quiet zone and electrical upgrades in the City of Seattle’s substation
- Terminal 18 dock rehabilitation and shore power installment
- Terminal 46 NW bulkhead replacement

Tacoma Harbor
- Husky berth dredge and install shore power
- Tacoma terminal expansion
- WUT berth dredging
- PCT reefer expansion and fender replacement
- Ongoing maintenance of facilities

Both Harbors
- Clean air and stormwater investments
- Investments in numerous environmental remediation and mitigation projects
The NWSA’s 2022 Capital Investment Plan of $131.6 million represents the first year of the NWSA’s 2022-2026 CIP – a package totaling $626.3 million in new projects and investments. See Section V for additional details on the Capital Investment Plan.

Financial Measures

Financial measures for the NWSA have been developed to monitor financial performance. The two measures are (1) Net Distributable Cash and (2) Return on Revenue (operating income divided by revenue). These measures help ensure that the NWSA is providing the necessary financial performance required by each home port.

Legislative Impact

Transportation Funding

The NWSA relies on an efficient and well-maintained road and rail network to ensure the smooth movement of cargo to and from its facilities. The Washington Legislature made a significant commitment to infrastructure in 2015, passing a 16-year, $16 billion statewide transportation package. An estimated $3.3 billion of those funds will be invested in projects benefiting NWSA terminals.

In 2015 Congress passed the FAST Act, a surface transportation authorization bill that established a new freight funding program. In its Fiscal Year 2019 spending bill, Congress appropriated $292 million for the new Port Infrastructure Development Program (PIDP), a port-dedicated infrastructure funding program. Prior to these bills, few federal investment tools have been available to ports and other local government when it comes to freight infrastructure.

The FAST Act programs and the PIDP will assist the NWSA in making strategic investments in mission-critical freight infrastructure, such as marine terminals, roads and rail. In 2020 the NWSA received our first award under the PIDP, a $10.7 million grant for the final phase of the T5 modernization program.

Shorepower Infrastructure Funding

Both the ports of Tacoma and Seattle have provided shorepower at some berths. The NWSA continues to pursue additional opportunities to leverage public and private funding for additional shorepower installations, and ensure terminal designs include shorepower capability. Some of these opportunities include Diesel Emission Reduction Act (DERA), State and Federal Volkswagen Settlement (VW) funding, TransAlta Centralia Coal Transition Grant funds, along with other emerging sources of state funding, and potential federal infrastructure and Build Back Better legislation.

As part of this effort the NWSA has developed a plan for shore power installations throughout the gateway. The NWSA was awarded a $4.3 million Clean Energy Fund grant from the state to support shore power installation at T-5 as part of the redevelopment project. This funding was directed to the NWSA through a state budget proviso in the 2019 legislative session. The NWSA has also accepted a DERA grant from the EPA that would contribute $1 million to the installation for shore power at Husky Terminal, with design underway and construction planned for 2022. The NWSA also received $1 million from the TransAlta Transition grant funds, and $1.1 million in state Volkswagen settlement funds to support the Husky shorepower project. This would allow vessels at this Tacoma Harbor berth to shut their engines off and plug into the local electrical grid for their energy needs.

The NWSA has also accepted a $2 million grant from the state, through the federal VW Settlement, to support design and construction of a shore power system at T-18. These funds will allow staff to progress the design, along with design of other needed capital improvements, enabling the NWSA to apply for grants from the large federal programs, such as RAISE and PIDP.

The expansion of shore power capabilities is consistent with the NWSA Strategic Plan and Northwest Ports Clean Air Strategy to reduce particulate emissions and greenhouse gases.

Navigation Improvement Projects

The largest container vessels calling West Coast ports today have over two times the capacity of those that called just five years ago. To remain a competitive trade gateway, the NWSA is taking steps to upgrade our infrastructure to handle these ships. One such step involves the deepening of the navigation channels that
serve its facilities. In 2018, the U.S. Army Corps of Engineers completed a Chief's Report recommending deepening in specific areas adjacent to the NWSA's container terminals in the Seattle Harbor. Congress subsequently authorized the project in the 2018 Water Resources Development Act, and design funds were approved in the Corps' FY20 Work Plan. While channels are mostly -51 feet or deeper, some shallower spots present navigational and safety challenges. The recommendation is to deepen the east and west waterway in the Seattle Harbor to -57 feet MLLW.

This will allow the NWSA to handle fully laden ships larger than 18,000 TEUs. Deepening channels to this depth will require a local financial match of federal dollars, which could come from several sources, including the potential for a contribution from the NWSA.

Additionally, the NWSA in 2018 signed a feasibility cost-sharing agreement with the Corps to initiate a feasibility study of navigation improvements to the Blair Waterway at the Port of Tacoma. The study was scheduled to be completed in August 2021, but it now is delayed because the National Marine Fisheries Service (NMFS) has not completed the required environmental consultation. Additional work to resolve the delays at NMFS will take place over the next several months, and it is our goal to see a completed Chief's Report (comparable to the one referenced above in Seattle) in time for design and construction to be authorized by Congress in 2022. The alliance has contributed approximately $1.8 million over the course of the three-year study, amounting to half of the study's costs.

Harbor Maintenance Tax (HMT)

The HMT is assessed on ocean-going international imports that land at U.S. ports to pay for maintenance dredging of waterways through the HMT Trust Fund. It is not, however, assessed on importers who route cargo through non-US ports and afterwards move the cargo into U.S. markets by land. Moreover, the NWSA has received little, if any, benefit from the fund because its facilities are located on natural deep-water harbors that do not require significant maintenance dredging. Since 1986 the ports of Seattle and Tacoma have sought reform of the HMT to provide a greater return to donor ports, such as the NWSA, and to ensure U.S. tax code does not disadvantage U.S. ports and maritime cargo.

Our ports achieved a major milestone in our decades-long effort in December 2020 when Congress passed comprehensive HMT reform legislation as part of the Water Resources Reform and Development Act (WRDA) of 2020. The bill sets aside 8% of annual HMT collections for donor ports like Seattle and Tacoma. If implemented as drafted, the NWSA estimates that between them the two home ports of Seattle and Tacoma will receive approximately $30 million annually for our infrastructure projects beginning in federal fiscal year 2023.

In 2021 the Port of Seattle received $2.782 million and the Port of Tacoma received 2.744 million from the federal government through the existing WRDA Section 2106 HMT donor port program. These funds will be used by the NWSA to fund eligible infrastructure projects to enhance the competitiveness of our cargo operations.

Conclusion

The realities of the drastic changes in the global economy have led all ports to examine business and operational strategies.

The NWSA is focused on maximizing the use of existing facilities, working with existing customers to keep them competitive and successful, and making strategic infrastructure investments such as the construction of world class terminals in both harbors that position the gateway for long-term growth. Through coordinated investments in maritime assets, the NWSA will help ensure the growth in the flow of cargo throughout the Puget Sound.

The NWSA is placing increased emphasis on the importance of developing and strengthening relationships with labor partners, industry stakeholders, customers, local, state and tribal governments and near-port communities to collaboratively achieve its future vision. This vision includes the road and rail infrastructure that ties the whole supply chain system together.

Despite the challenging realities of today’s global economy, NWSA management is confident that the plans outlined in this budget will help the gateway remain financially strong, competitive and successful.
III  Business Outlook

U.S. Economy

Real gross domestic product (GDP), defined as the value of the production of goods, increased 6.6 percent in the second quarter of 2021 and 6.3 percent in the first quarter of 2021. The Department of Commerce Bureau of Economic Analysis (BEA) said, “The increase in second quarter GDP reflected the continued economic recovery, reopening of establishments, and continued government response related to the COVID-19 pandemic. In the second quarter, government assistance payments in the form of loans to businesses and grants to state and local governments increased, while social benefits to households, such as the direct economic impact payments, declined.”

The U.S. economy is performing strongly. Growth is supported by consumption, business spending, and employment. The re-opening due to vaccinations and consumer demand growth are causing supply congestion and increased prices. Partial second-quarter results show that consumers are spending money on services now. People are returning to public places, traveling, and returning to a more normal lifestyle such as attending sport events. Spending on services has not yet come with a large decline in spending on goods. While consumers still have disposable income, and consumption should continue to grow, TTX expects some durable goods categories like furniture, appliances, and sporting goods to see weaker growth.

The “I” word is in play. Strong consumer demand and supply-chain congestion and shortages have increased prices. While inflation is a sign that the economy is growing, it resulted in a 5.3% growth in the Consumer Price Index in June. Some of the increase is due to comparison against last year. A major part is because the reopening of the economy caused shortages. From new cars, airfares, hotels, car rentals, gas, etc., prices have increased. The Fed expect the bottlenecks to ease by the end of the year and demand will moderate in early 2022. However, inflation is likely to stay higher than pre-pandemic levels for some time.

The U.S. unemployment rate was at 5.2 percent in August 2021 with 235,000 jobs added for the month. Most job gains occurred in professional and business services, transportation and warehousing, private education, manufacturing, and other service industries.

The National Association of Realtors states pending home sales declined 1.8% in July 2021, month over month. According to Lawrence Yun, NAR’s chief economist, “The market may be starting to cool slightly, but now there is not enough supply to match the demand from would-be buyers. Homes listed for sale are still garnering great interest, but the multiple, frenzied offers -sometimes double-digit bids on one property –have dissipated in most regions.”

The Conference Board reported August Consumer Confidence Index at 113.8, down from 125.1 in July. According to the Conference Board’s Senior Director of Economic Indicators Lynn Franco, “Concerns about the Delta variant—and, to a lesser degree, rising gas and food prices—resulted in a less favorable view of current economic conditions and short-term growth prospects. Spending intentions for homes, autos, and major appliances all cooled somewhat; however, the percentage of consumers intending to take a vacation in the next six months continued to climb. While the resurgence of COVID-19 and inflation concerns have dampened confidence, it is too soon to conclude this decline will result in consumers significantly curtailing their spending in the months ahead.”

Shipping Industry

The global COVID-19 pandemic continues to impact economies around the world as variants like Delta, Lambda, and Mu emerge. Labor shortages, strong consumer demand, and a series of events—inclement weather, to the blockage of the Suez Canal and other terminal delays—have led to unprecedented global port congestion. Around the world, vessels are at anchor waiting to berth. Even though container volumes are comparable to 2019 levels, the constant disruptions have caused supply chains to melt down. Vessel utilization is extremely high, and carriers are deploying every vessel at their disposal – owned or chartered. Carriers are also introducing new services to “secondary” ports to offload more volume. Some Beneficial Cargo Owners (BCOs) have even resorted to chartering their own vessels to secure space for their cargo. With container rates at an all-time high, carriers are
returning containers back to Asia empty to maximize profits. This has negatively impacted U.S. exporters. Terminals and factories in China and Vietnam have experienced closures due to an increase in new COVID-19 cases. Stateside labor has also been impacted.

Inventories are continually being replenished in response to strong consumer demand and e-commerce. Shippers continue to face tight capacity and record slot costs for, despite the introduction of ships and ad-hoc services to handle volumes. Carrier financials are extremely healthy.

Shipping lines, non-operating owners, lessors, and investment banks have ordered over 300 new container vessels in the first half of this year. The new vessels have a 2.88 million TEU combined capacity, 11.75% of the current container fleet capacity of 24.47 million TEUs. These vessels are expected to begin service sometime in early 2023.

The U.S.-China trade war and the pandemic, caused importers to accelerate efforts to shift sourcing and production to countries in SE Asia or use a “China + X” strategy to diversify the risk associated with being solely reliant on China. There has been a corresponding increase in manufactured imports from Vietnam and other SE Asian economies. In many cases, origin and transshipment ports in SE Asia are geographically closer (and transits shorter) to the US East Coast, which may cause a partial shift of Asia import volume away from west coast ports. With that said, it will take some time before these countries can meet the infrastructure and skilled labor China offers.

In 2021, the composition of carriers that make up the various shipping alliances remains the same.

- 2M+Z – Maersk, MSC, ZIM
- Ocean Alliance – CMA CGM, COSCO Shipping, Evergreen, OOCL
- THE Alliance – Hapag Lloyd, Yang Ming, Ocean Network Express (ONE), HMM
- Major Independent Carriers – Hamburg Sud, and SM Line

Alliances have concentrated capacity in fewer hands allowing ocean carriers to exercise greater control over capacity on major trade lanes through coordinated changes to vessel sailings, schedules, and transit times.

Northwest Seaport Alliance Activity

Containers:

Through September 2021, the NWSA has handled nearly 2.5 million TEUs (twenty-foot equivalent units), a 17.1 percent increase year-to-date. Year-over-year volume has been strong as consumer spending continues to deplete inventories. Ocean carriers have added five new services into the gateway in 2021 to handle growing demand. Alaska volumes were muted by an abbreviated cruise season due to COVID.

Container volume is projected to increase next year with additional volume from new services introduced this year and the opening of Terminal 5 in quarter 1 of 2022. However, another surge of COVID-19 would have negative impacts. Factors that could also impact NWSA international volumes include competition from ports in British Columbia, Canada, and other North American gateways or a possible decline in global trade and adverse impacts to the global economy resulting from U.S. and international tariffs and trade policy.

Breakbulk:

Breakbulk cargo is comprised of commodities that are either too large or heavy for containerized shipment. In the case of The Northwest Seaport Alliance, this consists largely of building materials, heavy machinery, boats, and agricultural and construction equipment. For 2021, total breakbulk tonnage (both harbors) is estimated to reach approximately 337K metric tons. Volume is forecasted to be 370K metric tons in 2022.

Autos:

NWSA/POT auto units for 2021 are forecasted to be 189K units, up from the previous year. 2022 volumes are expected to show strong growth of over 9% to 206k units.

Logs:

The Log business was suspended due to the tariffs and has not been included in the 2021 through 2026 forecast or budget.

Molasses & Petroleum:

Petroleum volumes are forecasted to be 603K metric tons in 2021 and essentially flat thereafter. Molasses volumes are forecasted to be 30K metric tons in 2021 and 36K thereafter.
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<td>147,269</td>
<td>158,126</td>
<td>118,383</td>
</tr>
<tr>
<td>South Intermodal Yard</td>
<td>84,068</td>
<td>87,659</td>
<td>99,954</td>
<td>86,271</td>
<td>89,529</td>
<td>102,482</td>
<td>134,406</td>
</tr>
<tr>
<td>Pierce County Intermodal Yard</td>
<td>92,270</td>
<td>75,581</td>
<td>62,959</td>
<td>71,310</td>
<td>45,684</td>
<td>33,572</td>
<td>35,639</td>
</tr>
<tr>
<td><strong>Total Intermodal Lifts</strong></td>
<td><strong>575,568</strong></td>
<td><strong>473,600</strong></td>
<td><strong>453,024</strong></td>
<td><strong>460,564</strong></td>
<td><strong>367,883</strong></td>
<td><strong>423,079</strong></td>
<td><strong>421,516</strong></td>
</tr>
<tr>
<td></td>
<td><strong>8%</strong></td>
<td><strong>-18%</strong></td>
<td><strong>-4%</strong></td>
<td><strong>2%</strong></td>
<td><strong>-20%</strong></td>
<td><strong>15%</strong></td>
<td><strong>0%</strong></td>
</tr>
<tr>
<td><strong>Log Board Feet</strong></td>
<td><strong>24,921,280</strong></td>
<td><strong>52,706,190</strong></td>
<td><strong>23,161,000</strong></td>
<td><strong>15,192,000</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td></td>
<td><strong>-40%</strong></td>
<td><strong>11%</strong></td>
<td><strong>-56%</strong></td>
<td><strong>-34%</strong></td>
<td><strong>-100%</strong></td>
<td><strong>0%</strong></td>
<td><strong>0%</strong></td>
</tr>
<tr>
<td><strong>Vehicle Units (NWSA+POT)</strong></td>
<td><strong>165,687</strong></td>
<td><strong>146,885</strong></td>
<td><strong>146,147</strong></td>
<td><strong>191,822</strong></td>
<td><strong>156,205</strong></td>
<td><strong>188,871</strong></td>
<td><strong>206,264</strong></td>
</tr>
<tr>
<td></td>
<td><strong>-10%</strong></td>
<td><strong>-11%</strong></td>
<td><strong>-1%</strong></td>
<td><strong>31%</strong></td>
<td><strong>-19%</strong></td>
<td><strong>21%</strong></td>
<td><strong>9%</strong></td>
</tr>
</tbody>
</table>

* Intermodal Lifts Reported for South Harbor only
IV Operating Budget

Overview

The NWSA operating budget revenue is based on cargo volume forecasts (see Table III-1), existing terminal and property leases and contractual and tariff-generated revenue. Operating budget expenses were projected based on historical information, as well as levels of expenditures required to support the increases in revenue.

From this information, NWSA staff prepared a realistic budget that supports both the strategic priorities and financial goals of the NWSA.

Departmental budgets estimate expenses that will be generated in support of the NWSA and its businesses. Expenses fall into one of five categories: Administration, Operations, Security, Environmental or Maintenance. Administration expenses are incurred in the day-to-day management of the NWSA. Operations and Maintenance expenses support the day-to-day management of business activities. Security support is provided by each home port. Environmental expenses are a subset of overall environmental spending, and include clean air and clean water activities, and close coordination with each home port on compliance and monitoring activities.

Business budgets are projections of revenues earned and expenses incurred in the operation of a particular business line. In addition, the NWSA expects to receive funds from other sources including user fees, and investment earnings.

Although capital project spending is planned within the capital budget, capital projects will impact operating budgets for future years through new sources of revenues and increased operating expenses and depreciation costs.

Nature of Business

Washington law authorizes ports to provide and charge rents, tariffs and other fees for docks, wharves and similar harbor facilities, including associated storage and traffic-handling facilities for waterborne commerce. Ports also may provide freight and passenger terminals and transfer and storage facilities for other modes of transportation, including air, rail and motor vehicles. Finally, ports may acquire and improve lands for sale or lease for industrial or commercial purposes and may create industrial development districts.

The NWSA is a joint venture that operates with the two ports as enterprise funds, allowing the NWSA and the ports to operate in much the same manner as a private business. Operating revenues are comprised of charges to its customers to cover costs associated with the service provided and to support investment in future projects.

Balanced Budget

Based on the Government Finance Officers Association (GFOA) Recommended Budget Practices, a balanced budget “is a basic budgetary constraint intended to ensure that a government does not spend beyond its means.”

The NWSA defines “balanced budget” in the following way: Total revenues are sufficient to cover operating expenses for the budget year and to offset the cost of capital investments (depreciation) and anticipated debt costs for any planned future capital investments.

The NWSA uses the full-accrual basis for budgeting, consistent with the basis for accounting. This method recognized the financial effect of events that impact the Port during the accounting period, regardless of whether cash was received or spent.

Budget Process

The NWSA budget is a guideline used by management to direct strategic and tactical operations. Typically, more projects and spending are budgeted than may actually occur. This conservative approach ensures that the NWSA’s financial goals are still met if business conditions support the full budgeted spending.

The NWSA operates on a calendar year budget cycle that must integrate the budget schedule needs of both home ports. The operating budget and the capital budget are the NWSA’s plan for meeting the current needs of its customers, and for implementation of the strategic goals.

The annual budget development begins in June and continues through November. The process begins with the development of strategic objectives and initiatives, which are reviewed by the Managing Members and the Chief Executive Officer. The Managing Members and Chief Executive Officer communicate any strategy changes or policy concerns and gather additional input.

Cargo forecasts, available at the beginning of the budget
process, are used to develop the variable portion of the operating budget. During a study session, the Managing Members are presented with a draft budget.

In November, a public hearing is held by each home port to allow for public comment, and to adopt the statutory budget and approve the property tax levy for the home ports. The NWSA's operating income is split evenly between the ports and is shown as revenue to the home ports. After the home port Commission approves and adopts its statutory budget, it is submitted, with the related home port resolutions, to the respective County Councils and Assessor Treasurer offices.

Major Assumptions

Major drivers of the 2022 operating budget are a result of economic and industry trends represented in the cargo forecast.

Revenue

- Existing leases continue per existing lease terms and contracts
- Cargo volumes drive equipment and intermodal revenues and expenses
- Auto and breakbulk imports continue to provide revenue diversity
- Tariff rates are projected to increase between 2.5% and 3.0%
- Property lease rental rates will increase as specified in contracts

Direct Expenses

- The NWSA has direct headcount of 56 positions. Salaries are expected to increase by 3%
- Major operating expenses include construction of non-NWSA owned infrastructure needed for the development of Terminal 5, and ongoing maintenance of terminal paving, bulkheads and fender systems
- Depreciation for licensed assets at the time of the formation of the NWSA will remain on the books of the home ports. Depreciation of any new investments that are jointly funded will be charged against the NWSA

Home port services provided

Each home port is providing services to the alliance, and some NWSA personnel are providing services back to the home ports. These services are provided either by direct charge or purchased services through Inter-local Agreements.

Table IV-4 shows the approximate value of Operating, Maintenance, Environmental, Security and Administrative services purchased by the NWSA from each of the home ports and the services purchased by the Port of Tacoma from the NWSA. This table does not include the value of services provided for capitalized and expensed projects.

Estimating Revenues and Expenses

The NWSA uses several different methods of projecting revenues, depending upon the nature and materiality of the revenue item and the projection period. Specific revenue projection techniques include:

- **Historical Data**: Future revenues are based on historical trends with the assumption that they will continue in the future. When using historical data as a means for projecting revenues, the NWSA analyzes as many as 10 years of data to estimate a rate of growth
- **Business Operations**: Terminal lease/rental agreements, grant agreements, and service contracts provide information for this projection method. These projections may be adjusted to reflect the probable impacts of anticipated changes in the economy, legislation and inflation
- **Judgment Estimates**: This method relies on a person knowledgeable in the field, often a department director, who prepares a revenue projection based on awareness of past and present conditions including fee changes, development plans, marketing campaigns, usage activity, frequency, volume, weight and similar determinations
- **Current Data**: This method predicts future revenue based on actual or annualized current year revenues and often is used when historical data and trends are not available, or if used, would result in an inaccurate revenue projection
- **Volume**: The NWSA uses the five-year cargo forecast to project volume related revenues

Financial Practices

The NWSA manages its operations to maximize its financial capacity - to provide the necessary provide adequate home port debt service coverage ratios.
Financial Tools

- **Cargo Forecasts**: The NWSA maintains a cargo estimate for each of the next five years. (See Table III-1)

- **Five-Year Financial Forecast**: A portion of the operating budget is driven by volumes from the cargo forecast while the majority of the revenue comes from major lease contracts. Planned revenue-generating capital projects are aligned with new revenues and expenses in the five-year operating forecast. The operating budget is monitored throughout the year, noting any variances that may require corrective action. The Managing Members, Chief Executive Officer and Executive Team review these semi-annually.

- **Five-Year Capital Investment Plan**: This plan ties directly to the strategy developed during the budget process. Updated semi-annually, it identifies all proposed projects. Some projects are capitalized and impact future year forecasts through depreciation, while others are expensed in the current year.

- **Home Port Plan of Finance**: The financial output of the NWSA will be shared evenly between the home ports and is an input into each home port’s five-year plan that identifies each port’s ability to fund their business objectives.

- **Financial Analysis of Investments**: The NWSA reviews significant capital investments and their related assumptions prior to acceptance into the planned capital budget. Revenue-generating projects are expected to earn a return on investment that meets or exceeds the standards.

- **Financial Reporting**: The NWSA creates a variety of reports available electronically or in hard copy.

For additional information on accounting policies, see each home port’s budget and annual financial reports.
### Table IV-1...Statement of Revenue, Expenses and Distributable Income by Business*

**Company:** The Northwest Seaport Alliance

($ millions) | 2020 Actual | 2021 Budget | 2021 Forecast | 2022 Budget
---|---|---|---|---
**Operating Revenues**
NWSA
Container | 152.5 | 161.6 | 167.9 | 172.1
Non Container | 20.1 | 18.3 | 19.8 | 20.8
Real Estate | 11.7 | 12.1 | 12.8 | 13.9
Other | 0.0 | 0.0 | 0.0 | 0.0
Total Operating Revenues | 184.3 | 192.0 | 200.4 | 206.8

**Direct and Maintenance Expenses**

Container | 42.4 | 38.8 | 38.4 | 40.9
Non Container | 9.7 | 10.4 | 11.3 | 12.4
Real Estate | 0.4 | 0.8 | 0.6 | 0.8
Other | 16.5 | 17.3 | 15.1 | 17.7
Total Direct Expenses | 69.0 | 67.2 | 65.4 | 71.8

Administration | 18.2 | 21.3 | 19.5 | 20.0
Security | 5.1 | 4.0 | 3.9 | 4.3
Environmental | 1.4 | 2.1 | 2.3 | 3.1
Total Operating Expense before Depreciation | 93.8 | 94.7 | 91.2 | 99.2

**Operating Income before Depreciation** | 90.5 | 97.4 | 109.2 | 107.6

Depreciation & Amortization | 13.8 | 19.1 | 15.1 | 23.2
Total Operating Expense | 107.6 | 113.7 | 106.3 | 122.4

Income from Operations | $76.7 | $78.3 | $94.1 | $84.4

**Return on Revenue** | 41.6% | 40.8% | 46.9% | 40.8%

Non Operating Income (Expense) | 0.8 | 6.2 | 2.7 | 14.4
Distributable Income before Special Item | 77.6 | 84.5 | 96.8 | 98.9

Special Item

Distributable Income | $77.6 | $84.5 | $96.8 | $98.9

Distributable Cash + Lease Interest Cash | $91.4 | $103.6 | $111.9 | $122.1
Bond Income | $93.4 | $98.9 | $114.3 | $108.3

* Amounts may not foot due to rounding.
<table>
<thead>
<tr>
<th>Company: The Northwest Seaport Alliance</th>
<th>2020 Actual</th>
<th>2021 Budget</th>
<th>2021 Forecast</th>
<th>2022 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Rental</td>
<td>$45.4</td>
<td>$47.1</td>
<td>$48.8</td>
<td>$55.1</td>
</tr>
<tr>
<td>Sale of Utilities</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Services Marine Terminals</td>
<td>113.4</td>
<td>120.3</td>
<td>120.6</td>
<td>139.0</td>
</tr>
<tr>
<td>Equipment Rentals</td>
<td>13.6</td>
<td>14.4</td>
<td>14.3</td>
<td>11.2</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>10.7</td>
<td>9.1</td>
<td>15.4</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Operating Revenue</strong></td>
<td><strong>184.3</strong></td>
<td><strong>192.0</strong></td>
<td><strong>200.4</strong></td>
<td><strong>206.8</strong></td>
</tr>
<tr>
<td>Home Port Services Provided</td>
<td>21.6</td>
<td>21.5</td>
<td>19.8</td>
<td>20.6</td>
</tr>
<tr>
<td>Port Salaries &amp; Benefits</td>
<td>9.0</td>
<td>10.2</td>
<td>9.7</td>
<td>10.6</td>
</tr>
<tr>
<td>Outside Services</td>
<td>11.7</td>
<td>6.2</td>
<td>4.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Longshore Labor &amp; Fringe</td>
<td>10.1</td>
<td>9.4</td>
<td>10.1</td>
<td>9.4</td>
</tr>
<tr>
<td>Direct Expenses</td>
<td>11.3</td>
<td>10.8</td>
<td>12.5</td>
<td>14.6</td>
</tr>
<tr>
<td>Marketing &amp; Global Outreach</td>
<td>0.5</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Travel &amp; Hosting</td>
<td>0.1</td>
<td>0.5</td>
<td>0.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Maintenance</td>
<td>15.7</td>
<td>26.5</td>
<td>24.6</td>
<td>30.5</td>
</tr>
<tr>
<td>Office Equipment &amp; Supplies</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Utilities</td>
<td>5.6</td>
<td>5.5</td>
<td>5.5</td>
<td>5.3</td>
</tr>
<tr>
<td>Other Employee Exp</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>6.6</td>
<td>1.1</td>
<td>1.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Environmental</td>
<td>1.5</td>
<td>1.9</td>
<td>2.2</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Total Operating Expenses before Dep.</strong></td>
<td><strong>93.8</strong></td>
<td><strong>94.7</strong></td>
<td><strong>91.2</strong></td>
<td><strong>99.2</strong></td>
</tr>
<tr>
<td><strong>Operating Income before Depr.</strong></td>
<td><strong>90.5</strong></td>
<td><strong>97.4</strong></td>
<td><strong>109.2</strong></td>
<td><strong>107.6</strong></td>
</tr>
<tr>
<td>Depreciation &amp; Amortization</td>
<td>13.8</td>
<td>19.1</td>
<td>15.1</td>
<td>23.2</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td><strong>$107.6</strong></td>
<td><strong>$113.7</strong></td>
<td><strong>$106.3</strong></td>
<td><strong>$122.4</strong></td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td><strong>$76.7</strong></td>
<td><strong>$78.3</strong></td>
<td><strong>$94.1</strong></td>
<td><strong>$84.4</strong></td>
</tr>
<tr>
<td><strong>Return on Revenue</strong></td>
<td>41.6%</td>
<td>40.8%</td>
<td>46.9%</td>
<td>40.8%</td>
</tr>
<tr>
<td>Non Operating Revenue and Expenses</td>
<td>0.8</td>
<td>6.2</td>
<td>2.7</td>
<td>14.4</td>
</tr>
<tr>
<td>Net Assets Before Special Items</td>
<td>77.6</td>
<td>84.5</td>
<td>96.8</td>
<td>98.9</td>
</tr>
<tr>
<td><strong>Increase in Net Assets</strong></td>
<td><strong>$77.6</strong></td>
<td><strong>$84.5</strong></td>
<td><strong>$96.8</strong></td>
<td><strong>$98.9</strong></td>
</tr>
<tr>
<td><strong>Distributable Cash (calculated)</strong></td>
<td>$91.4</td>
<td>$103.6</td>
<td>$111.9</td>
<td>$122.1</td>
</tr>
<tr>
<td><strong>Bond Income</strong></td>
<td>$93.4</td>
<td>$98.9</td>
<td>$114.3</td>
<td>$108.3</td>
</tr>
</tbody>
</table>

* Amounts may not foot due to rounding.
### Table IV-3: Statement of Revenues, Expenses and Changes in Net Position*

<table>
<thead>
<tr>
<th></th>
<th>2020 Actual ($ Millions)</th>
<th>2021 Forecast ($ Millions)</th>
<th>2022 Budget ($ Millions)</th>
<th>Change from Prior Year Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenue</td>
<td>184.3</td>
<td>200.4</td>
<td>206.8</td>
<td>3.2%</td>
</tr>
<tr>
<td>Total Operating Expenses before Dep.</td>
<td>(93.8)</td>
<td>(91.2)</td>
<td>(99.2)</td>
<td>8.8%</td>
</tr>
<tr>
<td>Depreciation &amp; Amortization</td>
<td>(13.8)</td>
<td>(15.1)</td>
<td>(23.2)</td>
<td>53.4%</td>
</tr>
<tr>
<td>Operating Income</td>
<td>76.7</td>
<td>94.1</td>
<td>84.4</td>
<td>-10.2%</td>
</tr>
<tr>
<td>Non Operating Revenues (Expenses)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lease Interest Income</td>
<td>0.0</td>
<td>48.7</td>
<td>47.1</td>
<td>-3.4%</td>
</tr>
<tr>
<td>Interest Income</td>
<td>1.6</td>
<td>0.9</td>
<td>0.4</td>
<td>-59.8%</td>
</tr>
<tr>
<td>Premium Discount</td>
<td>(0.2)</td>
<td>(0.0)</td>
<td>(0.1)</td>
<td>547.5%</td>
</tr>
<tr>
<td>Market Value Adjustments</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>-100.0%</td>
</tr>
<tr>
<td>Non-Capital Grant Income</td>
<td>1.1</td>
<td>0.1</td>
<td>0.4</td>
<td>424.7%</td>
</tr>
<tr>
<td>Capital Grant Contributions</td>
<td>1.1</td>
<td>2.3</td>
<td>16.7</td>
<td>613.6%</td>
</tr>
<tr>
<td>Other Non Operating Revenue (Expense)</td>
<td>(2.9)</td>
<td>(0.5)</td>
<td>(2.9)</td>
<td>464.5%</td>
</tr>
<tr>
<td>Total Non Operating Income (Expense)</td>
<td>0.8</td>
<td>2.7</td>
<td>14.4</td>
<td>434.6%</td>
</tr>
<tr>
<td>Net Distributable Revenue (Net Income)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>77.6</td>
<td>96.8</td>
<td>98.9</td>
<td>2.2%</td>
</tr>
<tr>
<td>Distributable Cash + Lease Interest Cash</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Distributable Revenue (Net Income)</td>
<td>77.6</td>
<td>96.8</td>
<td>98.9</td>
<td>2.2%</td>
</tr>
<tr>
<td>Add Depreciation and Amortization</td>
<td>13.8</td>
<td>15.1</td>
<td>23.2</td>
<td>53.4%</td>
</tr>
<tr>
<td>Distributable Cash* + Lease Interest Cash</td>
<td>91.4</td>
<td>111.9</td>
<td>122.1</td>
<td>9.1%</td>
</tr>
<tr>
<td>Net Position</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Position beginning of year</td>
<td>353.4</td>
<td>449.4</td>
<td>542.0</td>
<td>20.6%</td>
</tr>
<tr>
<td>Add Contributions and Expected Capital Construction</td>
<td>140.6</td>
<td>107.7</td>
<td>112.7</td>
<td>4.6%</td>
</tr>
<tr>
<td>Add Net Distributable Revenue (Net Income)</td>
<td>77.6</td>
<td>96.8</td>
<td>98.9</td>
<td>2.2%</td>
</tr>
<tr>
<td>Less Cash Distributions</td>
<td>(122.2)</td>
<td>(111.9)</td>
<td>(122.1)</td>
<td>9.1%</td>
</tr>
<tr>
<td>Net Position end of year</td>
<td>$449.4</td>
<td>$542.0</td>
<td>$631.5</td>
<td>16.5%</td>
</tr>
</tbody>
</table>

* Per charter section 5.3 and charter definition 1.1 (p)

* Amounts may not foot due to rounding.
### Table IV-4. Allocations and Direct Charges Summary*

<table>
<thead>
<tr>
<th></th>
<th>2020 Actual</th>
<th>2021 Budget</th>
<th>2021 Forecast</th>
<th>2022 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Tacoma to NWSA</td>
<td>$29.2</td>
<td>$31.6</td>
<td>$29.2</td>
<td>$31.1</td>
</tr>
<tr>
<td>Port of Seattle to NWSA</td>
<td>$9.4</td>
<td>$9.3</td>
<td>$9.3</td>
<td>$9.9</td>
</tr>
<tr>
<td>NWSA to Port of Tacoma</td>
<td>$1.0</td>
<td>$1.0</td>
<td>$0.8</td>
<td>$0.9</td>
</tr>
</tbody>
</table>

* Amounts may not foot due to rounding.

### Table IV-5. Six-year Statement of Revenue, Expenses and Change in Assets*

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenue</td>
<td>$200.4</td>
<td>$206.8</td>
<td>$217.0</td>
<td>$230.9</td>
<td>$238.2</td>
<td>$248.7</td>
</tr>
<tr>
<td>Total Operating Expenses before Dep.</td>
<td>(91.2)</td>
<td>(99.2)</td>
<td>(114.7)</td>
<td>(94.5)</td>
<td>(95.7)</td>
<td>(98.5)</td>
</tr>
<tr>
<td>Depreciation &amp; Amortization</td>
<td>(15.1)</td>
<td>(23.2)</td>
<td>(27.3)</td>
<td>(31.5)</td>
<td>(35.5)</td>
<td>(37.1)</td>
</tr>
<tr>
<td>Operating Income</td>
<td>94.1</td>
<td>84.4</td>
<td>75.1</td>
<td>104.9</td>
<td>107.0</td>
<td>113.2</td>
</tr>
<tr>
<td>Grant Income</td>
<td>2.4</td>
<td>17.1</td>
<td>25.6</td>
<td>9.0</td>
<td>4.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Other Non Operating Income</td>
<td>0.3</td>
<td>(2.7)</td>
<td>(4.9)</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Net Distributable Revenue</td>
<td>96.8</td>
<td>98.9</td>
<td>95.8</td>
<td>114.1</td>
<td>111.7</td>
<td>113.4</td>
</tr>
</tbody>
</table>

Distributable Cash (calculated)

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributable Cash</td>
<td>$111.9</td>
<td>$122.1</td>
<td>$123.1</td>
<td>$145.6</td>
<td>$147.2</td>
<td>$150.5</td>
</tr>
<tr>
<td>Bond Income</td>
<td>$114.3</td>
<td>$108.3</td>
<td>$103.1</td>
<td>$136.6</td>
<td>$142.7</td>
<td>$150.5</td>
</tr>
</tbody>
</table>

### Table IV-6. Six-year Bond Income*

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenue</td>
<td>200.4</td>
<td>206.8</td>
<td>217.0</td>
<td>230.9</td>
<td>238.2</td>
<td>248.7</td>
</tr>
<tr>
<td>Add Non Operating Revenue</td>
<td>7.4</td>
<td>17.3</td>
<td>25.9</td>
<td>9.2</td>
<td>4.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Less Capital Grants</td>
<td>(2.3)</td>
<td>(16.7)</td>
<td>(25.2)</td>
<td>(9.0)</td>
<td>(4.5)</td>
<td>0.0</td>
</tr>
<tr>
<td>Less Operating Expenses before Depreciation</td>
<td>(91.2)</td>
<td>(99.2)</td>
<td>(114.7)</td>
<td>(94.5)</td>
<td>(95.7)</td>
<td>(98.5)</td>
</tr>
<tr>
<td>Bond Income</td>
<td>$114.3</td>
<td>$108.3</td>
<td>$103.1</td>
<td>$136.6</td>
<td>$142.7</td>
<td>$150.5</td>
</tr>
</tbody>
</table>

* Amounts may not foot due to rounding.
Heavy equipment offloading at EB1 Breakbulk Terminal
V  Capital Investment Plan

Overview

The Northwest Seaport Alliance invests in projects to increase the capacity, extend the life or improve the safety or efficiency of alliance-managed property and equipment.

New projects on the Capital Investment Plan that are $100,000 or greater have been vetted through the Investment Decision and Development Process (IDDP). The IDDP is a two-stage planning development.

- Stage 1 (Opportunity Assessment) is to document new investment opportunities, identify any conflicts and receive input from all potentially affected departments/teams. The leadership management makes decision to pursue the opportunity to next stage.

- Stage 2 (Alternatives Analysis) is to assess the initial viability of a project, consider and evaluate alternatives, conduct a project screening, and consider long-range capital planning.

The five-year Capital Investment Plan (CIP) identifies all projects planned or underway. The CIP provides a mechanism for tracking and managing project budgets and cash flows for five years into the future. Table V-1 shows planned spending on capitalized projects for the five-year time frame. Projects are associated with a program that fall under one of the businesses or under a category called “Infrastructure.”

Although funds for a project are included in the CIP, the project is not automatically authorized to proceed. The alliance Managing Members review and approve each project individually. Projects must have the necessary permitting before proceeding.

To achieve its goals, the alliance continues to invest in revenue-generating capital projects that support its businesses. Although the home ports are responsible for the general infrastructure in each respective county, the alliance may also invest in infrastructure projects that support the NWSA’s maritime business, as well as increasing rail and road transit of cargo within boundaries between the ports of Seattle and Tacoma. Often, these infrastructure projects are expensed versus capitalized due to accounting requirements.

In addition, environmental projects are planned for meeting or maintaining regulatory requirements, including the development of mitigation and remediation projects. Projects may be expensed or capitalized according to accounting rules.

Summary of Major Projects

By the close of 2021, the NWSA will have completed or neared completion of the following capital projects:

- Upgraded stormwater system at Terminal 18
- Replaced fender system at WUT terminal
- Completed phase one berth modernization construction at Terminal 5
- Funded tenant improvement at Husky terminal

The 2022 - 2026 Capital Investment Plan focuses on the following strategic and maintenance projects:

Strategic investments:

- Completion of berth modernization at Seattle Terminal 5 and associated infrastructure requirements
- Tacoma Terminal Expansion program
- Construction of the Terminal 5 stormwater treatment system
- Install shore power at Husky terminal in Tacoma

Maintenance investments:

- Replace fender system at WUT and PCT terminals
- Rehabilitation of Terminal 18 and Terminal 46-south wharfs
- Rehabilitation of the Terminal 46 bulkhead
- Maintenance berth dredging at Husky and WUT terminals
- Maintenance and rehabilitation of assigned assets

The alliance has a strong commitment to the protection and improvement of the environment. Examples of this commitment include the Clean Truck Program, the Northwest Ports Clean Air Strategy, and significant investment in storm-water improvements.

Strategic development efforts focus on serving existing customers, attracting new customers, and building a diverse, dynamic and resilient business base.
Table V-1...Planned Capitalized Project Spending

<table>
<thead>
<tr>
<th>($ Millions)</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
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<tbody>
<tr>
<td>Historical Capital</td>
<td>66.7</td>
<td>77.8</td>
<td>93.4</td>
<td>134.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned Capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>107.6</td>
<td>112.7</td>
<td>100.3</td>
<td>85.5</td>
<td>51.4</td>
<td>201.5</td>
</tr>
<tr>
<td>Grand Total</td>
<td>$66.7</td>
<td>$77.8</td>
<td>$93.4</td>
<td>$134.4</td>
<td>$107.6</td>
<td>$112.7</td>
<td>$100.3</td>
<td>$85.5</td>
<td>$51.4</td>
<td>$201.5</td>
</tr>
</tbody>
</table>

Capital Investment Plan Priorities

To efficiently allocate human and financial resources, the alliance uses a capital project prioritization methodology. For internal management, the alliance uses two categories:

- **Open**: These are ongoing projects or projects ready to move forward that have customer commitment or a high degree of certainty. Only open projects are included in the budget.
- **Estimate**: These are projects based on an identified business need or opportunity but have not been fully developed in scope and cost.

Capital Investment Plan Projects by Purpose

The alliance classifies CIP projects into three types, (as shown below in Table V-2):

- **Revenue Renewal**: Projects developed to renovate or replace obsolete or aging revenue-producing assets. These projects serve to extend existing revenue streams or ensure existing streams are not lost and may offer additional revenue if replacements enhance the efficiencies of operations or offer additional capabilities or value. The ports have designated port-generated operating cash or revenue bonds to fund most of these projects and may use capital leasing through equipment suppliers or financial institutions.
- **Infrastructure**: Projects developed to enhance infrastructure, support multiple or future customers or to enhance public infrastructure. Sometimes, other public agencies may participate in funding that otherwise comes from port-generated operating cash, the property tax levy, and general obligation bonds or revenue bonds. They often are complex in nature, with multiple public agencies involved in the planning process and execution.
- **Revenue-Generating**: Projects developed for a specific customer that will result in a new revenue stream. The NWSA has designated Port-generated operating cash and revenue bonds to fund most of these projects.

Table V-3 shows Open (excludes estimate) project expenditures during the five-year planning horizon as categorized by accounting treatment.

Accounting rules require some spending to be capitalized and depreciated over time, while other spending is expensed as incurred.

The alliance’s policy is to capitalize all asset additions greater than $20,000 and with an estimated life of more than three years. Depreciation is computed on the straight-line method. The economic lives of capitalized assets range from three years to 20 years for machinery and equipment while economic lives of buildings and improvements range from 10 years to 75 years.

Table V-3 shows that the NWSA intends to implement $626.3 million worth of planned projects (capitalized and expensed) in the next five years, with $131.6 million of that total earmarked for 2022. Non-operating and operating projects will be expensed as incurred and are included in the operating budget.

Table V-4 shows the five-year CIP by Line of Business.

Table V-5 shows the expected increase in depreciation when planned projects are completed. The CIP is the total expected spending of 112 projects, 55 of which are capitalized and 57 expensed as incurred.

The expensed projects are captured as expenses in the current year budget and four-year operating forecast as incurred. The costs of the capitalized projects are captured as depreciation expense over the estimated life of the projects that may extend beyond three years. The alliance expects depreciation expense will increase when the redevelopment of Terminal 5 is complete.
### Table V-2....Five-Year Planned Capital Investment Plan by Purpose

($ Millions)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>$6.2</td>
<td>$7.2</td>
<td>$5.4</td>
<td>$5.1</td>
<td>$5.7</td>
<td>$29.5</td>
</tr>
<tr>
<td>Renewal</td>
<td>38.8</td>
<td>68.7</td>
<td>79.0</td>
<td>52.6</td>
<td>202.8</td>
<td>441.9</td>
</tr>
<tr>
<td>Revenue</td>
<td>86.6</td>
<td>59.7</td>
<td>8.7</td>
<td>0.0</td>
<td>0.0</td>
<td>154.9</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$131.6</strong></td>
<td><strong>$135.5</strong></td>
<td><strong>$93.0</strong></td>
<td><strong>$57.7</strong></td>
<td><strong>$208.4</strong></td>
<td><strong>$626.3</strong></td>
</tr>
</tbody>
</table>

Amounts may not foot due to rounding

### Table V-3....Five-Year Planned Capital Investment Plan by Accounting Treatment

($ Millions)

<table>
<thead>
<tr>
<th>Account Type</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capitalized</td>
<td>$112.7</td>
<td>$100.3</td>
<td>$85.5</td>
<td>$51.4</td>
<td>$201.5</td>
<td>$551.3</td>
</tr>
<tr>
<td>Operating Expense</td>
<td>16.0</td>
<td>30.1</td>
<td>7.6</td>
<td>6.3</td>
<td>6.9</td>
<td>66.9</td>
</tr>
<tr>
<td>Non-Operating Expense</td>
<td>2.9</td>
<td>5.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$131.6</strong></td>
<td><strong>$135.5</strong></td>
<td><strong>$93.0</strong></td>
<td><strong>$57.7</strong></td>
<td><strong>$208.4</strong></td>
<td><strong>$626.3</strong></td>
</tr>
</tbody>
</table>

Amounts may not foot due to rounding

### Table V-4....Five-Year Planned Projects by Line of Business

($ Millions)

<table>
<thead>
<tr>
<th>Line of Business</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container Business</td>
<td>$115.4</td>
<td>$112.7</td>
<td>$66.9</td>
<td>$34.3</td>
<td>$199.7</td>
<td>$529.0</td>
</tr>
<tr>
<td>Non Container Business</td>
<td>3.0</td>
<td>3.0</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>6.4</td>
</tr>
<tr>
<td>Real Estate</td>
<td>0.4</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>12.7</td>
<td>19.8</td>
<td>25.8</td>
<td>23.4</td>
<td>8.7</td>
<td>90.4</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$131.6</strong></td>
<td><strong>$135.5</strong></td>
<td><strong>$93.0</strong></td>
<td><strong>$57.7</strong></td>
<td><strong>$208.4</strong></td>
<td><strong>$626.3</strong></td>
</tr>
</tbody>
</table>

Amounts may not foot due to rounding

### Table V-5....Depreciation Impact Due To Capitalized Projects

($ Millions)

<table>
<thead>
<tr>
<th>Line of Business</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container Business</td>
<td>$(9.5)</td>
<td>$(12.7)</td>
<td>$(16.3)</td>
<td>$(20.4)</td>
<td>$(21.7)</td>
<td>$(80.6)</td>
</tr>
<tr>
<td>Non Container Business</td>
<td>(0.1)</td>
<td>(0.2)</td>
<td>(0.4)</td>
<td>(0.4)</td>
<td>(0.4)</td>
<td>(1.4)</td>
</tr>
<tr>
<td>Real Estate</td>
<td>(0.0)</td>
<td>(0.0)</td>
<td>(0.0)</td>
<td>(0.0)</td>
<td>(0.0)</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>(9.9)</td>
<td>(13.5)</td>
<td>(17.8)</td>
<td>(21.9)</td>
<td>(23.6)</td>
<td>(86.7)</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>$(19.5)</td>
<td>$(26.5)</td>
<td>$(34.4)</td>
<td>$(42.7)</td>
<td>$(45.7)</td>
<td>$(168.7)</td>
</tr>
</tbody>
</table>

Amounts may not foot due to rounding
Capital Investment Plan Project Descriptions

The NWSA’s five-year CIP has been categorized on a business basis, as shown in Figure V-1. The following section provides details of major planned improvements within each business and only includes major projects and equipment.

Container Terminals Business

Planned capital expenditures for container terminals will total approximately $529 million over the next five years. The CIP for this business will provide the funds necessary for phase 2 construction of major terminal improvements at the North Harbor Terminal 5; dock rehabilitation and shore power construction at Terminal 18; replace bulkhead at Terminal 46; various terminal expansion at the South Harbor; berth dredging and install shore power at Husky terminal; berth dredging at WUT and replace fender at PCT and WUT.

Non-Container Business & Real Estate

Approximately $7 million will be spent on facility improvement for terminal operations, auto and real estate businesses.

Figure V-1: Five-Year Capital Investment Plan by Line of Business

Alliance Infrastructure

This section includes capital expenditures that are not specific to a single business and are in support of the alliance’s infrastructure or environmental improvements.

- Environmental Programs: These projects include reduction and monitoring of emissions, and ongoing cleanup projects. This also includes the Clean Truck Program, which provides matching funds and incentives to help cover the cost of replacing older trucks with cleaner new trucks.

- Technology: The alliance continues to invest in an operations service center that will allow customers and cargo owners to track their cargo as it moves through the gateway.

Capital Investment Plan Revisions

The CIP is an integral part of the budget planning process and is reviewed and revised semi-annually. Adjustments in amount and timing are made as required to meet changes in customer or infrastructure requirements.

The alliance maintains sufficient cash reserves to meet the CIP requirements, as well as any unexpected capital requirements, without adversely affecting the ongoing operations of either port.
VI Environmental Stewardship and Planning

Environmental stewardship is a high priority for the NWSA. The NWSA Environmental Stewardship Framework has been put into action. Specifically, working with our stakeholders, the NWSA developed a Best-In-Class approach built on a foundation of the following:

- Environmental, economic and financial business decision planning/making are fully integrated;
- Responsive to market and community; and,
- Drives innovative, cost-effective and sustainable solutions.

Program areas of emphasis include:
- Water Quality
- Air Quality and Sustainable Practices
- Remediation
- Habitat Restoration
- Planning and Logistics
  - Transportation
  - Land Use
  - Facilities

In 2022, the NWSA plans to focus its environmental efforts on water and air quality and greenhouse gas reductions, with the bulk of that work on NWSA licensed properties. The NWSA plans to develop additional sustainability strategies to help shape future leasing strategies.

In addition, the NWSA has partnered with the Ports of Seattle and Tacoma along with other key industry, environmental, state and federal stakeholders to develop a large commercial vessel Quiet Sound program. This program will be managed by Maritime Blue and will study and promote ways to reduce noise impacts to Orca and other marine mammals in Washington State Waters. The Ports of Seattle, Tacoma and the NWSA have committed a total of $100,000 in 2021 towards this effort to expedite the program’s implementation.

Water Quality Program

NWSA’s Water Quality (WQ) team is comprised of professionals with experience in site inspection, monitoring, project development and delivery, and policy analysis. The goal of this program is to work with internal and external stakeholders to design highly effective, low cost treatment and compliance solutions that meet or exceed Washington State’s high water quality standards.

Industrial Stormwater Management Program

The NWSA partnership is the framework for an industrial stormwater management program that is a collaborative effort engaging customers, agencies and environmental organizations in both the Seattle and Tacoma harbors. The goal of the program is to discuss emerging stormwater issues, common problems and solutions and provide stormwater technical assistance to our customers at their request. Staff engage in extensive stakeholder outreach that includes customers, regulators, and environmental organizations.

Research and Develop Cost-Effective Means to Manage Stormwater

The NWSA continues previous work initiated separately by the two ports. The NWSA implements innovative cost-effective treatment methods in the field in an effort to focus in on practical, effective stormwater Best Management Practices (BMPs). This includes conducting pilot studies of new and existing treatment infrastructure results of which are shared with tenants and stakeholders.

Source Control

Controlling pollutants at or near the source is the most cost-effective way of reducing impacted stormwater runoff, managing the risk of costly corrective actions for treatment, and reducing the cost of operations and maintenance of installed stormwater treatment systems. NWSA WQ staff work with customers (as requested) to identify pollutants close to the source and eliminate the source where possible. Using a stepped approach like this, the WQ
team assists customers with effective, cost-effective solutions.

**Seattle Harbor Focus**

Most Seattle Harbor tenants have installed stormwater treatment at their facilities. The challenge going forward is to reduce the cost of operating and maintaining these systems and, if possible, prevent or eliminate the need for stormwater treatment in selected areas. The Water Quality team continues to focus on maintaining relationships with tenants/customers and working with them to implement at-source and near-source BMPs with these goals in mind. In 2021, WQ staff will spend time with tenants walking their site operations and comparing that to their Storm Water Pollution Prevention Plan’s (SWPPP) to help the tenant understand the importance of consistency between operations and plans.

**Tacoma Harbor Focus**

Many Tacoma Harbor tenants are coming out of consistent attainment with benchmarks for water quality parameters under the Industrial Stormwater General Permit. The Water Quality team continues to work with tenants/customers to implement at-source and near-source BMPs to facilitate cost-effective and successful solutions, and to focus on tenants/customers that may face site challenges to meet water quality criteria or regulatory policy issues. In 2021, WQ staff will spend time with tenants walking their site operations and comparing that to their SWPPPs to help the tenant understand the importance of consistency between operations and plans.

**Stormwater Development/Redevelopment**

Coordination with each home ports’ stormwater permit programs ensures site-specific stormwater requirements are met. This includes the design of appropriate treatment systems and/or system selection based on proposed land use and typical discharges associated with site-specific activities. Projects include redevelopment of terminals in both harbors. Both home ports have developed Stormwater Management Guidance Manuals which give specific guidance for development and redevelopment projects to ensure compliance with MS4 requirements.

**Projects**

Tenant assistance projects in both harbors include installing downspout treatment boxes, infrastructure assessments to identify potential deficiencies, and source control site visits to assist tenants/customers.

**Seattle Harbor Projects**

Design for the redevelopment of Terminal 5 is 90% complete. As part of those efforts the NWSA focused on cost-effective stormwater treatment solutions as the facility is updated in partnership with its customer, SSA Marine. The project goal is an effective treatment system that protects the water quality of the west waterway. The project received a $5M grant from the Department of Ecology’s Water Quality program for the phase 1 installation of treatment on 137 acres of the terminal. This is the first grant given to a port and a facility subject to the ISGP. This is the largest grant Ecology has given to support a stormwater facility project.

Terminal 18 is installing its last treatment system. SSA Marine chose a system based on what worked best on the terminal by looking at previously installed projects in four other drainage basins. SSA Marine installed modular wetlands, open media filtration systems and active chemical treatment, Chitosan Enhanced Sand Filtration. The active chemical treatment system was selected for the last drainage basin due to its predictable results in meeting permit benchmarks and O&M costs.

**Tacoma Harbor Projects**

The NWSA has successfully completed the treatment installation at the West Sitcum Terminal and turned over the operating permit to the customer in January 2020. Additionally, the NWSA installed a membrane filtration device and pipe that treats water from the NIM and Maintenance areas and completely bypasses Husky Terminal. This project will allow Husky to install a lower flow and cost treatment system for their terminal operations.

**2022 Goals**

In 2021 the NWSA water quality team will assist SSA in completing the construction of the Phase 1 stormwater treatment system at Terminal 5 for 137 acres.

The team continues to assist other tenants as
requested. In 2022 the NWSA WQ team will continue to work with tenants SWPPP updates, pilot additional media blends at the Port of Tacoma Maintenance yard and in the downspout treatment boxes at the Terminal 5 transit shed, and work on the EB1 facility to improve system performance. Additionally, the WQ team will engage with national groups and agencies to advocate for national permit standards for Port Facilities.

Air Quality & Sustainable Practices Program

The Air Quality & Sustainable Practices Program jointly serves the Port of Tacoma and The Northwest Seaport Alliance and focuses on two goals:
1) reducing – and, ultimately, phasing out -- air and climate pollution from seaport related activities; and
2) promoting environmentally sustainable corporate practices. The program collaborates with a wide range of internal and external partners to develop, find funding for, and implement a suite of initiatives, including the Northwest Ports Clean Air Strategy (NWPCAS), the Clean Truck Program, and the Shore Power Program. In addition, the NWSA works to continuously improve the environmental sustainability of its services and operations. In 2020, the team focused the majority of their efforts on updating the NWPCAS, including significant community engagement, stakeholder input and project planning.

Key 2022 goals for the Air Quality & Sustainable Practices Program include the following:
- Finalize, adopt, and begin execution on both the Northwest Ports Clean Air Strategy (NWPCAS) and a customized implementation plan for the NWSA;
- Continue to manage the Clean Truck Program, including the domestic truck scrapping program, outreach and assistance to truckers and terminal operators, and truck data management;
- In collaboration with the Port of Tacoma, Tacoma Public Utilities, and others, launch the Tacoma Harbor Electrification Roadmap (SHERM) to assess the infrastructure needs associated with transitioning to zero-emission vehicles, equipment, and operations;
- Support implementation of a project at the South Intermodal Yard to replace six diesel-powered yard tractors with zero-emission, all-electric tractors.
- Support shore power design and installation at Husky Terminal and pursue additional funding for shore power design and installation at Terminal 18;
- Continue to identify, pursue; and secure other grants and other external financial and technical assistance to help advance the NWSA’s clean air, climate, and sustainability goals. Continue to partner with the Commercial and Operations teams to highlight and leverage our efforts to position the NWSA as a relatively low-carbon corridor for cargo traveling between the US and Asia;
- Finalize WSU air emissions impact study and integrate findings into NWPCAS implementation; and
- Facilitate the newly formed joint Port of Tacoma/NWSA Clean Air & Climate Action Team (C-CAT), a cross-departmental team to guide implementation of the NWPCAS and the NWSA’s associated implementation plan.

Planning & Logistics

Planning and Logistics provides a range of services from strategic to site planning. Some primary services include planning for marine terminals and supporting infrastructure, advocating for multi-modal freight related transportation systems, facilitating port visioning, . Planning also coordinates baseline studies to facilitate decision making about investments and operations.

Planning Overview:
- **Facility Planning**: Services include facility design, facility resilience assessment and planning, assessment of infrastructure needs for operational efficiency, and documentation of current and planned facilities.
- **Transportation Planning and Advocacy**: Support for the Operations Department optimizing gates and terminals, analyzing traffic flow and circulation, and evaluating new communications and data collection.
• **Project Feasibility Development:** Support Environmental and Engineering Departments by maintaining a general understanding of all focus areas within the group, especially the environmental specialties. With this overall perspective, the team assists with opportunity assessment reviews and strategic port planning.

• **Strategic Planning and Visioning:** Services include developing land use plans and supporting the development of strategic and business plans. Review and provide comment on new and updated local, state, and federal policy and regulatory documents to protect the interests of the Port. These plans can range from State Freight Master Plans to City Comprehensive Plans.

• **Grant Coordination:** Coordinate grant application efforts to ensure a unified and proactive approach. Grants are sought to help offset the cost of infrastructure, facility, technology, and planning whenever feasible. Coordination efforts encompass tracking priority projects and grant programs. The team also provides staff support to the Grant Steering Committee and communicating with staff involved in grant writing as well as providing commission updates.

### 2022 Planning Goals

The major goals for 2021 include, leading a vulnerability assessment study and advancing related policies, coordination of Seattle Master Use Permit (MUP) operational condition requirements for Terminal 5, coordination and technical support for Sound Transit on ST3 link extensions north and south and Sounder expansion, technical support for the West Seattle Bridge closure, advocacy at Puget Sound Regional Council, Commercial support for new business opportunities, and continued coordination with the NWSA Government Relations, Operations, and Commercial teams, and coordination of grant opportunities. Planning will also lead the homeport of Tacoma’s work on the Tideflats Subarea Plan.
Appendix A  Bond Income Calculation

The Northwest Seaport Alliance Charter requires the establishment of a Bond Income Calculation. Section 4.2 (b) states:

**Bond Income Calculation.** Managing Members shall establish and maintain a requirement for the PDA to calculate and establish a minimum level of net income available to pay revenue bond debt service for each Managing Member from the PDA equal to the amount currently required for the Homeports to meet their current bond rate covenants for bond issues outstanding at the time of the formation of the PDA. (“Bond Income Calculation”). In the case of the Port of Seattle, the Bond Income Calculations excludes bonds issued to fund Airport Facilities. The Managing Members shall require the Bond Income Calculation to be reviewed annually as part of the PDA budget process and the Managing Members may adjust the Bond Income Calculation so long as it does not cause any Managing Member to fail to comply with its rate covenant. The PDA may not take any action that reasonably would reduce PDA income below the minimum level established by the Bond Income Calculation unless each Homeport separately votes to approve that action. Such a vote by each Homeport must occur even if the action is within the CEO’s authority under the Delegation of Authority Master Policy.

The Northwest Seaport Alliance Charter also specifies required actions associated with each homeports bond rate coverage management. Section 4.2 (c) states:

If net income before depreciation of the PDA is not sufficient for either Homeport to be in compliance with a rate covenant (as currently described in each Homeport’s Master Bond Resolutions in effect as of the Effective Date), then:

(i) Upon that Homeport’s request, the PDA shall hire an independent third-party consultant to perform analysis and make recommendations for actions needed to achieve bond covenant compliance.

(ii) If the consultant recommends an action that the PDA is unwilling, unable or refuses to undertake, either Managing Member can require dissolution of the PDA following the dispute resolution process even if within the Initial Period.

(iii) The PDA shall have at least four months to respond, act and or dissolve following its receipt of the consultant’s recommended action, unless a shorter time is required by the applicable bond covenants.

The Managing Members established the Bond Income Calculation as $90 million based on the then currently outstanding debt of each Port, the applicable rate covenants and certain other net revenues available for debt service, as appropriate. Due to refunding of bonds outstanding at the time of the formation of the NWSA, the Managing Members approved a reduction of Bond Income to $21.86 million effective January 1, 2022.
Appendix B  Capital Construction

The Northwest Seaport Alliance Charter requires the funding of Capital Construction. Section 3.12 states:

Separate from Working Capital, the PDA shall provide for the funding of capital expenditures (“Capital Construction”) to be funded by a pro rata initial contribution from each Managing Member based on their respective Membership Interests. Managing Members may approve by vote contributions to Capital Construction in amounts other than based on each Managing Members’ pro rata respective Membership Interests on a project-specific basis. Requests for funding Capital Construction shall be based either on the CEO’s periodic projection of PDA capital project cash flow needs or based on project authorizations to the CEO in accordance with the Managing Member’s Delegation of Authority Master Policy Resolution. Managing Members may consider requests for additional contributions to the PDA, the affirmative approval of which will require a vote by each Managing Member. Capital Construction shall be funded by each Managing Member separately and not from Working Capital except to provide short term liquidity per Section 3.7. Distributions of Capital Construction funds will be made expressly subject to either (1) Managing Member approval of capital projects or (2) CEO approval of capital expenditure, where such expenditure is within the levels set in the Delegation of Authority Master Policy.

The Managing Members established the initial Capital Construction as $27 million based on the proposed 2016 NWSA Capital Improvement Plan. Additions to NWSA Capital Construction have been made as necessary to fund Managing Member approved projects.
Appendix C NWSA Full Time Personnel

<table>
<thead>
<tr>
<th>NWSA</th>
<th>2020 Actual</th>
<th>2021 Budget</th>
<th>2021 Actual</th>
<th>2022 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Human Resources</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>External Affairs</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>(Public Affairs &amp; Communications)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Finance And Administration</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Commercial Business</td>
<td>19</td>
<td>21</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Operations</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Facilities Development</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>54</td>
<td>49</td>
<td>56</td>
</tr>
</tbody>
</table>

Northwest Seaport Alliance Average Compensation (excluding CEO)

The 2022 staffing budget of $10,618,867 includes the following:

- $7,196,831 for salaried employees and $96,070 for hourly employees which includes;
  - $147,915 for annual pay increases for salaried employees starting April.
  - $17,402 for annual recognition program paid to salaried employees in April.
  - $17,402 for marketplace adjustment for salaried employees during the year.
  - Hourly employees will receive a 3.5% raise in April per contract.
  - Average salary of $126,091.
- Total benefits of $3,325,966

Changes in NWSA Full Time Personnel from prior budget

- Executive: 1 eliminated
- External Affairs: 2 new positions
- Facilities Development: 1 new position
Appendix D NWSA Memberships

Overview
The NWSA and alliance staff are members of several organizations. The NWSA believes that participating in these partnership organizations plays a key role in advancing the NWSA’s business objectives and ensures NWSA staff is knowledgeable and productive. These memberships are in addition to, or supplement the home port memberships.

Port Authority Organizations
These memberships assist the NWSA’s lobbying efforts on both the state and national levels and keep staff informed about major issues and developments that affect NWSA operations. Membership with the Washington State Public Ports Association remains with the home ports.

Economic Development Organizations
Economic development is a major part of the NWSA’s mission. For that reason, the NWSA maintains memberships and works closely with a variety of economic development groups. These memberships help strengthen the NWSA’s visibility throughout the world through trade missions and trade shows.

Regional Organizations
Memberships in regional organizations demonstrate the NWSA’s commitment to trade on a statewide and regional basis.

Industry Associations and Professional Organizations
These associations and organizations ensure that staff obtains the latest in technical development by taking advantage of meetings, networks and special programs offered by them.

Trade Promotion Organizations
These memberships give the marketing and sales staff important contacts and current industry trade information that enhances the NWSA’s overall marketing efforts.

Community Service Groups
The NWSA maintains memberships in these groups as part of its effort to build better community relations, to work more effectively with business people and to ensure that the NWSA’s interests and concerns are addressed in the community.

Annual NWSA Memberships & Personnel Memberships (estimated)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Annual Dues</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of Port Authorities</td>
<td>$78,000</td>
</tr>
<tr>
<td>Pacific Northwest Waterways Association</td>
<td>31,670</td>
</tr>
<tr>
<td>Washington Council on International Trade</td>
<td>20,000</td>
</tr>
<tr>
<td>International Association of Ports and Harbors</td>
<td>14,000</td>
</tr>
<tr>
<td>Green Marine</td>
<td>11,000</td>
</tr>
<tr>
<td>All Other Memberships</td>
<td>56,155</td>
</tr>
<tr>
<td>Total NWSA Memberships</td>
<td>$210,825</td>
</tr>
</tbody>
</table>

American Association of Port Authorities
AAPA is an alliance of leading ports in the Western Hemisphere that protects and advances the common interests of its diverse members through advocacy, professional development, relationship-building, and public awareness.

Pacific Northwest Waterways Association
The Association advocates for funding for navigation projects around the region, including those on the Columbia Snake River System, in the Puget Sound and along the Oregon and Washington coasts.

Washington Council on International Trade
The Council is dedicated to advocating for public policies that increase Washington State’s international competitiveness.

International Association of Ports and Harbors
A global trade association for seaports worldwide. It is headquartered in Tokyo, Japan.

Green Marine
Green Marine is an environmental certification program for the North American marine industry.
## Appendix E   NWSA Key Strategic Initiative Metrics and Measures

### I. BUSINESS DEVELOPMENT / COMMERCIAL INITIATIVES (COMMERCIAL)

#### 1. Terminal 5 Modernization

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain substantial completion for Phase I improvements of Terminal 5 lease requirements by December 31, 2021, within the authorization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure additional commitment for Terminal 5/early commitment for Phase II term lease and complete commercial negotiations relative to Terminal 5 intermodal yard and other open leasehold issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Legislature’s work on the capital budget has not in full swing yet, but government affairs staff have identified project sponsors in both the House and Senate and had positive conversations with the chairs and ranking members of the budget committees. Alliance staff are coordinating with committee staff to identify an appropriate account from which to seek the appropriation.</td>
</tr>
</tbody>
</table>

#### 2. Maximize Gateway Cargo Potential and Diversification, and Enhance Supply Chain Networks

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain market share of 7.2% and increase container throughput targeting 1-2% YOY growth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain and grow the auto business</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase NWSA market awareness and brand recognition in key emerging SE Asian markets – Vietnam, Indonesia and Thailand</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruit 2 new transload businesses to the gateway. We are targeting BCO’s</td>
</tr>
<tr>
<td>Ongoing engagement with Target Prospect Accounts to establish transload operations in the PNW.</td>
</tr>
<tr>
<td>Secure 2 service agreements with top importers and form 1 strategic partnership with supply chain stakeholders to drive cargo through NWSA.</td>
</tr>
<tr>
<td>Explore offshore wind cargo, assembly and production opportunities for our gateway. Develop a commercial opportunity assessment by Q4 of 2021.</td>
</tr>
<tr>
<td>Further enhance NWSA Rail Strategy with a focus on:</td>
</tr>
<tr>
<td>• Establish short haul rail service to/from Eastern WA &amp; Idaho</td>
</tr>
<tr>
<td>• Expand our rail incentive program in coordination with the Tier 1 Railroads, targeting 20K incremental rail lifts that are currently moving through Canadian gateways.</td>
</tr>
<tr>
<td>Secure lease agreement to expand the domestic rail business.</td>
</tr>
<tr>
<td>Secure long-term leases for T-10, West Hylebos Terminal (WHT), &amp; T-46 that promote maritime activities and supports cargo growth and supply chain networks.</td>
</tr>
<tr>
<td>Use NWSA review of USCG Needs Assessment Report to begin negotiations.</td>
</tr>
<tr>
<td>Increase breakbulk business volume (tonnage) by +5% in 2021 to include all sectors (AG, Mining, Construction and Lo-Lo); Secure a long-term lease with the Military at East Sitcum Terminal Adm building.</td>
</tr>
</tbody>
</table>

3. General Central Peninsula (GCP) Modernization

| PERFORMANCE MEASURE |
| Secure CBP’s approval to relocate Husky’s existing Radiation Portal Monitors (RPMs) so that Husky can reconfigure its terminal exit gates for enhanced intra-terminal traffic circulation. |
| Develop a roadmap for future, phased developments to build upon prior improvements and maximize the GCP’s potential. |
### II. GATEWAY OPERATIONS (OPERATIONS)

<table>
<thead>
<tr>
<th>Enhance Gateway Productivity, Efficiency &amp; Operational Performance</th>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enhance cargo and transportation network efficiencies by developing close working relationships with local, state, and federal agencies. From these relationships develop new process, procedures, and ITS tools to co-manage the shared transportation infrastructure more effectively.</td>
<td>Continue to participate in the Seattle Area Congestion Management Joint Operations Working Group (SAJOG) and facilitate the creation of the Tacoma Area Joint Operations Group (TAJOG). Through these groups, enhance electronic monitoring of infrastructure and transportation systems outside of the Port complex by expanding real-time drayage and traffic monitoring in and around the Port complex.</td>
</tr>
</tbody>
</table>

They key outcomes for all stakeholders being:

1) Identifying chokepoints.
2) Effectively mitigate impacts in real time.
3) Create shared processes, procedures, and tools around active network management. Utilizing TSMO strategies.
4) Through data and analytics develop a shared roadmap and narrative to compete for transportation funding more effectively.

**GOALS**

- SAJOG to complete the plan for deployment of expanded electronic monitoring system. Called the virtual command center or VCC. Initially this system will be focused on incident command response. Future efforts will incorporate additional operational inputs to include RFID, Bluetooth, and cameras. This is an ongoing project.
- Finalize and launch the Tacoma Area Joint Operations Group (TAJOG).
- Complete a response plan with SDOT and WASDOT to mitigate impacts to surface street fluidity during times of increased truck traffic.

| 2. Work with third party vendors and key stakeholders to develop a roadmap to enhanced visibility in a sustainable and fiscally responsible manner. | Our Port Community System (PCS), comprised of the NWSA website and Advent’s eModal platform, will continue to be expanded and enhanced based on the needs from the supply chain and new technology developments. |

**GOALS**

NWSA Website Enhancements: Additional Dashboards within the operations page to highlight terminal health. To include tools being developed by Advent.

- Full Turn times are first focus for 2022.
- Take vision document from Advent and turn into a business case presentation aimed at key stakeholders. Targeting Q2.
- Clean up currently displayed historical metrics. Q2

Make connections with other third-party vendors as part of a greater supply chain connection effort. Q4
3. **Enhance and improve service delivery key performance indicators (KPIs) with a move toward real-time reporting and analytics**

   Facilitate service delivery improvement initiatives with Marine Terminal Operators, Labor and Railroads. Hold regular labor/NWSA/terminal operator meetings discuss how to improve the performance of the gateway.

   **GOALS**
   Work closely with T5 team to ensure all preoccupancy congestion mitigation requirements are in place and effective.
   Q2. With T18 staff, identify processes and infrastructure improvements that will mitigate potential truck congestion due to additional cargo increases. First phase document
   Q1. Roadmap to implementation
   Q2. With PCT staff work to streamline Reefer processing.
   Q1. Explore options for additional reefer plugs.
   Q2. With WUT staff working on yard efficiencies as cargo volume grows and utilization increases.
   Q2. With Husky staff streamlining rail handoff data. Ongoing effort.

4. **Enhance and improve service delivery key performance indicators (KPIs) with a move toward real-time reporting and analytics**

   In partnership with the Washington Trucking Association (WTA), facilitate gate service improvements by conducting regular meetings with the drayage community and the Marine Terminal Operators. With information gathered develop an internal roadmap to connect initiatives with reasonable funding sources.

   **GOALS**
   - With WTA develop new strategies to engage terminal operators on service delivery metrics. Q2
   - Create a menu of options that could be employed to reduced congestion increase efficiencies. Initial document Q2.
   - Develop a roadmap with commercial to tie efficiency improvements to incentive initiatives. Q4.

   Reduce full gate turn times at/below 90-min avg
| 5. | Support Port-area infrastructure investments that support the efficient flow of cargo to and from NWSA facilities | • Support the on-time implementation of the Puget Sound Gateway (SR167/509)  
• Support the City of Fife as it seeks additional funding to complete the second phase of the Interstate 5/Port of Tacoma Road interchange  
• Secure rapid decision on West Seattle Bridge repair/replace and maximize rapid execution of the solution. Support the City of Seattle with regional/state/national role of this transportation corridor as it seeks local, state and federal funding. Support increased funding and program flexibility for Port facilities and off-terminal support-infrastructure, through MARAD Port Infrastructure Development Grant Program, INFRA and freight formula funding |
| 6. | Customs and Border Protection Office Facility in Seattle | Develop facility to address Customs and Border Protection (CBP)’s request for an upgrade  
• Reach Agreement with an ILA and/or cost share agreement with Port of Seattle for CBP facility which is not a NWSA licensed property  
• Negotiate and execute a new space use (lease) with CBP subject to resolution of the above (This could become a POS or an NWSA responsibility)  
• Complete 100% design on reconfigured and consolidated CBP facility at Terminal 106 (Currently CBP occupies 2 Port of Seattle properties at T-106 and T-104) |

**III. FINANCIAL PERFORMANCE (FINANCE)**

**Effectively Manage 2021 Operating Activities to Deliver Expected Financial Results**

**PERFORMANCE MEASURE**

Meet or exceed the budgeted 2021 Distributable Cash. Continuously monitor financial performance and make changes to improve Distributable Cash via cost reduction or revenue growth. Continue to monitor value of service agreements and propose modifications as necessary to improve the NWSA cost structure.

Return on Revenue (ROR) defined as Operating Income after Depreciation divided by Revenue (as adjusted for the accounting GASB87) exceeds 35% on a four quarter (4 quarter) moving average basis.

Continue increased public briefing sessions regarding financial performance and forecasted results.
### IV. ENVIRONMENTAL STEWARDSHIP (ENVIRONMENTAL)

<table>
<thead>
<tr>
<th><strong>PERFORMANCE MEASURE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Manage Clean Truck Program</strong></td>
</tr>
<tr>
<td>Manage the existing Clean Truck Program including RFID technology, Trucker database, sticker program and trucker/terminal operator assistance</td>
</tr>
<tr>
<td>Continue domestic truck scrapping, targeting domestic trucks unable to access previous programs, using remaining City of Seattle grant from the Clean Truck Fund and other grant funds as available. Provide Quarterly Domestic Truck Data to Managing Members. If compliance drops below 75%, return to Managing Members with revised recommendation</td>
</tr>
<tr>
<td>With broad external stakeholder support, adopt an updated NWPCAS with the goal of reducing DPM and GHG emissions to zero by 2050; including a NWSA implementation plan that includes a Clean Truck Program, Cargo Handling Equipment Program, Shorepower Program and other sectors</td>
</tr>
<tr>
<td>Pursue grant opportunities to further Cargo Handling Equipment (CHE), Shorepower and fleet modernization initiatives; internal goal of 50% grant match funding on future projects</td>
</tr>
<tr>
<td>Complete strategic energy planning effort in the South Harbor (matching effort in the North Harbor) to support GHG Resolution and NWPCAS</td>
</tr>
<tr>
<td>T-18 shorepower – initiate design in 2021 and seek grant funding to support design and construction</td>
</tr>
<tr>
<td>Complete T-3/T-4 shore power design and commence project construction (subject to Commission authorization) by Q422</td>
</tr>
<tr>
<td>Support Pacific Rail Services initiative to replace 6 diesel yard trucks with all electric trucks and manage required infrastructure installation and DERA grant and TPU incentives</td>
</tr>
<tr>
<td>Present WSU Air Emissions Dispersion Modeling data on NWSA related air emission impacts to community stakeholders and MMs; based on data and stakeholder input, target NWSA priorities</td>
</tr>
<tr>
<td>Strengthen engagement efforts/partnerships with neighboring communities in both harbors to advance the NWPCAS and Implementation strategy</td>
</tr>
</tbody>
</table>
### 2. Northwest Ports Clean Air Strategy

Develop and advocate for international, federal and state engagement strategies to foster a more even playing field across ports on climate and clean air actions.
- Participate on International Association of Ports and Harbors (IAPH) steering committees
- Advocate at the International Marine Organization (IMO) as appropriate

### 3. Water Quality

Assist the tenant with the completion of the T-18 and Husky stormwater treatment system construction. Assist the tenant with the design of a cost-effective stormwater treatment system at T-5; complete phase 1 construction in the north 137-acre area.

Resolve current ISGP appeal with the Washington State Dept. of Ecology and utilize outcome of ISGP appeal to inform and address options for: 1) resolution of current litigation at W. Sitcum Terminal; and 2) ways to reduce tenant stormwater compliance costs while supporting high water quality standards (such as pilot treatment projects, evaluating grants, state and federal policy)

Assist tenants with stormwater pollution prevention plan (SWPPP) development and ensure all plans are on file and inspect as needed

### 4. Green Gateway Initiatives

Work alongside the Commercial and Operations Depts and our customers to highlight and leverage our Green Gateway/low carbon corridor initiatives

Develop marking/industry stakeholder plan with NWSA Commercial to share with BCO’s, vessel and community partners

### V. GOVERNMENT AFFAIRS

**Effectively Manage 2021 Operating Activities to Deliver Expected Financial Results (cont.)**

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Harbor Maintenance Tax Reform</td>
</tr>
</tbody>
</table>
| 2. **Federal West Coast port competitiveness strategy**  
Establish a formal federal strategy for goods movement and freight that addresses cargo diversion to Canada, including through US national investment and other policies | Seek initiation of a federal study that compares US and Canadian freight infrastructure investment and policy and that recommends actions that should be taken to improve West Coast port competitiveness  
Secure participation of other ports and other supply chain partners in this initiative |
|---|---|

### VI. PLANNING AND LOGISTICS

#### 1. Transportation Planning

**PERFORMANCE MEASURE**

Provide technical support for plans and communications designed to protect and improve ingress and egress at:
- Terminal 5 and Terminal 18, including engagement in the West Seattle Bridge and Sound Transit working groups.
- Interstate 5, SR 167, and Puyallup Avenue connections to the Tideflats.

Provide technical support in development of the Tacoma Area Joint Operations Group (TAJOG) and continued technical support as needed with the Seattle Area Joint Operations Group (SAJOG).

#### 2. Land Use Planning

Provide technical support on the Tideflats Subarea Plan (TSAP) which will continue through 2023 and the completion of the 2021-2026 Port of Tacoma Strategic Plan in support alliance operations and potential growth.

Provide technical support and coordinate with Port of Seattle staff to advocate for protection of industrial lands in the Duwamish MIC in support alliance operations and potential growth.

#### 3. Facility Planning

Complete the NWSA Vulnerability Assessment and Response Framework considering potential hazards and best available sea level rise projections, to inform future policy and investment. In 2022 commission will direct project prioritization and potential policies.

Work with geographic information staff (GIS) to fine tune NWSA facility mapping, data to unify format of the NWSA Properties Book and future project development.
<table>
<thead>
<tr>
<th>4. Grant Coordination</th>
<th>Develop a container terminal berth maintenance and dredging program to ensure timely permitting and design</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coordinate between the various organizational grant programs to maximize 2021 grant opportunities for supporting infrastructure development, operational efficiencies and environmental enhancements. Support management of previously successful grant applications and provide staff support to the Grant Steering Committee. Show year end grant funding results</td>
</tr>
<tr>
<td>5. Seattle Harbor Deepening Project</td>
<td>Negotiate and sign design agreement with USACE for the West Waterway portion of the Seattle deepening project; partner with USACE during preconstruction engineering and design to ensure project success. Process is on hold while USACE and NOAA determine their response to the potential litigation that would affect project.</td>
</tr>
<tr>
<td>6. Tacoma Harbor Waterway Deepening Project</td>
<td>Support Corps issuance of Final Feasibility Study. Ensure Corps has support of WPPA NMFS liaison to complete environmental documentation. Negotiate cost share agreement with Corps for Pre-construction Design and Engineering. Develop phased investment plan for channel and berth deepening.</td>
</tr>
<tr>
<td>7. South Harbor Waterway Maintenance</td>
<td>Obtain all required entitlements to execute maintenance dredge work and restore minimum - 51' MLLW in WUT and Husky berthing areas Q321.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VII. ORGANIZATIONAL PERFORMANCE (HR / IT)</th>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staffing</td>
<td>Diversity, Equity &amp; Inclusion (DEI)</td>
</tr>
</tbody>
</table>
The Northwest Seaport Alliance

Mailing Address
P.O. Box 2985
Tacoma, WA 98401-2985

Phone: 800-657-9808

Website: www.nwseaportalliance.com
PORT OF TACOMA

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Tacoma, WA 98421

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Tacoma, WA 98401

Phone: 253-383-5841
FAX: 253-593-4534

Website: www.portoftacoma.com
Northwest Ports Clean Air Strategy Implementation in Puget Sound

Engagement Feedback Summary

September 24, 2021

The Northwest Ports of Vancouver, British Columbia, Seattle, Tacoma, and the Northwest Seaport Alliance (NWSA), a marine cargo operating partnership of the Ports of Tacoma and Seattle, work together on climate and clean air action through the Northwest Ports Clean Air Strategy (NWPCAS). In 2021, the four port organizations jointly committed to a new vision to phase out emissions from their seaport-related activities by 2050, supporting cleaner air for local communities and fulfilling the ports’ shared responsibility to help limit global temperature rise to 1.5°C. To implement the NWPCAS vision and objectives, each port committed to releasing a port-specific plan to guide the port’s actions, investments, and activities to achieve the goals. Port-specific implementation plans enable the ports to identify, prioritize, and focus resources on actions in a way that is strategic and relevant to their business and policy contexts, and to the regions where they operate while still maintaining the long-standing collaborative NWPCAS effort.

The Port of Seattle, Port of Tacoma, and the NWSA (henceforth referred to as the “ports”) are each developing their own implementation plans. After adopting the 2020 NWPCAS in April 2021, the ports aligned their implementation plan development processes and timelines to support cohesive and accessible community involvement and inform efforts to achieve the NWPCAS goals. In addition to community engagement, the ports also engaged key industry, government, and non-government stakeholders in both the NWPCAS and implementation plan development process. This summary provides an overview of the ports’ engagement process conducted jointly by Port of Seattle, Port of Tacoma and the NWSA to inform the development of each organization’s 2020 NWPCAS implementation plans.

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About the NWPCAS Implementation Plans

The Port of Seattle, Port of Tacoma, and the NWSA are each developing a port-specific implementation plan to identify actions the organizations will take to implement the 2020 NWPCAS vision and objectives locally. Each port organization is responsible for different types of maritime-related businesses, so the plans will be tailored to the sources of emissions within each port’s operations. For example, Port of Seattle’s plan will address emissions from cruise ships, as the port operates the largest cruise terminal on the West Coast. As NWSA operates the marine cargo terminals in both Seattle and Tacoma; NWSA’s implementation plan will address emissions from cargo operations. Each Port’s specific operations are outlined in Table 1.

The implementation plans for each port cover the first 5-10 years of implementation towards achieving the 2050 vision. The NWSA and Port of Tacoma implementation plans identify actions for the next 5 years, in alignment with their capital budget planning horizons, and Port of Seattle’s plan identifies actions through 2030. Each plan will be updated at least every five years and the ports will take an adaptive management approach to adjust the action plans and interim goals or milestones as the policy, funding, and technology landscapes change. These updates to the plans will fill in actions and milestones for future implementation periods.

Table 1. Overview of NWPCAS Implementation Plans for Ports of Seattle, Tacoma, and the NWSA

<table>
<thead>
<tr>
<th>Organization</th>
<th>Location</th>
<th>Relative contribution to total seaport-related emissions</th>
<th>NWPCAS Implementation plan title</th>
<th>Operations covered by implementation plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Seattle</td>
<td>Seattle, WA</td>
<td>12% of DPM and 11% of GHG emissions</td>
<td>Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan (MCAAP)</td>
<td>• Cruise vessels and operations&lt;br&gt;• Grain Terminal operations,&lt;br&gt;• Commercial fishing&lt;br&gt;• Recreational boating, marinas&lt;br&gt;• Buildings, facilities, port-owned vehicles, employee commuting, solid waste&lt;br&gt;• Habitat restoration</td>
</tr>
<tr>
<td>The Northwest Seaport Alliance</td>
<td>Seattle (North Harbor) and Tacoma (South Harbor), WA</td>
<td>86% of DPM and 87% of GHG emissions</td>
<td>Northwest Ports Clean Air Strategy Implementation Plan</td>
<td>Cargo terminals in Seattle (North Harbor) and Tacoma (South Harbor):&lt;br&gt;• Container cargo ships&lt;br&gt;• Drayage trucks&lt;br&gt;• Cargo-handling equipment&lt;br&gt;• Rail&lt;br&gt;• Harbor vessels</td>
</tr>
<tr>
<td>Port of Tacoma</td>
<td>Tacoma, WA</td>
<td>2% of DPM and GHG emissions</td>
<td>Port of Tacoma Northwest Ports</td>
<td>• Grain terminal operations</td>
</tr>
</tbody>
</table>
Purpose for Engagement

The ports identified the following objectives for engagement on the NWPCAS implementation plans:

1. Strengthen Port of Seattle, Port of Tacoma, and NWSA implementation plans by identifying and, where possible, integrating priorities, perspectives, and ideas of near-port communities, maritime-related industries, government, and non-government stakeholders;
2. Equitably incorporate community priorities into the implementation plans by prioritizing the most affected communities;
3. Promote education about the Port of Seattle, NWSA, implementation plans, and associated maritime emissions reduction goals and strategies; and,
4. Strengthen relationships with near-port community stakeholders and begin to inform an approach for ongoing engagement in implementation.

Intended outcomes from the engagement process included the following:

1. Authentic, accessible opportunities for interested community members and groups to provide feedback on each organization’s implementation plans, ask questions, and to share their priorities, perspectives, and ideas for engagement and port action.
2. Final NWPCAS implementation plans reflect issues of community importance, have community, government, non-government stakeholder, and industry buy-in, and are feasible for ports and industry to implement.
3. Begin building a framework and audience for ongoing engagement, communications, and accountability and establish a clear understanding among stakeholders that engagement will continue after adoption through a process that is co-developed by community members and ports.

Engagement Activities

Engagement on the Northwest Ports Clean Air Strategy implementation plans followed a two-year process to develop the 2020 NWPCAS. For the 2020 NWPCAS development, the ports set up a representative panel of community, industry, and government representatives for key interest groups and convened three rounds of engagement, described in Table 2. In each of these rounds of engagement, the ports collected feedback through workshops, virtual meetings, individual phone calls, and written comments.

In addition to seeking feedback on the 2020 NWPCAS, the ports also began soliciting feedback on draft actions that were being considered for the Implementation Plans. Much of the feedback received during the engagement process for the 2020 NWPCAS was relevant for the creation of the implementation plans and has been considered in their development.

Table 2. 2020 Northwest Ports Clean Air Strategy Engagement

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Engagement Milestone</th>
</tr>
</thead>
</table>

Engagement Feedback Summary
### Summer 2019
- Engagement kick-off
- Collected feedback on vision, targets, and objectives.

For more detail: Engagement Part I Summary: Project Kickoff, Visioning (Summer 2019)

### Spring 2020
- Reviewed draft conditions for success, objectives, and port authority actions in three virtual workshops focused on each sector of maritime activity
- Performed a survey of the trucking community that elicited over 100 responses

For more detail: Engagement Part II Summary: Sector-specific workshops and defining conditions for success, objectives, metrics (Spring 2020)

### Fall 2020
- Sought feedback on the full draft 2020 NWPCAS and proposed port-specific implementation actions

For more detail: Engagement Part III Summary: Review full draft 2020 Strategy (Fall 2020)

### April 2021
- Final 2020 Northwest Ports Clean Air Strategy adopted by Port of Seattle, Port of Tacoma, and the NWSA
- Community Briefing Webinar held on the Northwest Ports Clean Air Strategy and implementation in Seattle and Tacoma

In early 2021, the ports began collecting feedback on the proposed actions for the first 5-10 years of local implementation towards the NWPCAS vision to phase out seaport-related emissions by 2050 within the Seattle and Tacoma harbors, building on the input collected during the NWPCAS process. The three port entities (Port of Seattle, the NWSA, and Port of Tacoma) began developing their implementation plans on different timelines. The Port of Seattle completed a draft of its Maritime Climate and Air Action Plan in March and posted it online with a community review guide and survey to collect input. The NWSA and Port of Tacoma solicited target feedback from key community-based organizations, industry groups, and governments in spring of 2021 and completed their draft Implementation Plans in May and posted them online for review in June. Through the process of adopting the NWPCAS, the ports received feedback that additional community engagement opportunities were needed over an extended timeframe to ensure that the public had ample time to review and opportunity to provide meaningful input. In response to this feedback, the ports developed a more robust and coordinated community engagement process that spanned the summer of 2021 focused on engaging near-port community members. Syncing each ports’ timeline also helped reduce confusion about the differences between each plan document to make it easier for community members to engage and share feedback. The extended community engagement period launched in early July and concluded in mid-August 2021. As outlined in Table 3, the process included a dedicated webpage with links to each organization’s implementation plan, an online survey, public webinar, targeted outreach to neighborhood groups, and interactive workshops.

### Table 3. Northwest Ports Clean Air Strategy Implementation Plan Engagement

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Engagement Milestone</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2021</td>
<td>Full draft Port of Seattle Maritime Climate and Air Action Plan posted online for public feedback</td>
<td>Received 6 comment letters: Duwamish River Cleanup Coalition (DRCC),</td>
</tr>
</tbody>
</table>
**Engagement Feedback Summary**

- NWSA conducts series of calls and meetings with key stakeholders to discuss proposed implementation actions for marine cargo terminals
- Extended implementation plan development timeline through Fall 2021 to allow additional time for review and community engagement

**March-August 2021**

- Extended engagement process launches:
  - Targeted engagement with key community government, and industry groups (March – May)
  - Online survey (open Jul 6-Aug 15)
  - Community webinar (Jul 15)
  - Presentations to Georgetown Community Council, South Park Neighborhood Association, and the Terminal 91 Neighborhood Advisory Committee
  - Virtual workshops for Tacoma (Jul 26) and Seattle (Jul 27) community members
  - Virtual workshop for non-profit and community-based organizations (Aug 3)

- DRCC Joint Letter, Puget Sound Clean Air Agency (PSCAA), City of Seattle Office of Sustainability and Environment (OSE), 350.org Seattle, Climate Solutions

- One on one consultations: 16 meetings
- Online survey: 139 respondents
- Community webinar: 33 attendees
- Tacoma virtual workshop: 10 attendees
- Seattle virtual workshop: 20 attendees
- Non-profit and community-based organization workshop: 7 attendees
- Received 5 comment letters/written comments: DRCC, City of Seattle OSE, 350.org Seattle, Puyallup Tribe, Washington Department of Ecology

**September 2021**

- Report-out webinar to share survey results and how engagement feedback informed final implementation plans

- Future activity planned for 9/28

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**What We Heard: Key Themes**

This section summarizes six common themes raised during engagement on the NWPCAS and implementation plans.

**Strong consensus on the need to achieve zero emission operations by 2050 and to prioritize clean energy transition.**

The ports received comments reflecting strong support for transitioning port operations to clean and renewable sources of energy, such as electrifying vessels, equipment, and drayage trucks to achieve the 2020 NWPCAS vision. While some feedback has indicated desire to move more quickly in some areas, and other commenters have expressed concern over the costs and feasibility of implementing zero emission technologies, especially in the short term, the vision of achieving zero emissions by 2050 strikes a balance between moving aggressively towards the zero emission future while providing...
adequate time for technologies to mature and for the investments in infrastructure, equipment, vehicles, and vessels to be made. Additionally, commenters urged ports to prioritize planning for the zero-emission transition in the near-term over seeking interim solutions, such as cleaner diesel equipment.

Themes of zero-emission energy, fuels, technology, and/or shore power were mentioned 65 times in response to the question “When you envision seaport activity in Seattle in the future, what would you like to see?”, and 48 times in response to the question, “What do you think is the most important thing that the seaports can do to address climate change and air quality while still continuing to provide jobs, trade, tourism, and economic benefits to the region?” Similarly, comment letters received emphasized the need to prioritize waterfront electrification to reduce diesel emissions.

**Feedback on interim emission reduction targets**

The implementation plans received comments urging ports to set interim 2030 and 2040 targets for air and GHG emission reduction. Commenters also requested that the ports provide more detail on the trajectory and decarbonization pathways for maritime-related sectors.

Other commenters raised concerns about the costs of zero emission technologies, including the equipment, vehicles, and vessels themselves and the infrastructure needed to support them. More broadly, there were also concerns that raising costs to transport cargo through the Pacific Northwest Gateway could cause cargo to be diverted to other ports, which could have the unintended consequence of increasing emissions and have negative economic impacts. This highlights the desire of some for national and/or international standards to be established that create a level playing field for air quality and climate action.

There were also concerns around setting achievable interim targets given the uncertainty around the timelines for zero emission technologies to be fully demonstrated and cost competitive, and that the ports are still in the process of doing the planning work to analyze the infrastructure needed to support zero emission technologies. Concerns were also raised about the availability of clean power generation and distribution infrastructure. Concerns about stranded assets were also raised, especially with relation to earlier timelines, since accelerated timelines may require equipment, vehicles, and vessels to be retired before the end of their useful lives or investing too soon in technologies that may become obsolete. There were also concerns about technology readiness, as there are many areas in which zero emission technology has not yet been demonstrated to do the job in a port environment. Some commentors urged the ports to embrace so called “near zero” technologies, like diesel electric hybrid equipment, that could reduce emissions in the interim, as zero emission technologies mature.

**Desire for ports to lead by example and prioritize climate/clean air investments to address health disparities in environmental justice communities.**

The need to prioritize communities most impacted by port activity and air emissions emerged as a top theme in comment letters and community workshops. Commenters urged the ports to prioritize the goals and strategies within the Duwamish River Cleanup Coalition Clean Air Program Action Plan. Comments also highlighted Resolution 3767: The Duwamish Valley Community Benefits Commitment, requesting that ports center an equity approach in implementation in alignment with the commitments within Resolution 3767. Other comments highlighted the need to address health disparities, prioritize
job creation and workforce development within and hiring from near-port communities, increase youth opportunities, improve community engagement practices, and for ports to lead by example by electrifying port-owned fleet vehicles and heavy-duty equipment.

**Desire for more accountability, communication, and transparency in reporting and decision-making.**

How the ports would remain accountable to the 2020 NWPCAS goals and implementation plan commitments and measure success emerged as a key theme of comments and survey responses received. Of particular concern was how the ports would remain accountable to centering equity and addressing health disparities in local communities.

Additionally, some called for changes to current methods for tracking and reporting on seaport-related air and GHG emissions. Responses included disaggregating emissions inventory data to show local level impact and trends, collecting localized data, conducting real-time air quality monitoring, accounting for lifecycle GHG emissions for alternative fuels, and increasing the scope of inventory to include emissions beyond the airshed.

Reflected within comments about accountability and data collection was a strong emphasis on transparency in reporting and decision-making. Comments expressed a desire for more communication to the public and notification about key decision points, such as lease agreements, Requests for Proposals (RFPs), port budgets, and how the ports are working with other agencies and organizations, such as federal, state, and local government agencies.

This theme was echoed in responses to the online survey as accountability and progress reporting were the top mentioned response theme to the question, *“In addition to annual reporting on progress, what kind of seaport outreach or engagement would be most valuable to you or your community?”* Respondents cited frequent monitoring, transparent metrics and reporting, air quality sensors, and accountability toward achieving goals.

**Consensus on the importance of reducing emissions from trucks, concerns about cost, feasibility, and equity**

Many comments specifically mentioned drayage trucks as a priority for emission reduction, highlighting the need for ports to continue focusing on reducing emissions from trucks. Additionally, commentors identified truck traffic in neighborhoods as an area of concern. Commenters urged the ports to develop a comprehensive plan to deploy charging infrastructure to support the electrification of drayage trucks, leverage partnerships with City of Seattle and others, pursue financial support for truck drivers, and address truck traffic and idling within near-port communities.

Other commenters encouraged the ports to design the programs for reducing truck emissions in ways that minimize and ideally avoid negative financial impacts to truckers. Specifically, asking that the ports not mandate a shift to zero emission technology until the costs of purchasing zero emission trucks is comparable to the trucks they are currently driving and/or other funding can make up the difference.

A number of comments were received that illustrated the state of the short-haul trucking industry that hauls loads to and from the ports. In summary, the port trucking industry is a very competitive, low-margin industry. Most of the trucks are purchased second hand and many of the drivers are owner operators or members of very small fleets. Furthermore, many of these drivers are new Americans and...
people of color, many of which have limited access to capital. Currently, zero emission trucks are at least 2-3 times more expensive than a new diesel truck and in the neighborhood of ten times as expensive as the used trucks that many of the drivers operate. While some reputable sources expect the total cost of ownership of battery-electric trucks to reach parity with new diesel trucks in the next 10 years, it is unlikely that they will reach parity with used diesel trucks.

Comments were received that indicated that the increase in upfront costs posed by zero emission technology is a significant barrier to entry, even when the total cost of ownership is equivalent, for those that have limited access to capital. Related to these cost concerns, equity concerns were raised, suggesting that requirements for zero emission trucks could give larger companies with more access to capital, a significant competitive advantage and could force independent owner operators out of business.

**Concern about ocean-going vessels as a major source of emissions and impacts of vessel traffic on marine life**

As ocean-going vessels contribute more GHG and DPM emissions than any other sector of maritime activity, commenters and survey respondents expressed particular concern with ocean-going vessels, including cruise and container ships.

Commenters generally supported the ports’ emphasis on shore power use, with some urging the ports to require shore power use. Others expressed concern over the costs and operational complexity of using shore power and were not supportive of shore power requirements. In addition to the focus on shore power, commenters requested ports add additional detail about how they will influence reductions in emissions from ocean-going vessels in transit (as the vessels journey through the airshed after leaving or before arriving at the dock).

Concern with emissions from large ships, especially cruise ships, also emerged as a primary theme in the online survey responses. Addressing cruise ship emissions had the most mentions in responses to the online survey question, “While the port is committed to working to phase out seaport-related emissions from all these sources by 2050, what sources of emissions should the port prioritize now?” Some comments noted a desire for ports to ban cruise ships or end business until zero carbon cruise ships are available, limit port activity, limit imports, and/or reimagine port mandates for economic growth.

The impact of large ships and maritime activity in general on the Puget Sound ecosystem was also noted several times in the online survey in response to the questions, “What images come to mind when you think of seaport activity in Seattle?” and “When you envision seaport activity in Seattle in the future, what would you like to see?” Respondents mentioned habitat restoration, clean water, and restored, healthy marine life as desired outcomes for the future. While the NWPCAS and implementation plans focus on air quality and emission reduction, survey respondents and community workshop participants also expressed concerns about water quality.

**Changes to the Implementation Plans in Response to Feedback**

The ports appreciate the time and effort spent to respond to the survey, participate in webinars and workshops, and provide thoughtful feedback on the proposed actions and draft plans. The ports were able to incorporate many of the comments received as they finalize each NWPCAS implementation plan. The feedback not included in the plans may still be under consideration and the ports welcome ongoing
engagement throughout implementation to address concerns or inform approaches to achieve the NWPCAS vision. This section highlights the key changes proposed to be made across each port’s implementation plans to address the comment themes discussed in the previous section.

**Continuing to plan for the clean energy transition and waterfront electrification**

The implementation plans include near-term cross-cutting implementation priorities for holistic clean energy planning in for the Seattle Harbor through the completion of the Seattle Waterfront Clean Energy Strategy and the Tacoma Harbor through the completion of the South Harbor Electrification Roadmap. Once completed, these strategies will represent detailed pathways to achieve decarbonization in maritime industries and will inform future implementation actions for each organization. The strategies will identify the type, location, and timing of infrastructure needed and evaluate electrical grid capacity, costs, technology and energy choices, business models, enabling policy, resilience, and other elements essential to decarbonize maritime operations in Seattle and Tacoma.

<table>
<thead>
<tr>
<th>Port Implementation Plan</th>
<th>Proposed Changes After Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Tacoma</td>
<td>Tying the development of a sustainable fleet plan directly into the port purchasing policy for all future vehicle purchases.</td>
</tr>
<tr>
<td>Northwest Seaport Alliance</td>
<td>The NWSA added an action to develop an infrastructure development plan by the end of 2023; to incorporate the results of the Seattle Waterfront Clean Energy Strategic Plan and the South Harbor Electrification Roadmap to summarize and prioritize the investments needed across both harbors.</td>
</tr>
</tbody>
</table>

**Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan**

Completing the Seattle Waterfront Clean Energy Strategy was already a priority action in the MCAAP under Section 4: Cross-Sector Maritime Activity, *Facilitate cross-industry clean energy planning*. Additional actions were added to form maritime clean energy partnerships and develop coordinated funding strategies for infrastructure upgrades.

**Timelines and interim targets**

Engagement feedback and the latest climate science emphasize the need for strong, science-based GHG reduction targets. In response, the NWSA and Port of Tacoma added interim GHG emission reduction targets and Port of Seattle is considering accelerating port wide GHG reduction targets in the fall of 2021 and also including 2025 and 2030 interim milestones in its implementation plan.

The NWSA implementation plan was updated to acknowledge the organization’s 50% by 2030 GHG reduction target and the Washington state 70% by 2040 GHG reduction target, along with the vision to achieve zero emissions by 2050.

Port of Seattle’s MCAAP remains oriented around the Port’s 2030 GHG target (a 50% reduction in GHG emissions). The Port is considering accelerating its port wide GHG emission reduction targets, and the proposed accelerated targets are now included in the MCAAP. Accelerating the organization’s GHG targets which would increase the level of emission reduction ambition for not only the Port of Seattle’s
maritime emissions from cruise, grain, commercial fishing, and marinas, but also for GHG emissions associated with Seattle-Tacoma International Airport. The accelerated targets are currently scheduled to be presented to Port Commission prior to the first reading of the resolution to adopt the MCAAP.

The ports will continue to evaluate the state of technology, policy, funding, and other factors to take an adaptive management approach to update strategies and actions, including the potential to further accelerate targets, in service to phasing out emissions by 2050.

<table>
<thead>
<tr>
<th>Port Implementation Plan</th>
<th>Proposed Changes After Engagement</th>
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</table>
| **Port of Tacoma**       | Updated to include interim targets ahead of the NWPCAS vision to phase out emissions by 2050, including:  
  - 50% reduction in GHG emissions by 2030  
  - 70% reduction in GHG by 2040, set by state of Washington |
| **Northwest Seaport Alliance** | Updated to include interim targets ahead of the NWPCAS vision to phase out emissions by 2050, including:  
  - 50% reduction in GHG emissions by 2030  
  - 70% reduction in GHG by 2040, set by state of Washington |

**Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan**

- The MCAAP focuses on the Port of Seattle’s 50% by 2030 GHG reduction target. The plan identifies actions by 2025 and 2030 to reach that target.
- Discussion of the Port’s long-term GHG reduction targets were updated to include accelerated GHG reduction targets, that are proposed and under consideration by Port of Seattle (See: Introduction: The Port’s greenhouse gas reduction targets):  
  - Accelerate the scope 1 and 2 emission reduction efforts by 10 years to be net-zero or better by 2040 instead of carbon neutral by 2050.  
  - Increase the magnitude of the scope 3 reduction goal to be carbon neutral or better by 2050 instead of an 80 percent reduction below 2007 by 2050.

**Aligning port implementation plans with community priorities, establishing commitment to ongoing engagement**

The ports are committed to engaging with our near port communities and the general public in an authentic and accessible way and incorporating these perspectives where possible. To that end, the NWSA, Port of Tacoma’s, and Port of Seattle’s implementation plans contain specific actions to develop and implement community engagement and partnership programs by the end of 2022, in collaboration with near port communities. The ports will continue to engage and partner with near port residents and communities in the Seattle and Tacoma and Seattle harbors, to ensure that clean air and climate work incorporates community experience, ideas, perspectives, and priorities – and to continuously improve mutual understanding, trust, and collaboration. The following proposed actions were added to each implementation plan:

- Produce and broadly disseminate regular updates on clean air strategy implementation, beginning in the first quarter of 2022; and,
- Collaborate with near-port residents and communities to develop and begin implementation of an on-going engagement and partnership program starting before the end of 2022.
Responding to the feedback to align the implementation plans with community priorities, changes were made to the NWSA and Port of Seattle implementation plans to incorporate the goals within Resolution 3767: Duwamish Valley Community Benefits Commitment and the Duwamish Valley Clean Air Program Action Plan (June 2021 draft).

<table>
<thead>
<tr>
<th>Port Implementation Plan</th>
<th>Proposed Changes After Engagement</th>
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</thead>
</table>
| **Port of Tacoma (PoT)** | • The ports will jointly begin quarterly updates on NWPCAS progress to communities and other interested parties in 2022  
• The PoT will collaborate with the NWSA on a “Clean Air & Climate Community Resource Guide” by the end of 2022, to provide education on the ports, the NWPCAS, and how to get involved. |
| **Northwest Seaport Alliance (NWSA)** | • The NWSA will add a reference to the Port of Seattle’s Community Benefits Resolution 3767, acknowledging that the commitments made in the resolution are a motivator of our work under the NWPCAS.  
• The ports will jointly begin quarterly updates on NWPCAS progress to communities and other interested parties in 2022  
• The NWSA will develop a “Clean Air & Climate Community Resource Guide” by the end of 2022, to provide education on the ports, the NWPCAS, and how to get involved. |
| **Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan (MCAAP)** | • **Introduction: Strategic Alignment:** The May 2021 draft of Port of Seattle’s implementation plan referenced the goals within Resolution 3767 in the section “Introduction: Alignment with Port Policies.” This content was re-organized into a new section in the Introduction titled, “Strategic Alignment,” to demonstrate alignment between the MCAAP objectives, Resolution 3767, and the Duwamish Valley Clean Air Program Action Plan.  
• **Section 4, Cross-Sector Strategy XS4 - Engage with community, industry, and government:** Added an action to support youth engagement and professional development, and an action to prioritize local and women and minority-owned business enterprises (WMBE) in contracting specific to MCAAP related work and to advance the Port’s WMBE priorities overall.  
• **Implementation: Prioritizing Actions for Implementation:** This section communicates the Port of Seattle’s commitment to prioritize areas that experience health disparities in implementation of the MCAAP, and highlights tools that will support this effort, including the Equity Index and the Sustainable Evaluation Framework. |

**Clarity of accountability measures, monitoring, and reporting**

To highlight how the ports will remain accountable to the commitments of the NWPCAS implementation plans, changes were made to each plan to include a proposed Accountability Framework that identifies the following:
• Performance measures or milestones for each sector by which success will be measured;
• Commitment to annual reporting to executive leadership, the Managing Members (Port of Seattle and Port of Tacoma commissions), and the public;
• Reporting of implementation progress by harbor (North and South), to provide visibility to near-port residents and communities in Seattle and Tacoma, respectively
• Commitments to an adaptive management approach where implementation plans will be reviewed and updated annually in alignment with the annual workplan and budget processes with a larger renewal of the Northwest Ports Clean Air Strategy every five years.

As the ports monitor the impacts of NWPCAS implementation, the Port of Seattle, Port of Tacoma, and NWSA support local air monitoring projects led by other agencies, mainly the Puget Sound Clean Air Agency and the Washington State Department of Ecology. The ports believe air quality monitoring is best done by the experts at these agencies that have the experience and resources to lead expanded monitoring programs. As results from these efforts are made available, the ports will use local air monitoring data and community-based research to inform decision-making. Further, in response to feedback that the implementation plans did not address lifecycle GHG emissions, the ports added actions to evaluate lifecycle emissions of alternative fuels.

<table>
<thead>
<tr>
<th>Port Implementation Plan</th>
<th>Proposed Changes After Engagement</th>
</tr>
</thead>
</table>
| Port of Tacoma           | • Created an accountability framework section, replacing the adaptive management and reporting sections that includes:  
  o Emission Reduction Targets  
  o Milestones against which year to year progress will be assessed  
  o The reporting framework  
  o The adaptive management framework  
  • A commitment to including lifecycle GHG emissions in future emission inventories using the latest science was included in the accountability framework section. |
| Northwest Seaport Alliance | • Created an accountability framework section, replacing the adaptive management and reporting sections that includes:  
  o Emission Reduction Targets  
  o Milestones against which year to year progress will be assessed  
  o The reporting framework  
  o The adaptive management framework  
  • A commitment to including lifecycle GHG emissions in future emission inventories using the latest science was included in the accountability framework section. |
| Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan | • Section 5: Implementation discusses Port of Seattle’s accountability framework, which was updated to align with the NWSA and Port of Tacoma. It includes performance metrics (full detail on metrics in Appendix A), annual progress reporting, and commitment to adaptive management in monitoring results and identifying updates. |
Sustaining a strong focus on drayage trucks

The NWSA’s draft implementation plan includes a robust suite of actions designed to reduce truck emissions and begin the process of developing a comprehensive roadmap for moving trucking to zero emissions, leverage partnerships with industry and governments, pursue financial support for truck drivers, and working on truck traffic and idling issues within near-port communities. We believe this action plan is aggressive, yet achievable given our available resources. Highlights of the action plan include:

- Providing scrap bonuses to approximately 60 drivers of pre-2007 trucks to replace their trucks with newer cleaner trucks, working towards phasing out all trucks older than 2007 from our gateway.
- Leading the creation of a regional clean truck collaborative that will focus on moving trucking towards zero emissions by 2050. This collaborative will work on understanding the regional infrastructure needs to support zero emission trucks, work on delivering that infrastructure, and work on collaborating with others on demonstrations of zero emission truck technology.
- Working with other trucking stakeholders to implement at least one major zero emission truck demonstration project in the gateway by 2025, with the goal of demonstrating at least 10 zero emission trucks.
- Collaborate with other stakeholders on truck parking solutions. Continuing our efforts to reduce wait times at our terminals, reducing idling and congestion.
- Strengthening our efforts to engage with and support the trucking community.
- Engage with the City of Seattle on their Seattle Zero-Emission Drayage project.

To acknowledge the NWSA’s role in helping to find funding for demonstration projects, we have included a sub-action to pursue grant funding to help facilitate a zero-emission truck demonstration project.

Addressing emissions from ocean-going vessels

Cruise ships at Port of Seattle:
Comments related to cruise and requests that the Port of Seattle ban cruise ships were some of the most common responses to the online survey. As the largest cruise port on the West Coast, cruise sailings represent an important line of business for the Port and a $900 million industry for the region. Port of Seattle’s Maritime Climate and Air Action Plan (MCAAP) does not propose measures to ban or limit cruising in Seattle but does include strategies and actions to reduce air and GHG emissions from cruise operations and facilitate the transition to zero-emission cruise vessels as soon as possible. Highlights of proposed actions include:

- Installing shore power at all cruise berths by 2023
- Requiring all homeport cruise ships equipped with shore power to connect
- Setting a goal to reach 100% of homeport cruise ships with shore power and a 100% connection rate by 2030

In response to feedback shared during engagement, Port of Seattle updated ocean-going vessel (OGV) actions in the MCAAP to clarify how the Port will address emissions from cruise ships underway. Changes were made within Section 4, Waterside - OGV2: *Support domestic and international efforts to phase out emissions from ocean-going vessels* to add four new proposed actions for implementation by 2025 to support emission reductions from cruise vessels:

- Develop a national and international engagement strategy to advocate for strengthened standards, sustainable fuels, and the transition to zero-emission ocean-going vessels, specifically cruise ships.
- Evaluate and align with international decarbonization initiatives.
- Identify partnerships for policy alignment and amplification, including with industry and other ports.
- Conduct a maritime zero carbon energy source assessment to evaluate the status of supply and delivery options, off-takers, policy and economic drivers, Port roles and other considerations to advance deployment of energy sources to replace fossil fuels for cruise ships and other vessels in the Pacific Northwest.

**Container ships at NWSA marine cargo terminals:**

The NWSA has a number of actions in their implementation plan to reduce emissions from OGVs. We believe that this suite of actions represents aggressive action to reduce emissions from the OGV sector. Highlights of proposed actions include:

- Installing shore power at Terminal 5 (T-5) by the end of 2023
- Installing shore power at Husky Terminal by the end of 2023
- Completing design of a shore power system at Terminal 18 (T-18)
- Planning for shore power installations at the other major international container terminals in the gateway
- Developing and implementing an international engagement strategy to advocate for more rigorous emission reduction policies and to support the shipping industry in its efforts to deploy lower emission fuels
- A study to assess methods not yet employed to reduce emissions from vessels as they transit through the Puget Sound
In response to comments urging the ports to require shore power use, the final draft of NWSA’s implementation plan will include an action for the ports to work with terminal operators to incorporate a requirement into terminal leases that requires shore power-capable ships to use shore power. This requirement will be incorporated into leases as shore power systems are built, with priority on the terminals with shore power systems installed or under construction.

Ocean-going vessels at Port of Tacoma:

Because the vast majority of the vessel calls (and emissions) occurring in the Tacoma Harbor are under the operational scope of the NWSA, not the Port of Tacoma, the Port of Tacoma’s primary role in reducing emissions from OGVs is to collaborate with and support the NWSA in its efforts in this sector. For example, Port of Tacoma staff manage construction projects in the Tacoma harbor and will play a critical role in helping the NWSA install shore power systems.

The only vessel calls under Port of Tacoma’s operational control are bulk grain ships, which are a very difficult sector to influence because they generally do not make repeat calls to the same port in a given year and are not equipped with infrastructure to connect to shore power. This being the case, Port of Tacoma’s plan is to collaborate with the NWSA on development of an international engagement strategy, to advocate for vessel emission reductions, and participate in the vessel emission reduction study to assess methods of reducing emissions from vessels transiting through the Puget Sound.

Next Steps

Port of Seattle, Port of Tacoma, and the Northwest Seaport Alliance will each follow a similar but separate process to present the final NWPCAS implementation plans to commissioners for adoption, as described below. The adoption process requires that the plans are each accompanied by a resolution.

- **Port of Seattle**: The first reading of the resolution to adopt *Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan* is scheduled for Tuesday, November 9. The second reading and adoption vote is scheduled for Tuesday, November 16.
- **Port of Tacoma**: The resolution to adopt the Port of Tacoma implementation plan only requires one reading and will presented to Port Commission on November 17.
- **NWSA**: The first reading of the resolution to adopt the NWSA Implementation Plan is scheduled for Tuesday, November 2. The second reading and adoption vote is scheduled for Tuesday, December 7.
Appendix I. Online Survey Response Summary

1. What images come to mind when you think of seaport activity in Seattle?

Summary of Survey Results

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollution</td>
<td>52</td>
<td>18%</td>
</tr>
<tr>
<td>Cargo Ships / Container Ships / Barges</td>
<td>51</td>
<td>18%</td>
</tr>
<tr>
<td>Cruise Ships</td>
<td>45</td>
<td>16%</td>
</tr>
<tr>
<td>Cargo / Commerce / Industry / Economy</td>
<td>38</td>
<td>13%</td>
</tr>
<tr>
<td>Cranes</td>
<td>15</td>
<td>5%</td>
</tr>
<tr>
<td>Ferries</td>
<td>14</td>
<td>5%</td>
</tr>
<tr>
<td>Traffic</td>
<td>14</td>
<td>5%</td>
</tr>
<tr>
<td>Marine Life</td>
<td>12</td>
<td>4%</td>
</tr>
<tr>
<td>Trains / Rail</td>
<td>9</td>
<td>3%</td>
</tr>
<tr>
<td>Boats / Kayaks / Sailboats</td>
<td>8</td>
<td>3%</td>
</tr>
<tr>
<td>Activity / Crowds / Busy</td>
<td>8</td>
<td>3%</td>
</tr>
<tr>
<td>Noise</td>
<td>6</td>
<td>2%</td>
</tr>
<tr>
<td>Other / Misc.</td>
<td>5</td>
<td>2%</td>
</tr>
<tr>
<td>Jobs</td>
<td>5</td>
<td>2%</td>
</tr>
<tr>
<td>Waterfront Recreation</td>
<td>4</td>
<td>1%</td>
</tr>
<tr>
<td>Aspirations (Clean air/water)</td>
<td>4</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>290</strong></td>
<td></td>
</tr>
</tbody>
</table>

The number one image cited relative to seaport activity in Seattle in response to Question #1 related to pollution, with nearly 18 percent of mentions. Specifically, responses identified air pollution, water pollution, diesel exhaust/fumes, cruise ship pollution, and industrial/shipping-related pollution. A similarly high percentage of responses (17.6 percent) cited cargo ships, container ships and/or barges as a top image that comes to mind. Cruise ships were identified in approximately 15.5 percent of comments. Commerce-related responses rounded out the top tier of images cited, with 13 percent of responses, including things such as trade, cargo, cargo handling, shipping containers, industry, and economy. Remaining images that were noted in survey responses generally comprised five percent or less of total responses and included: cranes (5.2 percent), ferries (4.8 percent), traffic (4.8 percent), marine life (4.1 percent), trains (3.1 percent), boats/kayaks/sailboats (2.7 percent), activity/crowds/busyness (2.8 percent), noise (2.1 percent), miscellaneous/other (1.7 percent), jobs (1.7 percent), and waterfront recreation (1.4 percent). Several responses also mentioned future aspirations for the seaport as related to sustainability, access, and clean air/water (1.4 percent).

2. How do you notice or interact with the seaport in Seattle in your daily life?

Summary of Survey Results
The highest number of mentions for Question #2 (23.7 percent) cited transportation-associated pass by seaport interactions related to: driving past, through or nearby the seaport; commuting; walking by the seaport; biking by the seaport; and/or taking a ferry or cruise. The second highest number of seaport-related interactions mentioned traffic interactions (15.6 percent). Many comments (approximately 14.2 percent) cited pollution-related interactions and/or observations, primarily associated with experiencing emissions (breathing and/or seeing) from seaport-related sources. Related comments also identified water quality impacts, water habitat impacts and marine-life impacts. Approximately 10.4 percent of the responses identified view-related observations or interactions with the seaport, noting views of cruise ships, container/freight ships, cranes and ferries. Approximately 9.5 percent of responses mentioned living or working nearby. Commerce-related responses totaled approximately 9 percent, citing jobs/employment, the economy, supply chains, and the shipping/processing/purchasing of goods through the seaport. Recreation-related references were approximately 8.1 percent of total comments citing visits to the waterfront, kayaking, boating and/or walking or biking for enjoyment. Approximately 3.8 percent of responses indicated having no interaction with the seaport in their daily life. Noise-related interactions were cited in approximately 3.3 percent of the mentions and approximately 1.4 percent of mentions cited engagement and/or advocacy interactions, while crowds associated with seaport activity came in at under one percent of mentions.

3. When you envision seaport activity in Seattle in the future, what would you like to see?

**Summary of Survey Results**

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero emission energy / fuels / technology / shore power</td>
<td>65</td>
<td>29%</td>
</tr>
<tr>
<td>Limit or ban cruises / general reduced operations</td>
<td>50</td>
<td>22%</td>
</tr>
<tr>
<td>Healthy Puget Sound / marine ecosystem</td>
<td>27</td>
<td>12%</td>
</tr>
<tr>
<td>Emissions reductions / clean air</td>
<td>26</td>
<td>12%</td>
</tr>
<tr>
<td>Community / social equity / livability</td>
<td>17</td>
<td>8%</td>
</tr>
</tbody>
</table>

Northwest Ports Clean Air Strategy Implementation Plans

Engagement Feedback Summary
The highest number of mentions for Question #3 (28.9 percent) cited a desire for some form of renewable/clean or zero emission energy powering seaport activity in the future. References were made to clean energy/fuels, electric ships, electric cranes/cargo handling, electric trucks, solar power and shore power. Approximately 22.2 percent of comments mentioned limiting or banning cruise ships or reducing operations in general. Around 12 percent of responses focused on the health of Puget Sound and the marine ecosystem, with mentions of habitat restoration, clean water, and restored/healthy marine life. Many responses (approximately 11.6 percent) mentioned a desire for cleaner air and/or reducing emissions. Approximately 7.6 percent of responses related to community/social equity or livability desires that included: increased public access, inclusion of nature, more trees, artwork, public transit, waterfront access, treating workers well, community engagement and walkability. The desire for additional jobs and/or economic opportunities was mentioned in approximately 6.7 percent of responses. Addressing traffic impacts came up in approximately five percent of mentions. Noise reduction was cited in approximately 3.1 percent of responses. And approximately 3.1 percent of responses addressed policy changes, regulatory changes or operational efficiencies that could be implemented.

4. While the port is committed to working to phase out seaport-related emissions from all these sources by 2050, what sources of emissions should the port prioritize now?

### Summary of Survey Results

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit cruise ship emissions</td>
<td>64</td>
<td>33%</td>
</tr>
<tr>
<td>Shore power</td>
<td>19</td>
<td>10%</td>
</tr>
<tr>
<td>Limit container ship emissions</td>
<td>16</td>
<td>8%</td>
</tr>
<tr>
<td>Clean fuels / electrification / renewable energy</td>
<td>14</td>
<td>7%</td>
</tr>
<tr>
<td>Electrify trucks / truck driver support</td>
<td>12</td>
<td>6%</td>
</tr>
<tr>
<td>Port administration (buildings and fleet vehicles)</td>
<td>11</td>
<td>6%</td>
</tr>
<tr>
<td>Cargo-handling equipment</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>Reduce emissions (general)</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>Focus on largest source of emissions</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>Move faster</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Focus on near-port communities</td>
<td>8</td>
<td>4%</td>
</tr>
<tr>
<td>Misc. / Other (Operational efficiency, rail, slow steaming, marinas, regulatory advocacy)</td>
<td>10</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Total** 193
The highest number of mentions for Question #4 (33 percent) cited that ports should prioritize limiting or banning cruise ships, with the second-highest mentioning shore power (10 percent), and the third-highest mentioning limiting container ship emissions (8 percent). Seven percent cited clean fuels, electrification, and using renewable energy, and 6 percent specifically mentioned truck electrification and driver support, followed by addressing Port Administration sources of emissions such as fleet vehicles and port buildings (6 percent), and cargo-handling equipment (5 percent). Some responses did not focus on specific sectors but cited the need to reduce emissions generally (5 percent), prioritize the largest sources (5 percent), move faster or take more urgent action (5 percent), and focus on near-port communities. Additional responses cited operational efficiencies, rail, slow steaming, marines, and regulatory advocacy (5 percent).

5. What seaport-related sustainability improvements do you think would benefit you or your community most?

<table>
<thead>
<tr>
<th>Summary of Survey Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic Theme</td>
</tr>
<tr>
<td>Zero emission energy / fuels / technology / shore power</td>
</tr>
<tr>
<td>Limit / Ban Cruise</td>
</tr>
<tr>
<td>Emissions reduction / air quality / climate action</td>
</tr>
<tr>
<td>Water quality / discharge improvements / Noise reduction</td>
</tr>
<tr>
<td>Policy / regulation change / Incentives / Fees</td>
</tr>
<tr>
<td>Reduce operations or improve operational efficiency</td>
</tr>
<tr>
<td>Habitat restoration / tree planting</td>
</tr>
<tr>
<td>Community livability</td>
</tr>
<tr>
<td>Mitigating truck traffic / trucks</td>
</tr>
<tr>
<td>Misc. / Other (commerce, green jobs, waste reduction, superfund cleanup)</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The highest number of responses for Question #5 (approximately 25.3 percent) cited use of clean or zero emission energy, clean fuels or green technology as the most beneficial seaport-related sustainability improvement that could be made. This theme included mentions of electric trains, cleaner burning fuels, electric semi’s, use of renewable energy sources (solar power, tidal power), zero emission vehicles, fossil fuels elimination, and use of shore power.

The next highest number of responses were aimed at limiting or banning cruise ships (approximately 17 percent). Improvements related to emissions reductions, air quality improvements and/or climate action were also frequently mentioned, comprising approximately 16.3 percent of comments. Water quality improvements, discharge improvements or noise reduction were cited in approximately 10.2 percent of mentions. Nearly 8.4 percent of responses cited some type of policy or regulatory change, or the use of incentives or fees as a beneficial seaport-related sustainability improvement. Policies mentioned included restrictions on use of carbon-emitting fuels, pollution standards for vessels,
mandating use of green power or shore power, advocating for the Ocean Based Climate Solutions Act and Climate Smart Ports Act, and supporting repatriation of Tribal lands/waters. Reducing seaport operations or improving general operational efficiency accounted for another 6.6 percent of sustainability improvement responses. Some variety of habitat restoration and/or tree planting made up approximately 6 percent of responses. Approximately 3.6 percent of responses cited community livability improvements. Mitigating truck traffic or reducing use of diesel trucks comprised approximately 4 percent of mentions. Lastly, miscellaneous responses comprising just one or two mentions cited themes related to green jobs, waste reduction, superfund site cleanups and commerce.

6. Which kinds of seaport sustainability projects or topics would you or your community want to be involved with?

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/marine life</td>
<td>21</td>
<td>24%</td>
</tr>
<tr>
<td>Ban cruise ships / limit operations</td>
<td>14</td>
<td>16%</td>
</tr>
<tr>
<td>Zero-emission transition/clean fuels/electrification renewable energy</td>
<td>11</td>
<td>12%</td>
</tr>
<tr>
<td>Advocacy</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>General climate/clean air action</td>
<td>7</td>
<td>8%</td>
</tr>
<tr>
<td>Job creation / workforce development</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Communication</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Trucks</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Fleet vehicles</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Tribal collaboration</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Noise</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Waste reduction / plastic</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Cargo-handling equipment</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Air quality monitoring</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Waste/Plastic Reduction</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Grain terminal</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Climate resilience</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>204</strong></td>
<td></td>
</tr>
</tbody>
</table>

The most mentions within responses to Question #6 followed a theme of habitat or marine life, including habitat restoration, underwater noise, slow steaming, and cleanup of the Duwamish River (24 percent). The second most common theme mentioned in responses was to ban cruise ships or limit port operations (16 percent), followed by interest in zero-emission technologies, clean fuels, electrification, and/or renewable energy (12 percent). Advocacy was a theme in 9 percent of mentions with 8% of mentions along the theme of general climate and clean air action.

7. What do you think is the most important thing that the seaports can do to address climate change and air quality while still continuing to provide jobs, trade, tourism, and economic benefits to the region?
### Summary of Survey Results

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit or ban cruises / general reduced operations</td>
<td>54</td>
<td>26%</td>
</tr>
<tr>
<td>Electrification / clean fuels / ban fossil fuels / renewable energy</td>
<td>48</td>
<td>24%</td>
</tr>
<tr>
<td>Reduce emissions / climate action</td>
<td>26</td>
<td>13%</td>
</tr>
<tr>
<td>More regulation / policy change/ legislative advocacy</td>
<td>17</td>
<td>8%</td>
</tr>
<tr>
<td>Address emissions from ocean-going vessels (e.g., Shore power / require shore power use / slow steaming)</td>
<td>16</td>
<td>8%</td>
</tr>
<tr>
<td>Habitat Restoration</td>
<td>11</td>
<td>5%</td>
</tr>
<tr>
<td>Jobs / workforce development</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>Operational efficiency</td>
<td>6</td>
<td>3%</td>
</tr>
<tr>
<td>Public transit</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td>Work with supply chain partners</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td>Carbon offsets</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Community Involvement/education</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Incentives</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Waste Reduction</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>204</strong></td>
<td></td>
</tr>
</tbody>
</table>

The highest number of mentions for Question #7 (26 percent) mentioned limiting or banning cruise ships or reducing operations in general as the most important thing ports can do to address climate change or air quality. Comments received included references to eliminate the cruise industry, reduce ship traffic, reduce imports, and limiting unnecessary fuel use. The second-highest number of mentions cited pathways to zero-emission operations, including electrification, use of clean fuels, transitioning away from fossil fuels, and using renewable energy (24 percent). Thirteen percent of responses focused on general suggestions to reduce emissions and act on climate change. Several responses included mention of regulatory or policy changes to reduce emissions (8 percent) and mentions of strategies to reduce emissions from ocean-going vessels, including shore power use and slow-steaming (8 percent). Habitat restoration and protecting wildlife came up in 5 percent of mentions. Promoting jobs and workforce development also came up in 5 percent of mentions. Operational efficiency, public transit, working with supply chain partners, carbon offsets, community involvement, incentives, and waste reduction each comprised fewer than 5 percent of mentions.

8. In addition to annual reporting on progress, what kind of seaport outreach or engagement would be most valuable to you or your community?

### Summary of Survey Results

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountability / Progress Reporting</td>
<td>26</td>
<td>23%</td>
</tr>
<tr>
<td>Townhall Meeting</td>
<td>22</td>
<td>19%</td>
</tr>
</tbody>
</table>
The most valuable type of outreach or engagement cited in survey responses to Question #8 included some type of accountability and/or progress reporting with approximately 22.6 percent of responses mentioning this theme. Accountability/reporting categories included regular monitoring, communicating facts/plans, identifying metrics, updates on successes and failures, and transparency. Many responses (19 percent) stated that some type of in-person townhall meeting would be valuable. Community capacity-building was another high-value type of engagement that was mentioned frequently (12.2 percent of comments) with responses citing the need for more information about the port and its activities, education about environmental impacts, education about environmental mitigation, info on existing and developing technologies, youth/school community engagement, environmental justice and grants/donations. Community events, tours, open houses or some type of local presence was mentioned in approximately 12.2 percent of responses. Some type of electronic contact including email, newsletter, or listserv was cited in approximately 9.6 percent of responses as a valuable type of outreach/engagement. Targeted outreach and/or partnerships with specific communities or groups was mentioned in approximately 9.6 of responses. This included working with/reaching out to Tribes, BIPOC communities, nature/wildlife groups, local communities, waterfront communities, and the local marine science community. Social media engagement (i.e., Instagram, blogs, Twitter, Reddit), marketing, public media and/or news mentions comprised approximately 6 percent of responses. Air quality monitoring came up in 3.5 percent of responses as the most valuable type of engagement. Lastly, coming in at under 3 percent of responses, were mentions of some type of task force, committee and/or forum (2.6 percent).

9. Would you be interested in participating throughout this process in a subcommittee or other advisory role on seaport climate change and air quality projects?

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Capacity-Building</td>
<td>14</td>
<td>12%</td>
</tr>
<tr>
<td>Tours / Open Houses / Community Events / Local Presence</td>
<td>13</td>
<td>12%</td>
</tr>
<tr>
<td>Electronic Contact (Email, listserv, newsletter)</td>
<td>11</td>
<td>10%</td>
</tr>
<tr>
<td>Targeted Outreach/ Coordination / Partnerships</td>
<td>11</td>
<td>10%</td>
</tr>
<tr>
<td>Social Media / Marketing, &amp; Public Media / News</td>
<td>10</td>
<td>9%</td>
</tr>
<tr>
<td>Air Quality Monitoring</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Task Force / Committee / Forum</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td></td>
</tr>
</tbody>
</table>

10. How would you like to receive updates and information on our progress? (check all that apply)

Summary of Survey Results
11. Please provide any additional comments or ideas that you would like the seaport to consider in developing an approach to reduce and eliminate climate emissions.

Summary of Survey Results

<table>
<thead>
<tr>
<th>Topic Theme</th>
<th>Number of Mentions</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit/ban cruise / limit operations</td>
<td>12</td>
<td>20%</td>
</tr>
<tr>
<td>Reduce emissions/climate action</td>
<td>12</td>
<td>20%</td>
</tr>
<tr>
<td>Clean fuels / electrification / renewable energy</td>
<td>7</td>
<td>12%</td>
</tr>
<tr>
<td>Community input / Tribal involvement</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Better communication / transparency</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Shore power / require shore power</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
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<td>Habitat Restoration</td>
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<td>Workforce development</td>
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<tr>
<td>Incentives</td>
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<tr>
<td>Idling trucks</td>
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<tr>
<td>Nuclear Energy</td>
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<td>More regulation</td>
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<td>Rail</td>
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<td>Interim targets</td>
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Count of Responses (193 total)
The highest number of mentions for Question #11 (20 percent) mentioned limiting or banning cruise ships or reducing operations in general, similar to response themes reflected in other survey questions. The second-highest number of mentions cited general calls for reducing emissions and acting on climate change (20 percent), and the third-highest number of mentions cited clean fuels, electrification, and/or renewable energy (12 percent). Given that the open response nature of this question, responses spanned a wide range of topics and themes, as reflected in the table above.

**Appendix II. Northwest Ports Clean Air Strategy Implementation Workshops**

**Tacoma Community Workshop: July 26, 2021**

The workshop consisted of a short presentation from port staff followed by a breakout session designed to solicit feedback from the public on the NWSA and Port of Tacoma’s Northwest Ports Clean Air Strategy Implementation Plans. Ten members of the public attended the workshop.

The breakout sessions feedback on two questions, the responses to which are provided below.

**Question #1: Based on the proposed actions presented, what kind of actions, and in what areas, do you think the port should prioritize clean air and climate actions?**

- Which sources of emissions are most important to you?
- What are 1-2 things you’d like to see more of from the Port related to clean air and climate action?

**RESPONSES:**

- Important to measure/ focus on cumulative emissions...
- When I drive through the port, we need to close or window, it smells so bad...
- Also very important to me: City and Port should put in industry that doesn’t threaten health and safety of the neighbors...
- I’ve studied LNG issue...They’re going to be bringing in heavier, raw gas that will bring in more propane and methane...I’ve read some of the reports...Listened to somebody from PSE...They’re going to put those excess chemicals up in the flare...That worries me...
- Worried about increasing fossil fuel activities on the Tideflats
- LNG in an urban area one of the top terrorist threats...I wish you could do something to make us feel safer. It’s scary.
- Shipping is important; we’re a port...but...
- September 27, 2019 IMO report...their own researchers said LNG GHG footprint is comparable to or worse than the cleanest existing fuel...
- I’m frustrated about all that. People aren’t focused on health and safety...
- Idling trucks
- Seattle worked harder and quicker to get cleaner trucks...
- Not a fan of LNG...
- Excited about electrification
- Main concern: keep the Port clean. The port is a treasure...If we can somehow manage to skip any fossil fuel...
• Not familiar with port at all, eager to learn
• Vessels – diesel vs LNG – not clear on what vessels are using right now and questions about LNG
• Air quality monitoring (Purple Air - can check other neighborhoods) - question about how to find out % of emissions that the port responsible for (pointed back to Puget Sound Emissions Inventory)
• Trucks – I-5, lines of traffic, not obvious in our neighborhood (West End) but very obvious once hit I-5
• Two sources that bug me the most: ships at anchor, particularly bulkers and drayage trucks.
• Drayage trucks are the source that most affect the lived experience in the neighborhood
• [Trucks] move fast and want to get where they want to get and they’re commuting with us
• Volume of trucks is a big issue, they’re not making anything sitting there. Efficiency is really important
• 509 is such a nice commute, trucks disrupt that
• One of the other issues: can we do more cargo handling and truck traffic to night time? Highways are pretty empty at night.
• There are pockets of original habitat, they are very tiny. Is there a way that we can expand these? Make it more like before we are here.
• Liked the experience driving through the port. Now it’s nearly impossible to drive across the Tideflats.
• The whole issue of climate change and sea level rise should both be considered. Need to build resilient infrastructure and work to prevent it.
• I worry about terminal operators shipping old cargo handling equipment up from CA
• Stargazer, love to appreciate the night sky. Light pollution is a big deal. Also concerns about wildlife.
• LNG kinda threw me for a loop. Felt like the process was not honored.

Question #2: What kind of involvement in this effort would be most valuable to your community? What should ongoing engagement look like throughout implementation of the Northwest Ports Clean Air Strategy?

• How frequently to you want to hear from the Port?
• What communication mechanisms do you prefer, e.g., newsletter, webinars, in-person roundtable discussions, etc.

RESPONSES:

• Emails and newsletters are best – can read them when it suits
• NextDoor – best way to reach neighbors, public health announcements, some people don’t use social media but will use that
• Hybrid online/in-person - able to fit in with people’s lives
• Not sure why I got this email, glad I did because I was available. Got the email from Citizens for a Healthy Bay
• Really liked the small groups and appreciated the presentation
• Educate the public on what the port does
Seattle Community Workshop: July 27, 2021

Port of Seattle and Northwest Seaport Alliance (NWSA) hosted a workshop for members of the community to discuss the ports’ implementation plans for the 2020 Northwest Ports Clean Air Strategy (NWPCAS) focused on the Seattle harbor. The interactive agenda featured live polling, a presentation from port staff, and small group break-out discussions using an interactive whiteboarding tool.

20 people attended the event, including community members, industry representatives, nonprofit representatives, and organizers for 350 Seattle. The workshop was advertised as part of the NWPCAS implementation plan engagement process via press release, information on the Port’s website, and announced during a community webinar on July 15. Targeted invitations were sent to neighborhood associations for near-port neighborhoods, including the South Park Neighborhood Association, Georgetown Community Council, Georgetown Open Space, West End Neighborhood Association, and the Terminal 91 Neighborhood Advisory Committee, and community members signed up for the Northwest Ports Clean Air Strategy mailing list.

The breakout groups discussed two questions:

- Based on the proposed actions presented, what kind of actions or in what areas should the ports prioritize clean air and climate action?
- What kind of involvement in this effort would be most valuable to your community? What should ongoing engagement look like?

The following images show the detailed feedback collected during the breakout group discussions via a virtual whiteboarding tool:
One group was not able to use Jamboard. Feedback was compiled in the following notes:

- Cruise free Salish Sea — want to have no cruise ships at all, want the cargo ships to be clean.
- Shore power is less than 1% of the total emissions, it would be fascinating to me to know better which are the cleanest ships. Can we lean more on the IMO to provide better information on ship emissions and which are the cleanest? Should be maximizing our effort.
Need to allow the cargo owners better opportunity to make better decisions about the vessels they hire.

• Believe that most of the global warming is manmade, think we need to address the dumpster system, i.e. the waste management system.

• Don’t want to hear us say that shore power is the answer to everything. Think we should message that differently.

• Need to consider water quality in addition to air quality

Non-Profit and Community-Based Organization Workshop: August 3, 2021

Port of Seattle, NWSA, and Port of Tacoma jointly hosted a workshop for non-profit and community-based organizations to discuss the ports’ implementation plans for the 2020 NWCAS focused on both the Seattle and Tacoma harbors. The agenda featured a presentation from port staff and a facilitated discussion using an interactive whiteboarding tool. Due to the small group size, the workshop did not include breakout groups. The following image shows the detailed feedback collected during the discussion via a virtual whiteboarding tool. The sticky notes were added in response to the following discussion questions:

• Based on the proposed actions presented, what kind of actions or in what areas should the ports prioritize clean air and climate action? (left side)

• What kind of involvement in this effort would be most valuable to your organization? What could ongoing engagement or partnership look like? (right side)
Appendix III. Notes from individual consultations on the NWSA’s Implementation Plan in spring 2021

The following is a curated list of notes from one-on-one consultations that occurred in spring of 2021 to solicit feedback on the NWSA’s Implementation Plan. The notes are organized by emission sector they relate to where possible. More general comments are assigned to the “crosscutting” category.

Organizations engaged:

- Climate Solutions
- Citizens for a Health Bay
- City of Seattle
- City of Tacoma
- Duwamish River Cleanup Coalition
- Everport
- Husky Terminal
- Matson In.
- Pacific Merchant Shipping Association (PMSA)
- Pierce County Sustainability Office
- Road One
- SSA Marine
- TOTE Maritime
- Tacoma Public Utilities
- Washington United Terminal
- Washington Trucking Association

Comments:

Ocean-Going Vessels (OGV):

- Engage internationally – change to include ‘near-zero’ emission fuels.
- Puget Sound Maritime Shipping Association (PMSA) engaged previously with World Shipping Council but not been as directly involved on international level recently
- PMSA have members down the West Coast so would be interested in working with NWSA on a west coast collaboration, depends on what their members are trying to do
- Transiting – efficiency – lots to do – hull coatings, reduced drag, speed reduction – not a dirty word.
- Don’t want to set up incentive where vessels increase emissions overall by speeding up as know have to slow down in the Pacific Northwest – look at whole picture. Port of Los Angeles/Long Beach (LA/LB) - 12 knot for safety reasons initially in 1990s, then for emissions.
  - 157 miles to Tacoma. Affects scheduling.
  - Have to specify which emission – SOx? NOx? GHG? Had to be specific down in CA.
- Trickier than people think
  - Pilot tariff now has hourly rate – will have direct impact on cost of pilotage if takes longer to transit
- ECHO program – govt funds help if creep into needing second pilot if take longer
- ‘Major’ terminals for shore power installations – rank order – would be good to see what terminal when – whole list
- Note somewhere what kind of vessels – not dealing with grain vessels, bulk etc - focus on container ships
- PMSA don’t track how many vessels are shore power capable – would be interested in NWSA data
- Echo program: will be some co-benefit to air quality but may end up at point where help orcas but increase emissions
- Reduce 3 knots, 3 decibel reduction where orcas are foraging
- Shipping companies have own fuel consumption plan for overall transit
- 80% of calls shore power – may be a hydrogen fuel cell vessel so wouldn’t want to count against the target if doesn’t plug in
- Be more specific about how we’ll increase number of shore power calls – incentives? Lease requirements?
- Q1 2022 first LNG vessel operational
- Already using shorepower, LNG coming
- Reefers – used to use 1.1 gallons an hour, now half a gallon an hour
- Key is getting one shorepower installation done – just don’t know, will help when one is funded and built
- Revenue – can build in increases into leases to fund projects, need to aggressively accelerate transition to decarbonization, reopen leases
- Want to make sure shorepower gets used, very expensive to put in and need to make sure it's worth it
- There is a cost advantage to plugging in here vs bunker fuel
- Resolve shore power issues at PCT and WUT in next 5 years, don’t wait until 2028
- Question – what funding sources for shorepower installation?
- Newest vessels are Tier 2 and Tier 3 for NOx – Matson to check if they’re coming to Tacoma
- OGV largest emission source – transiting emissions – asking what the plan is for that largest slice? Vessel speed reduction incentives in LA/LB - anything planned? Discussed study planned for later this year.
- Incentives will overlap with shore power installation. Important to reach out to carriers as soon as possible.
- Everything starts with carriers. Need their feedback – without their buy-in all this work is pointless. Need to point out carriers specifically in Implementation Plan and pull in Commercial.
- Lot needs to happen after installation, whole relationship with labor, TPU and carriers – difficult to get to 80%, ‘build it and they will come’ may not be realistic, disruption to terminal during construction, needs to be addressed – presentation makes it seem easy, concerning if being presented everything is this simple
  - Add action around relationship with carriers, action about labor, action about billing
  - 80% milestone – add prior milestone about carriers/billing/labor issues resolved, then hit the 80%
  - Any interim goals in the run up to the 80% goal – 50% after a year? Make clear.
Engagement Feedback Summary

- Voluntary or required, carriers won’t send vessels
- Not clear on how many shorepower-capable vessels are coming to terminals

- What is our history with policy engagement internationally?
- It would be really good to get a more detailed understanding of what barriers are for owners of OGVs to have shore power capability. Could be helpful for thinking collaboratively.
- What are we doing on the infrastructure front outside of shore power?
- How much will the five-year plan cost for shore power?
- Really important to make the distinction that we are sourcing the power from a really clean grid to ensure we aren’t just moving the emissions.
- SSA have a few projects ready to go and be molded when grant hits the street, grant timelines are really tough
- Oakland – Amp extender, can’t use a cable reel, can’t use an ‘extension cord’ under Oakland regs – ‘extender’ OK, labor refuse to use it – safety hazard
- C40 ports forum could help with engagement on the international level
- Wanting to know about our connection to international stuff around getting maritime to zero by 2050, also curious as to whether we’re tracking/supporting the advanced clean truck rule
- For OGV Priorities: It would be great to strengthen the language on #4 to be more action oriented in that way. Maybe “explore opportunities and take action”
- For OGV #9: Can we do anything that’s mandatory related to vessel emission reduction for vessels while they’re underway?

Cargo-Handling Equipment (CHE):

- Zero-emission (ZE) pilots don’t have power to get through two cycles (electric RTGs – 86% fuel reduction with near ZE - SSA) - hybrids a great bridge – glad near-zero in there
- Automation – ZE CHE may be impacted, future CHE will be remotely controlled or able to be, recently enacted state law prevents automation for the next 10 years
- Tenant engagement forum – all compete against each other so need to tread carefully
- Need to visit automated terminal in CA
- PMA and ILWU contract allows for automation, but jobs still provided
- Appreciate promotion of renewable fuels where possible
- Port-owned esp. CHE – share good story out, learn from our experience
- Electric yard tractors – interested, in a call with RMS a few weeks ago, learning about it, working with Orange EV – stop on the ramp - v. unique operations, don’t know of any in CA, only a few in the world like that, make custom for TOTE? Repower?
  - Orange EV working on next generation truck that might have enough power to stop on ramp
  - Ottawa – reached out to see if familiar with ramp issues
  - 3 tons forklifts are gas/propane -a few they’d be interested in upgrading as old
- Tenant engagement – would definitely be interested, struggle with the short timeframe to pull everything together, would be interested in hearing from other tenants
• Should be lifecycle cost or total cost of ownership
• Introduce lease requirements
• Can we incentivize some other way to buy ZE CHE?
• Tacoma Public Utilities (TPU) brokered conversation with TOTE and RMS – huge cost savings using electricity
• TPU keen to partner in regular tenant meetings
• Green Transportation Expo – sponsor tenant attendance
• Add lease requirements to 5-year actions
• Need to be flexible and adaptive management – things change so quickly
• Interested in regular tenant meetings
• Oakland off-dock yards have ZE yard tractors but not sure of any on-terminal
• Would be interested in seeing RMS SIM yard tractors in action, keen to bypass a Tier 4 (regen issues)
• Enough power available? Think OK in Tacoma
• Good to hear about funding sources and timeline
• Renewable diesel being used at Port of Oakland in own maintenance fleet – can talk to Oakland for info
• Definition of ‘drop-in’ fuel?
• ZE projects - entirely grant-funded? Explained levels of funding
• Hybrid RTGs – SSA so busy right now, not able to take one out of action for a few months, 5-yr ROI, high-priority for SSA to get done in next year or two
• SSA have operations everywhere, not just Seattle – CA costs coming in next few years
• Need delta between ZE and Tier 4 UTR to come down
• Tenant meetings would be valuable – can’t just be the only terminal operator going to meetings, think about timings so doesn’t get dumped if terminal is busy
• Most T-5 equipment gone to Tacoma W. Sitcum this year (15-20 pieces)
• Asset management system – excel spreadsheets, naming of equipment
• Plug into Clean Cities (call them out as partner in IP) and other orgs resources, ride and drives – work with tenant forum to sponsor tenants to go to events/training
• Plan relies on getting a grant every other year, need to raise rents, can’t keep doing incremental work
• Need electrification roadmap, need to get pre-engineering work done ASAP
• What leverage do we have with leases? Do we have anything in the lease agreements?
• Could terminal operators say no if we wanted to install CHE charging?
• Where is the industry going for OGV zero emission fuels?

**Trucks**

• Trucks – reach out to agricultural community in eastern WA – regional freight strategy, WA Farm Bureau, Anderson Hay, deal with congestion
• Need a much broader look at trucking, not just port trucking – EPA restrictions make biggest impact, tightening up
• Whole range of type of people who work in drayage, also look at who is working in trucks, not just where they’re going
• Dual transactions also reduce emissions
• Supports renewable fuels – Clean Fuel standard – report looking at Seattle port truck using B100
• Renewable Fuels – want to make sure used in existing equipment, not an excuse to keep buying diesel equipment
• Collaboration – keen to work after leg session. Should be involved in Advanced Clean Truck Rule.
• Trucker Outreach – keen for lots of grant support for truckers – communication will be key. Significant funding needs to go to truckers to help get into new vehicles.
• Would like to see sooner date than 2050 for ZE trucks, don’t just keep revisiting and pushing out date. Appreciates flexibility of adaptive management approach, should allow for acceleration of adoption.
• Would mostly be a focus to customers
• Focus on idling and congestion but pretty good at TOTE (15-20 mins)
• Upgrading their gate and truck management system – would be interested in talking about RFID
• Make sure to mention hydrogen, not just electrification
• Have existing Clean Truck Program (CTP) in leases, there is a requirement – can require programs again, not just voluntary approach
• Require renewable fuels in trucks? How to enforce?
• BCOs – work with big shippers, contract out drayage, need to get them to care more, they’re reporting out on GHGs
• Would be good to model how far these actions over 5 years get us toward the 2050 goal
• Lease 16 Class 8 Penske trucks that do drayage – operate themselves
• All trucks approx. 2018 MY, vendor comes in for fueling, no problems with goals
• Good to work on getting rid of the stragglers and last few remaining old trucks.
• any near-zero funding? Definitions of NZ difficult in CA. Recommend a clear definition of NZ so know what NWSA would and would not support.
  o Industrial idle reduction packs for CHE, would further reduce emissions, didn’t qualify under CAAP definition but did under CARB definition
• Isn’t there already an idle reduction program in place?
  o Is the port able to enforce anti-idling reqs?
  o Near-port communities – any concerns in Tacoma about trucks?
    ▪ Tacoma complaints about noise, would suggest asking City of Fife, CHB is Pierce Co – wide but not as involved in Fife
• It’s really important that we’re able to articulate the other areas of port operations (not just trucks) that have to make changes so the trucking community isn’t being singled out. Who else is complying, making sacrifices, taking action, etc.
• What is the mechanism by which we will work to phase out pre-2007s from domesticics?
• Everybody wants the terminals to operate like a utility but pay for it like a business. I.e., system should be sized for peak demand but only pay for average or projected need. [For efficiency]. This is not realistic
• One of the struggles with the clean truck program is that there was a gap in the conversation. WTA very much wants to be part of the communication platform to reach out to the trucking community to make sure messaging is consistent and ongoing.
• Why can old dirty locomotives idle on the terminals, but older trucks can come in.
• Drayage community is mostly folks buying on the secondhand market so need to be realistic about that.
• Really challenging to add significant costs to the industry
• Need more funding
• Anti-idling – clear what that is, vehicles sitting in a queue for a piece of equipment, looks like idling but slow moving, AQMP for T-5, very different from leaving truck on and walk into break room. Distinction – make clear to community.
• Longshore won’t accept anything that switches off during operation
• Planning for truck charging/fueling
• Opportunity for collaboration with City of Seattle ICCT study, particularly around truck locations/data
• Where is the industry going on zero emission fuels?

Locomotives and Tugs:

• PSCAA have no mobile source authority – just grant support
• Foss tried hybrid in California but didn’t work (performance and maintenance)
• Car is 5 wells – now 40 ft wells not 53 ft, save 13 ft, 5x13 saved – can build longer trains and reduce emissions – don’t lose track of efficiency measures. 53ft are domestics – transload into 53ft containers, can go on train - match equipment up, transload have to be close to port, cutting down 20s and 40s – fewer trucks, can build much longer trains
• Need to talk to BNSF and UP to see what their funding strategy is, how they allocate their funds
• Good to focus on relationships and collaboration
• TPU proposed study to look at costs of converting locomotives at Tacoma Rail to hydrogen
• Green hydrogen production and infrastructure
• Renewable diesel? Could be easy to drop into existing fleet. City of Tacoma buying thousands of gallons a month for own fleet
• Tacoma Rail could use renewable diesel
• Add renewable diesel to rail section
• Anything NWSA put in would be in City/TPU plan. Tacoma Rail/ TPU Director reports to Utility Board, appointed by City Council. City Climate Action Plan is TPU Climate Action Rail. Related but separate.
• Foss owned by same company as TOTE, all related – approach through them
  o If became tenant, could install shore power
• Add language around supporting installation of tug shore power
• Isn’t direct to rail cargo more efficient and lower emissions?

Fleets/Facilities:

• Does NWSA have a fleet? May in the future so to make sure it’d be covered
• City of Tacoma considering a resolution to make all new City municipal buildings all electric, and a study to look at rolling out ban on natural gas in all city buildings
• Clarify fleet is about light-duty vehicles
• Opportunistic about building infrastructure during other infrastructure projects
• The Seattle Waterfront Clean Energy Strategy is to plan for all options, make sure utility is ready for anything the facility needs
• Lighting projects are a no-brainer, really well-received by labor and community, maintenance costs way down
• City fleet folks bring new equipment in for ride and drive, make sure NWSA/tenants know
• Partnership opportunities? Joint purchasing/peer learning?
• Utility funding for fuel switching
• Need a systematic approach to identifying lighting upgrades
• TPU to set up a Conservation Protection walkthrough of the Port – add as a potential action
• Add action to discuss at tenant forum

Cross cutting:

• Importance of being in sync with federal, state and local policy and funding – can't go it alone
• Lots of vessels call at NWSA and Vancouver – emissions per TEU to PNW/West coast – huge vessel unloads all containers in one place rather than dotting all down the west coast, don’t want vessels to go to other port out east to avoid and increase emissions
• Regional freight flow – questions about NWSA’s position on reducing congestion, improving traffic flow, would help to have port voice in support of increasing transit à reduced congestion.
• Want kept up to date and keep in mind as a partner
• Port of the Future – green hydrogen – not just electrification
• Caution against making plans political, telling politicians dates and making them firm plans, people hold onto dates, no flexibility, yard tractors go down, barely used for 6 months, blanket rules – would work for everyone, different duty cycles,
• Need data and study on real-life costs, duty cycles, whether things are commercially available, not just demos available
• Relationship with near-port communities could be more systematic:
  o Not a lot of trust between env community and port but good to slowly work on improving that, more conversations, esp. with NWSA Air Quality and Sustainable Practices (AQSP) team
  o Tacoma Urban League, Central Latino, LatinX of South Sound, 350 Tacoma, Mayor’s Youth Commission, Tacoma Community House, Shiloh Baptist Church
  o EJ Taskforce for City of Tacoma Climate Action Plan. Need to build trust, important to pay for participation
    o Host introductory meeting with large set of groups to give overview
    o Suggest talking to Tacoma-Pierce Co Health Dept get started
• Infrastructure planning – Seattle and Tacoma plans, SCL rethinking how they provide services, known constraint for future capacity in Seattle harbor, different power supply systems – energy storage, microgrid, resiliency
  o Reasonable data requests, need time, not pages and pages
• Tried to single out reefer power use in California, not a single meter, freeze load vs chill load, so varied couldn’t do it
• SHERM – good to have shovel-ready projects if federal funding available
• NE Tacoma Neighborhood Council – AQSP team could work with them
• Puyallup Tribe and folks who have engaged in subarea plan process
• UW-T – past master’s project, reimagining port admin building (Urban Studies?)
• Desire to make the plan more Duwamish Valley specific.
• Wants to push the port as much as possible as a PCAT member
  o Must prioritize community engagement
  o Must recognize the impacts of COVID, must be really conscientious about how we engage with communities.
• My understanding when participating in the all-Port strategy was that the zero-emission vehicle technology simply didn’t exist yet, and what I’ve learned since is that it does exist, and I’m hearing that it’s just too expensive right now. Is that accurate?
• This is a general outline of what you want to do in the future. You will present specific objectives for the knowledge of the community, for example, what projects will you develop annually to achieve this?
• In your plan, you speak of a baseline. This line is updated? If yes, this is public information? Additionally, I assume that the Duwamish Valley has Environment Impact Reports and / or Environmental Impact Statements. Do we have this information?
  I have seen your plan for 2050. This plan is aligned directly to your operations which is great, but how is this plan aligned with Health Risk assessments and / or Health Impact Assessment? It is his plan, none of this is mentioned, which is not aligned with resolution 3767 of the Port of Seattle.
  o I am convinced that the investments that you will make will improve air quality, but in parallel, I think that the Port of Seattle should invest in our community to improve the problems associated with air quality, in a percentage equivalent to the total existing pollution in the Duwamish Valley.
• The Duwamish Valley Community Equity Program (DVCEP) said it would disaggregate data. How can that be addressed?
• What do you all need to make the geographical data possible?
• Agrees that we need more consistent and systematic engagement with near port communities. Also need to prioritize directly interfacing with the people.
• I liked the idea of having a series of conversations -- happy with what we accomplish today
• Can we add in the priorities adding data and baseline?
• Would be great to see equity and environmental justice incorporated as a priority
• How do we measure progress if we don’t have baseline and targets? (should this be a priority)
• It would be good if they implement sustainable development indicators where the community can see the impact that the Port of Seattle has been achieving with its investments in this excellent program
• We already know there are env health disparities. what do you mean in your first bullet?
• Good to link this all back to public health – could we track asthma as an indicator? Diesel particulate matter (DPM) is another great indicator.
• Where is rail called out in this plan? Georgetown is completely surrounded by rail, and the emissions encircle us. I would love to see some rail metrics and how much the emit within the boundaries of Georgetown
• Concern about port trucks going through the community for emissions and safety reasons.
• I think we should also link to the Community Benefits Commitment to this action
  
  o Climate Change. Collaborate with other public agencies, industrial partners, institutions, and the community to participate in local plans to address impacts from climate change. Work with the community to raise awareness and implement climate resilience solutions related to port industries such as maritime, aviation, trade, tourism, and transportation. Continue Port of Seattle efforts to reduce greenhouse gases (GHG). Leverage Port of Seattle and NWSA GHG reduction targets to develop a set of recommendations to reduce operational greenhouse gases. Collaborate with other public agencies and institutions to secure investments promoting climate resilience and greenhouse gas reductions. Work with the community on fostering innovation in areas like carbon sequestration and renewable energy projects across port-related industries and properties, such as the Blue Carbon Project and solar panel installation at port facilities. (2) Air Quality. In coordination with the NWSA, implement programs to reduce air emissions from port and tenant activities that affect community health outcomes, such as the NWSA Clean Truck Program and its future expansion at domestic terminals. Collaborate with the NWSA and other public agencies, stakeholders, and institutions to invest in the equitable distribution of air quality improvements. Collaborate with stakeholders to provide education, training, and resources that build capacity for the community to take action on air quality. Promote community science projects that help identify community-based solutions to address port-related air quality impacts. Equitably engage the community in regular Northwest Ports Clean Air Inventory and Strategy updates and its ongoing implementation. Work with industry partners, the community, and other public agencies to normalize equity best practices, use of disaggregated data, and shared decision-making processes regarding air quality issues.
(3) Truck Traffic. In advancement of the NWSA’s efforts, collaborate with the community, port tenants, truck drivers, businesses, and other public agencies to reduce impacts from the movement of goods. Use an equity framework to explore modifications to drayage trucking policies and practices regarding movement of goods, public infrastructure and systems, truck routing, driver training, truck parking, road maintenance, and enforcement of traffic rules. Work with public agencies, including the NWSA, and other key stakeholders, such as those most impacted, to commit to a process to address trucking issues locally and involve the community in decision-making related to roadway and infrastructure improvements, truck parking, queuing, idling, and other trucking impacts. More here
  
  https://www.portseattle.org/sites/default/files/2020-01/Resolution%20203767%20with%20Exhibit.pdf
• How do we address the question of where emissions are going in the Duwamish valley?
• Comment from many: in our next emissions inventory, it would be great if we could figure out ways to isolate emissions from the Duwamish Valley.
• For infrastructure installation -- could a short-term option be implemented there for rerouting, etc.?
• We learned a lot of lessons from the closure of the West Seattle Bridge, don’t want to lose sight of the short-term mitigation measures that were enacted.
Engagement Feedback Summary

- We have carbon free, affordable power, city light is ready to go big on electrification
- Where is the industry, i.e., state of technology, how can the city be supportive?

- County will be doing an equity assessment for the County – focused primarily beyond Tacoma city limits.
- Who is the lead on the port’s Climate Resiliency work?
- How does the American jobs plan affect our plans?
- Are we planning to use green hydrogen?
- T-5 has a huge impact in the DV
- Starting 2023 -- California DMV will not allow heavy duty trucks older than 2010 to be registered --> does this mean they are coming to WA?
- Has there been any discussion about creating a larger parking lot for the trucks to park in to keep them out of parking in the neighborhoods? It would also reduce emissions in the short term because it would reduce the number of times they are driving through our neighborhood.
  - Truck parking situation has been an ongoing source of conversation and consternation, we are standing up a working group around parking solutions.
  - Are there any ways DRCC can support the truck parking issue? This is a long-standing issue for the Georgetown Community specifically, folks have been working on this for 5-10 plus years. Want to see this move in a positive direction.

- On truck parking actions timing:
  - Want this to happen as quickly as possible.
- I can ask the community if they have any info about specific abandoned trucks
- The infrastructure needs assessment may need to happen sooner to be prepared?
- Survey from Pierce Transit on transit options on the Tideflats. Should we send it out to tenants?
- Tacoma natural gas resolution passed that pledges no new facilities will be natural gas. For our own buildings. City of Tacoma pledges by next year. Would definitely apply for heating, a bit fuzzier for cooking.
- Assessment of impacts of banning natural gas for commercial buildings will be done in the next year or two.
  - May not cover industrial
- TPU is excited to work with us, frustration from conservations staff that sometimes the projects can get stuck in administrative black hole after assessments are done and sometimes projects die.
- Two and a half years to develop a policy is a long time (natural gas use). Should be accelerating a policy on new buildings.
- Lots of organizations have done costing and feasibility on gas vs electricity for commercial and residential.
  - We should wait for Tacoma’s study
  - City of Seattle and King County have done a lot of research in this area
  - Tacoma Power has run the numbers for residential buildings at one time. It was generally cheaper to heat with a heat pump, especially if you have to run new gas lines.
- Clean building act by 2026-ish, buildings 50k sq. Ft have to hit certain EUI thresholds. There are grant opportunities early on transitions to a penalty early on. Commerce runs this, suggest checking out the webpage.
- Tacoma will be adopting soon and internal policy on sustainable fleet and fuels
• On the roadmap, if possible, can we study building electrification needs?
• For commute trip reduction suggest connecting with Pierce Transit
• Level 3 fast charger at the car museum, could we use public charging?
• Could we consider a central charging hub for our fleet and drayage trucks?
• How was labor engaged?
• Who will be the point person and who will be accountable for implementing the strategy?
• There was a lot of unhappiness around Port of Tacoma not doing RFID
• Perceived a disparity between Port of Seattle and Port of Tacoma as far as our preparation to implement the strategy and that Seattle had better timelines
• Why is rail in all three entities? Most of the emissions are in the Alliance
• It would be good to split emissions out by harbor to help better understand the impacts to local communities.
• The drayage community is a present day example of environmental racism, the scrap and replace program is a great thing.
• Given that the pollution from the sea-going vessels is 50% of the total there should be more focused on reducing their emissions. Don’t like seeing vessels blowing black smoke while they’re at anchor. We should be working to get shore power in everywhere. Australia just banned one bulker that was exercising poor practices.
• Have witnessed bulkers being cleaned out and grain dust, etc. Is emptied into the bay.
Revised Strategy vision to specify “phase out emissions...by 2050”

**DD2 Vision:** “Phase out emissions from seaport-related activities as early as possible this century, supporting cleaner air for local communities and fulfilling our responsibility to help limit global temperature rise to 1.5°C.”

**Full Draft Strategy Vision (October 2020):** “Phase out emissions from seaport-related activities by 2050, supporting cleaner air for local communities and fulfilling our responsibility to help limit global temperature rise to 1.5°C.”

**Explanation:** The change from “as early as possible this century” to “by 2050” was made in response to feedback that the vision should be measurable and to reflect latest climate science for level of reduction needed to limit global temperature rise to 1.5°C. The 2050 date represents an increased level of ambition and recognition of urgency heard from other government agencies, environmental groups, community members, and some commissioners. The discussion of the vision and emission reduction targets acknowledges that the vision seeks to go further than some established targets, and that the pathway to phase out fossil fuels remains unknown for some sectors.

**Guiding Principles: Added Port Competitiveness**

Engagement Round 2 surfaced concerns about how more aggressive climate and air emission action in the Northwest could impact port business or shift cargo to other regions. To address this concern, ports added a new Guiding Principle for Port Competitiveness: “Deliver the strategy in a way that supports competitiveness of ports and the prosperity of communities”.

Additionally, the wording of the Guiding Principles was updated to reduce redundancy and enhance clarity across each of the principles.

**Enhanced Focus on Air Pollution in Addition to Greenhouse Gases**

Engagement Round 2 participants questioned the focus of the 2020 NWPCAS on air pollution, as the renewed strategy does not set a specific target for diesel particulate matter reduction. In response to this feedback, the full draft strategy addresses local air quality in Section 1.2 and recognizes there is no safe level of fine particulate matter. While the 2013 NWPCAS set emissions intensity targets, the vision of the 2020 renewal is focused on phasing out tailpipe emissions entirely, which includes diesel particulate matter and other air pollutants as well as greenhouse gas emissions.

**Updated sector-specific objectives**

- **Objectives organized around three themes:** DD2 identified four high-level objectives within each sector: (1) increased efficiency, (2) interim emission reductions, (3) installing all zero-emission infrastructure, and (4) turnover to zero-emission equipment. The DD2 objectives were summarized by timeframe (ongoing, 2020-2030, 2030 and beyond). During engagement, ports
heard feedback that the objective about achieving interim emission reductions lacked specificity and the timeframe organization led some to express concern with ports “waiting” until 2030 to transition to zero-emission technology. To address this feedback, *ports consolidated the objectives within each sector into three consistent themes:* 
- Continually improve efficiency and reduce emissions (consolidated DD2 objectives for increased efficiency and interim emission reduction efforts)
- Infrastructure to support zero-emission equipment
- Demonstration and adoption of zero-emission equipment

This change from timeframes to consistent themes across the sectors better reflects how the zero-emission will occur on a phased timeframe over the next several decades and actions to support this transition will occur simultaneously to actions to continuously improve efficiency and reduce air pollution during the transition.

- **Updated zero-emission infrastructure and equipment timelines: infrastructure to support zero emission equipment by 2030 and complete zero-emission equipment transition by 2050.** Engagement on DD2 surfaced diverging feedback on the timelines for zero-emission objectives. Industry representatives expressed concern with the cost and readiness of zero-emission technology and the risk of stranded assets. Community, environmental non-profit, and government representatives advocated for expedited timelines. In response to this feedback, *the full Strategy draft accelerates the ambition for zero-emission infrastructure within the more defined scope of addressing fueling and power capacity needs by 2030 rather than installing all infrastructure* (i.e., at the point of charge). The dates for transitioning to zero-emission equipment were made consistent across all sectors to reflect the updated vision to phase out emissions by 2050. *For some sectors, this meant the zero-emission equipment timeframe was pushed back, for others there was no change.*

The table below outlines specific changes to each of the sector objectives between DD2 and the full draft Strategy:

<table>
<thead>
<tr>
<th>DD2 Objective</th>
<th>Full Draft Strategy Objective</th>
<th>Explanation</th>
</tr>
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<tbody>
<tr>
<td>OGV</td>
<td></td>
<td></td>
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<tr>
<td>Install shore power at all major cruise and container berths by 2030 and maximize connection rates</td>
<td>By 2030, install shore power at all major cruise and container berths</td>
<td>Removed “maximize connection rates” because the language was too ambiguous. Each port applies different mechanisms to increase shore power use and port-specific implementation plans will identify specific measures to maximize connection.</td>
</tr>
<tr>
<td>Continually increase efficiency and decrease emissions from vessel operations</td>
<td>Continually increase vessel efficiency and decrease emissions from vessel operations</td>
<td>Consolidated to streamline and enhance clarity</td>
</tr>
<tr>
<td>Support interim emission reductions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Support the international development of zero-emission ocean going vessels by 2030 | Support international efforts toward phasing out emissions from vessels | Clarifies that ports are not solely responsible for a zero-emission ship by 2030, but rather are part of a larger global effort to advocate for phasing out emissions from oceangoing vessels. For this sector in particular, phasing out emissions by 2050 is a very ambitious target.

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<thead>
<tr>
<th><strong>CHE</strong></th>
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<tbody>
<tr>
<td><strong>Increase efficiency of equipment and operations</strong></td>
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<tr>
<td><strong>Support interim emission reductions</strong></td>
</tr>
<tr>
<td><strong>All infrastructure is in place to support transition to zero-emission CHE by 2035</strong></td>
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<tr>
<td><strong>Accelerate turnover of cargo-handling equipment to zero-emission equipment by 2040</strong></td>
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<tr>
<th><strong>Trucks</strong></th>
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<tbody>
<tr>
<td><strong>Increase truck efficiency and reduce truck idling</strong></td>
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<tr>
<td><strong>Support interim emission reductions and reduce impacts on communities</strong></td>
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<tr>
<td><strong>Install infrastructure for zero-emission trucks by 2040</strong></td>
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<tr>
<td><strong>Accelerate the turnover of the truck fleet to zero-emission trucks by 2050</strong></td>
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<tr>
<td><strong>Harbor vessels</strong></td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Support interim emission reductions and reduce impacts on communities</td>
</tr>
<tr>
<td>Continually advance vessel efficiency and turnover of old high-emitting vessels</td>
</tr>
<tr>
<td>Language updated to standardize and to enhance clarity</td>
</tr>
<tr>
<td>Install infrastructure for zero-emission tugs</td>
</tr>
<tr>
<td>By 2030, sufficient infrastructure is in place to enable adoption of zero-emission harbor vessels</td>
</tr>
<tr>
<td>Identified timeframe consistent with other sectors; specified “sufficient infrastructure” to focus objective on infrastructure capacity rather than all infrastructure</td>
</tr>
<tr>
<td>Accelerate the turnover of tugs to zero emissions</td>
</tr>
<tr>
<td>By 2050, zero-emission harbor vessels are adopted</td>
</tr>
<tr>
<td>Identified timeframe consistent with other sectors and vision</td>
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</table>
Consolidated “Conditions for Success” and clarified role of ports (Section 4)

DD2 identified “conditions for success” for each sector, which were critical conditions that need to be met to be successful in phasing out emissions from the sector. Engagement participants expressed the need for ports to play an active role in creating the conditions needed for success. The full draft Strategy acknowledges feedback to clarify the role of ports in achieving the strategy vision while also recognizing that collaboration with other entities is critical to success. Section 4 in the full draft Strategy discusses the role of port authorities and calls for collaboration across the port network. Section 4.2. includes a table of key challenges to address. This table is a new iteration of the conditions for success consolidated across all sectors and with clear identification of the role of port authorities and others in addressing each challenge.

Added “Collaborative Actions” (Section 4.3)

The matrix of each sector’s objectives in DD2 identified port actions and actions by others for each objective. The full draft Strategy rolled all the port actions into a high-level list of collaborative actions that all ports commit to (see Section 4.3). This change was made to reduce redundancy across the sector objectives. Specific actions that each port will take to implement the NWPCAS vision and objectives are identified in each port’s port-specific implementation matrix.

Established Reporting and Metrics Framework

DD2 solicited input on information and metrics that would be most valuable to report to interested groups. Feedback informed the creation of a collective annual reporting framework (Table 1). Engagement participants also expressed the importance of reporting on local outcomes and progress. As discussed in Section 6, ports will report annually on a set of joint metrics and will also report on status of their specific implementation actions.

This strategy also acknowledges previous goals that were not achieved from 2013 and carries forward relevant targets not yet met.

Development of Port-Specific Implementation Matrices

Ports heard feedback during Engagement Round 2 that the Strategy lacked specific information about what each port was going to do at the local level. This information gap is addressed with the development of port-specific implementation matrices, which identified draft actions that each port is proposing to implement in the next 10 years toward achieving the NWPCAS vision.