

NW Seaport Alliance Puget Sound  
Zero-Emission Truck Collaborative

# NW Seaport Alliance Puget Sound Zero-Emission Truck Collaborative

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Kick-off Meeting | June 30, 2023



# Meeting Objectives

- Introduce members of the Collaborative
- Understand project context, background, and objectives and proposed process for the Collaborative
- Discuss and affirm Roadmap principles and Collaborative purpose
- Discuss and affirm Collaborative charter and operating guidelines

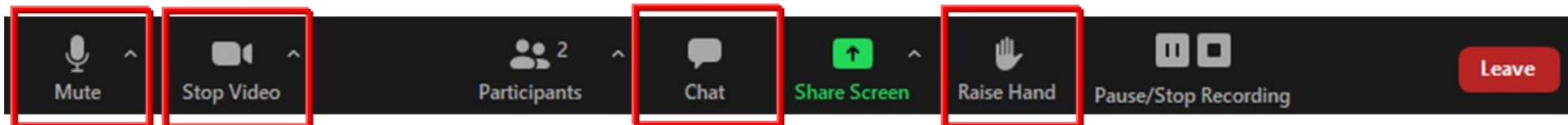
# Meeting Agenda



Noon – 12:10 PM	<b>Welcome and Meeting Overview</b>
12:10 – 1:00 PM	<b>Introductions and Impromptu Networking</b>
1:00 – 1:40 PM	<b>Project Background and Objectives</b>
1:40 – 1:50 PM	<i>Break</i>
1:50 – 2:20 PM	<b>Collaborative Charter and Operating Guidelines</b>
2:20 – 3:10 PM	<b>Project Context and Inputs</b>
3:10 – 3:20 PM	<b>Public Comment</b>
3:20 – 3:30 PM	<b>Wrap up and Adjourn</b>

# Participating Effectively via Zoom

- Collaborative members please show your video
- If you're using your telephone for audio, remember to enter your participant ID
- If needed, update your name and affiliation
- To reduce background noise, please mute yourself when you are not speaking
- During discussions, please let us know you'd like to jump in by "raising your hand"



# Public Participation

- Those observing the meeting will be muted, off video, and off chat until the public comment time
- There will be an opportunity for 2-minute public comments at the end of the meeting. At that time, members of the public who would like to comment should raise their hands if they would like time to speak

# Project Website

URL:  
<https://www.rossstrategic.net/Zero-Emission-Truck-Collaborative/>

PUGET SOUND

## Zero-Emission Truck Collaborative

[Meeting Schedule & Materials](#)

### About the Collaborative

The transition to zero-emission drayage vehicles serving ports in the Pacific Northwest is a key step to meet zero emission trucking targets adopted in the Northwest Ports Clean Air Strategy while also contributing to city and state decarbonization goals. The multi-stakeholder Puget Sound Zero-Emission Truck Collaborative to develop a roadmap for transitioning to zero-emission drayage services at the Puget Sound region marine cargo terminals no later than 2050. The Collaborative will meet approximately every other month for half-day meetings between June 2023 and December 2024. Most of these meetings will be virtual but some may be in-person meetings that will include site visits and/or listening sessions. This website will be updated with relevant materials for each of these meetings.

### Meeting Schedule and Materials

#### Meeting 1: June 30, 2023

The purpose of this first meeting is to introduce members of the Collaborative and create a shared understanding of project context, background, and objectives and proposed process for the Collaborative. Members will discuss and affirm Roadmap principles and Collaborative purpose, as well as the Collaborative charter and operating guidelines.

[Meeting Agenda](#) [Draft Charter](#) [Collaborative Members](#) [Collaborative and Roadmap Scoping Document](#)

*Meeting dates and materials will be posted for future meetings as available.*



# Introductions



# Go-Around

- Name
- Affiliation
- *Briefly, what related efforts on zero-emission drayage are you connected to?*



# Project Team



- **Tom Beierle**
- **Heather Christopher**
- **Bill Ross**



- **Dennis McLerran**



- **Natalie Graves**
- **Consuelo Davis**
- **Tyler Vasquez**



- **Erik Neandross**
- **Patrick Couch**

# Impromptu Networking



- Introduce yourself to a few other people here by sharing:
  1. Your name
  2. Your affiliation
  3. *What motivates you to join this effort?*
- Zoom will automatically move you into a breakout room with two other attendees for about six minutes

# Project Background and Objectives: Key Issue and Drivers



# The NWSA's Clean Air Strategy & Implementation Plan



Vision: Phase out all emissions from all seaport activities by 2050

5-year milestones related to zero-emission drayage:

- Regional ZE truck infrastructure needs assessment
- Truck trip and parking assessment
- Financial counseling support to truckers
- Regional ZE truck collaborative created
- At least 10 zero-emission trucks demonstrated



# Progress-to-Date

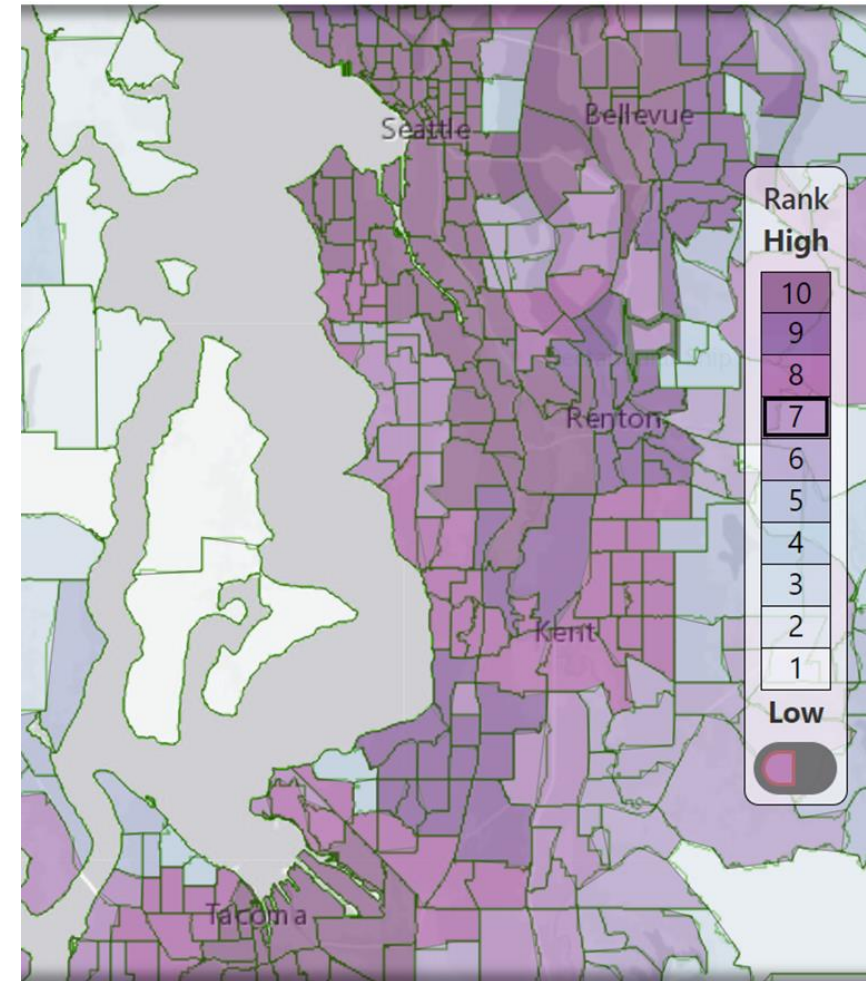


2021-2025 Milestone	Status
Drayage truck trip and parking assessment	<ul style="list-style-type: none"><li>• Gathering existing data and analysis</li><li>• Planning for significant additional data-gathering and analysis as major early input into development by Collaborative of Decarbonizing Drayage Roadmap</li></ul>
Regional ZE truck infrastructure needs assessment	
Financial counseling support to truckers	<ul style="list-style-type: none"><li>• Delayed to sync with Collaborative; program design to be guided by Collaborative and associated trucker engagement</li></ul>
Regional ZE truck collaborative created	<ul style="list-style-type: none"><li>• Launching today!</li></ul>
At least 10 zero-emission trucks demonstrated	<ul style="list-style-type: none"><li>• NWSA has secured state and federal funding to incentivize deployment of approximately 20-30 trucks; is actively pursuing additional funding</li><li>• Other demonstration projects are under development as well (e.g., City of Seattle)</li><li>• Significant funding in state's 2023-2024 budget for demonstration projects and ZE MHDV purchases</li></ul>



# Why reducing emissions from drayage trucks is a priority – for the NWSA, the region, and the state

- 4,000 – 4,500 trucks
- About 27% of the NWSA's greenhouse gases
- About 8% of the NWSA's diesel particulate matter
- Emissions occur in many “overburdened communities”



Environmental Health Disparities Map (WA Department of Health)



# Transitioning to zero-emission trucks: opportunities & challenges



## Opportunities

- NWSA's Clean Truck Program is mature and has proven success
- Increased focus on ZE trucking by policy-makers, truck manufacturers, retailers, etc.
- Increasing state and federal funding (IIJA/Clean H2Hubs, IRA, CFS, CCA, etc.)
- Many lessons learned from demonstration projects in CA

## Challenges

- ZE trucks not yet readily available, affordable, familiar to local truckers
- No charging/fueling infrastructure
- High percentage of "fleet" is independent owner/operators and/or very small trucking companies
- Transition will be expensive; state and federal funding just becoming available
- Existing efforts highly fragmented

# Collaboration is THE key to success



**Complexity of the challenge +**

**Big gap between status quo and desired future +**

**NWSA's limited control =**

*Need for a collaborative roadmap guided by data and input from key stakeholders: truck manufacturers; trucking companies; retailers; warehouse users; utilities/fuel-providers; ports, Tribes, and other key governments; near-port communities; NGOs*

# Project Background and Objectives: Roadmap Principles

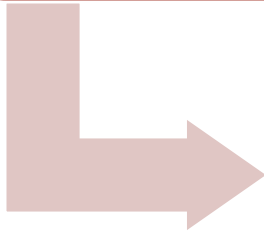


# How did we get here?



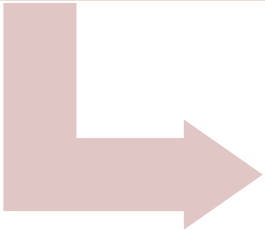
**Scoping Report**  
*November 2022*

- Key Issues and Drivers
- Potential Solutions
- Recommendations for Roadmap, Collaborative, and Pilot Project



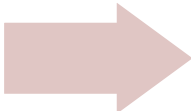
**Convening Group**  
*Dec 2022 - March 2023*

- Draft Roadmap Principles
- Collaborative Purpose and Design
- Collaborative Membership Sectors and Organizations



**Zero-Emission Collaborative**

We are here



*Decarbonizing Drayage Roadmap to 2050*

# Roadmap Purpose

- Bridge current state and future vision with carefully crafted, long-term strategy rooted in the best available data, multistakeholder collaboration, and lessons from pilot projects and related efforts throughout the country
- Develop clear, actionable items to support a successful transition that will meet the needs of industry , communities and all involved in this process:
  - Improve zero-emission truck availability and affordability in the Puget Sound region
  - Develop a robust network of accessible and timely charging and fueling stations
  - Support the drayage trucking community – from trucking fleet operators and independent owner/operators to repair and maintenance technicians and shops – with technical and financial assistance
  - Provide sufficient funding and financing for this work
- Developed in parallel with demonstration and pilot projects that are taking shape in the region now

# Roadmap Principles

- Emphasize voluntary, non-regulatory, and partnership-based solutions
- Achieve emissions reductions at the scale and pace needed to meet port, local, and state decarbonization goals while also ensuring the continued economic vitality of the Northwest ports gateway and region.
- Embrace multiple technology pathways, including electricity, hydrogen, and retrofits.
- Facilitate a just and equitable transition to zero-emission trucking, with an emphasis on solutions that make zero-emission trucks affordable and available for a range of operators, large and small.
- Assess the potential role of secondary vehicle markets to provide an affordable option for used trucks and bolster the business case for new vehicles by enhancing their resale value.
- Explore promising alternative business models such as ‘trucking as a service’ or other alternative financing and service approaches to accelerate and support a successful zero emission transition.



# Roadmap Principles, continued

- Identify and provide collaboration and support for development of necessary infrastructure by utilities, charging providers and sales and servicing entities will be necessary.
- Data-driven and use a learning-by-doing process, informed by regional pilots and related efforts.
- Retain a regional/state-wide perspective, recognizing that ports can be catalysts for accelerating a broader transition to zero-emission medium and heavy-duty transportation in other sectors.

# Roadmap Development

- Stakeholder-driven process based on collective action and mutual interest.
- Informed by consultation with near-port communities experiencing environmental health disparities and small, lower income trucking companies and independent owner/operators.
- Draw on input from truck manufacturers, trucking associations, trucking companies, and truckers who will use these vehicles and whose patterns of use will inform issues like the most appropriate locations and processes for zero-emission charging/fueling infrastructure.

# Potential Outline of Decarbonizing Drayage Roadmap



- Introduction and Context
- Zero-emission Truck Availability, Affordability, and Support
- Zero-emission Truck Charging and Fueling Infrastructure
- Supporting the Trucking Industry through the Transition
- Ensuring a Just and Equitable Transition
- Funding and Financing the Transition
- Management and Accountability

# Project Background and Objectives: Collaborative Purpose and Process



# Collaborative Purpose



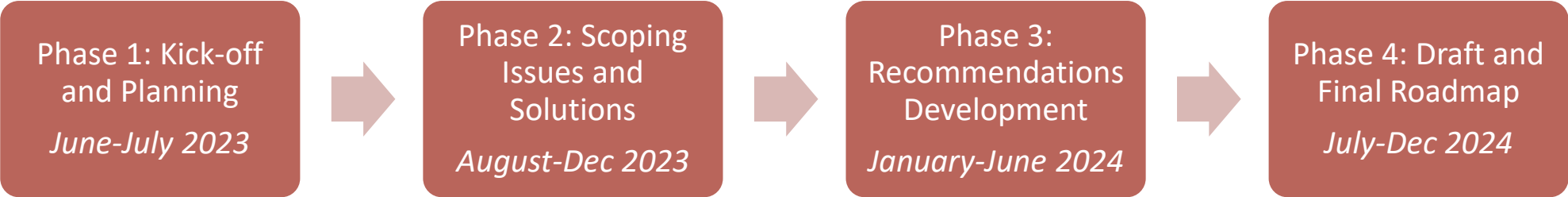
- Develop and build support for the Roadmap as a strategy for decarbonizing drayage
- Identify actionable strategies for overcoming key market, logistical and other barriers and contribute to their implementation
- Stimulate and draw lessons from zero emission drayage pilots and other activities from the vantage point of the sectoral interests that members represent
- Provide insights into related regional efforts, opportunities for alignment, and lessons learned
- Provide a platform for broader communication and stakeholder engagement about adoption of zero-emission trucks to build visibility and support in the region
- Assist in attracting state, federal, and private sector funding and investment to allow large-scale markets for zero-emission trucks to develop

# Collaborative Process

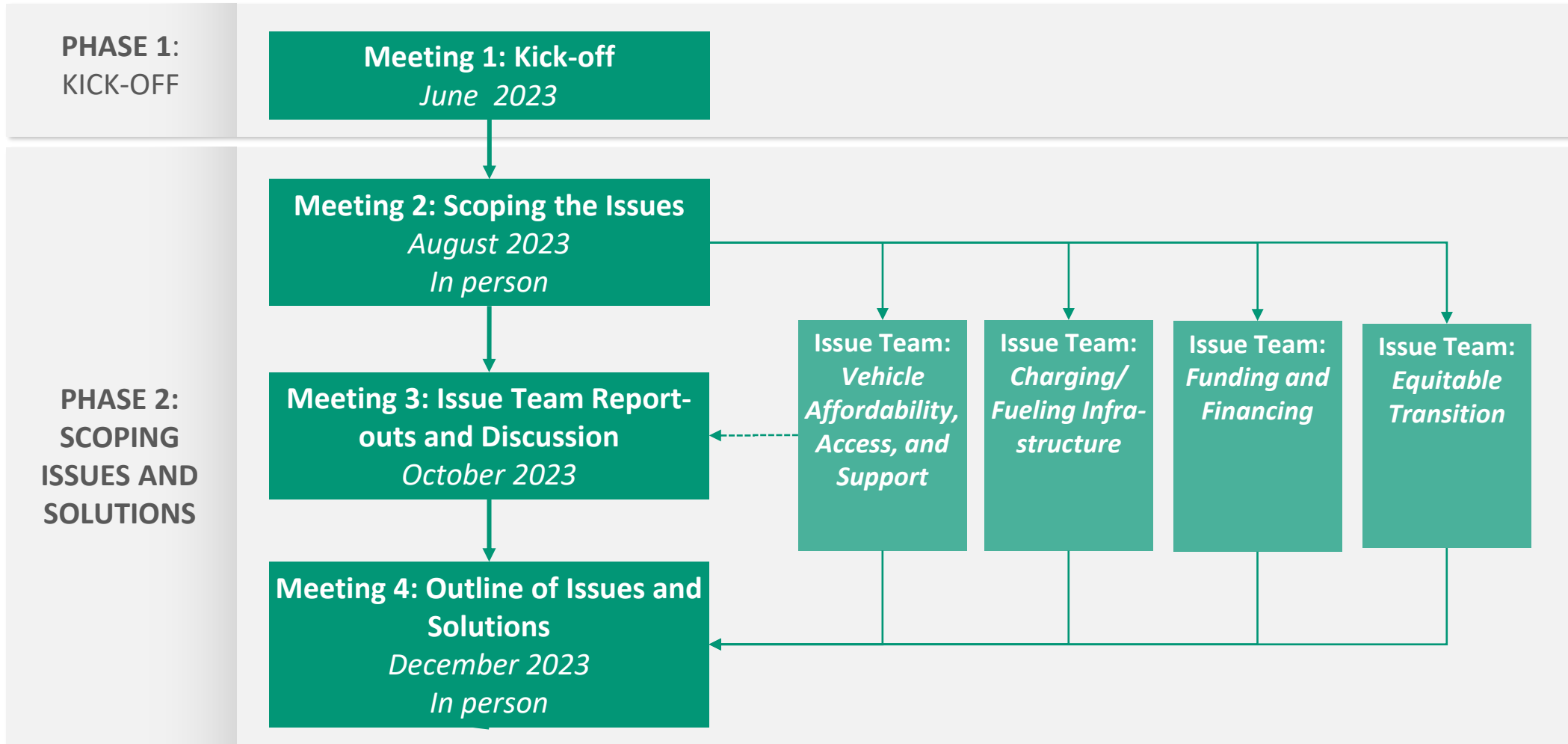
- 25-30 members representing a broad set of stakeholders
- Approve its own charter and operating guidelines
- Establish its own milestones and duration
- Meet approximately every other month for half-day meetings between June 2023 and December 2024 (virtual and in-person) plus sub-group meetings
- May continue to work on implementing the Roadmap beyond 2024
- Supported by a “backbone organization” to coordinate Collaborative activities and Roadmap development, support community and driver engagement, and provide technical input on zero emission drayage and related policy



# Proposed Phases of Work



# Proposed 2023 Meetings



# What is it important to get right in this transition?

Activities

Visual settings Edit

When poll is active, respond at [PollEv.com/idealtruck938](https://PollEv.com/idealtruck938)

**What is it important to get right in this transition?**

No responses received yet. They will appear here...

Powered by **Poll Everywhere**

- Use a tilde symbol ~ to keep two words together in the cloud

# Break



# Collaborative Charter and Operating Guidelines



# Expectations of Collaborative Members



Individually, collaborative members should be:

- Committed to the success of the project and the goal of decarbonizing drayage at regional ports
- Committed to working together to advance collaborative solutions
- Positioned to act as sounding boards for, and liaisons to, the sectors they represent
- Knowledgeable about key barriers and potential solutions
- In a position to build visibility and support for this work in the region



# Expectations of Collaborative Members, continued



Collectively, the membership of the Collaborative should:

- Be connected to other regional efforts and positioned to learn from and make connections to related efforts
- Reflect the diversity of stakeholders and able to generate solutions that are equitable for drivers and communities that are underserved
- Be in a position to attract state, federal, and private sector funding and investments to help enable markets, infrastructure, and incentives to develop

# Collaborative Operating Guidelines

- Collaborative discussions will aim towards convergence of views, but unanimity or other forms of consensus among Collaborative members will not be required. Where necessary, written products will articulate the breadth of members' views.
- The Collaborative may add members based on a  $\frac{3}{4}$  vote in favor. Members may choose to replace themselves without a vote.
- Where necessary, members may designate an alternate who will participate on behalf of the member in their absence. Facilitators must be notified in advance of meetings if an alternate will be used. If members are present, alternates may observe the meeting and participate in the public comment period.
- Collaborative members representing community-based organizations are eligible for stipend compensation to recognize their community-informed contributions and time; members can confidentially communicate a stipend request to facilitators.
- Virtual and in-person meetings are open to observation by members of the public, and each meeting will include public comment time. Meetings will be announced on a public website, which will also archive meeting materials.

# Collaborative Operating Guidelines, continued



- To support candid and fluid dialogue during Collaborative discussions, individual member observations are presumed to represent their personal, not organizational, perspectives.
- Members are encouraged to reach out to constituencies whose interests they represent and, as appropriate, to other interested and impacted parties to communicate about the work of the Collaborative and gather input and ideas for the effort.
- Members are encouraged to frame observations in terms of needs and interests, not in terms of positions. Opportunities for finding solutions increase dramatically when discussion focuses on needs and interests.
- Recognizing that public characterizations of Advisory Committee deliberations could affect the committee's collegiality, Advisory Committee members are specifically requested to refrain from characterizing the views of other Advisory Committee members in any public statements they may make.

# Facilitation Support

- The backbone organization will provide neutral, third-party facilitation focused on fostering successful collaboration; facilitators will have no content-based stake in the outcome.
- Facilitators will notify members of meeting details and distribute materials by email in advance of meetings and will provide summaries via email following meetings.
- Summaries of each meeting will include general descriptions of discussions. Individual perspectives and differences of opinion will not be attributed to individuals or organizations.
- Facilitators will work with the Collaborative, sub-groups, and members to create an atmosphere conducive to successful coordination. Facilitators will manage any meeting disruptions, as needed.

# Project Context and Inputs: Policy and Investment Landscape



# Key Opportunities

- Truck manufacturers are producing an array of zero emission products – operation and maintenance costs should be lower than for diesel trucks
- Shipping industry partners are setting ambitious climate goals for their supply chain operations – examples are Amazon, Walmart and Ikea
- Fleet operators like Penske and NFI and logistics/warehousing companies such as Prologis are increasingly focused on decarbonization
- Transportation is the largest GHG source in Washington and the West Coast
- Air quality and public health benefits in disproportionately impacted communities are significant



## Key Opportunities (cont.)



- Washington State has adopted the Clean Fuel Standard, the Climate Commitment Act, and Move Ahead Washington - these create credit generation and new funding opportunities
- New Federal funding sources include the Infrastructure and Jobs Investment Act and the Inflation Reduction Act – billions available
- Lessons learned from California are very helpful
- We have many potential partners interested in making progress on this and NWSA wants to help catalyze that
- This is an opportunity to make the transition to zero emission trucking more successful for all involved

# Key Challenges

- Upfront capital costs for zero emission trucks are very high and require subsidies
- There is no charging or hydrogen refueling infrastructure currently in place and will require subsidies until more users need these services
- Locating public charging facilities requires land, capital and trucker and community support
- Local utilities will need to be partners and will need to invest in pre-planning to avoid infrastructure delays
- There are equity considerations for current drayage operators including how to avoid adverse tax or other consequences in a transition
- The regulatory environment is rapidly changing (e.g., adoption of the Advance Clean Trucks rule)
- We have a lot of learning to do locally and this group can jump start that

# Project Context and Inputs: Driver and Near-Port Community Engagement

Presenters:

Natalie Graves, Consuelo Davis, Tyler Vasquez  
Stepherson & Associates Communications



# Engagement Goals



- Understand barriers and challenges for drayage truck communities to make the switch to zero emissions
  - Work to build understanding and trust/credibility/confidence of both the zero emission technologies and the drayage roadmap
  - Generate excitement around the positive project outcomes, both with truckers and near-port communities
- Provide easy-to-access, in-language outreach and communications
  - Provide a feedback loop so that the Collaborative hears the needs and priorities from community and drivers, its incorporated into the roadmap, and outcomes are reported back to community and drivers

# Suggested Engagement Tools



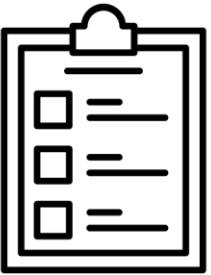
Postcard/flyer (translated)



Small group listening session(s)



Virtual presentations



In-person and online driver survey



Email listservs, social media and earned media



Industry events or meetings

# Collaborative Integration

- **Mid-2023:** Build draft engagement plan
- **Late summer 2023:** (Meeting 2) Present draft engagement plan and messaging
- **Fall 2023:** Conduct driver and near-port engagement on issues and solutions
- **Late 2023:** Report back to Collaborative for integration
- **Fall 2024:** Present draft roadmap to drivers and near-port communities and conduct engagement
- **Fall 2024:** Report back to Collaborative for integration into final roadmap





# Project Context and Inputs: Experience from Other Regions



# Experience from Other Regions

# Clean Truck Programs

- **Clean Trucks Programs at Ports**

- Los Angeles/Long Beach
- Oakland
- New York/New Jersey
- San Diego
- Houston

- **Grants/Incentives**

- Scrappage required (Moyer, TERP, DERA, VW, Prop 1B)
- Voucher-type (HVIP, NYVIP)
- Demonstration/Deployment (CEC, CMAQ, DOE, Air Districts)

# Project examples





# DTNA's Innovation Fleet





# Volvo LIGHTS





# 100 Class 8 Battery Electric Trucks + 2 Large Scale EV Charging Stations



# Top Lesson from 30 Years of Experience

**Deployment of zero-emission vehicles in the heavy-duty market is paced by regulations and incentives**

# Clean Trucks Programs

## Common Issues

- Age of trucks
  - **Emissions/AQ/Community impacts**
- Financial resources of fleets
  - **Usually the least able to afford new trucks/infrastructure**
  - **Financing costs are high**
  - **TCO is secondary to immediate cash flow**
- Non-dedicated drayage
  - **Variable duty cycle impacts fit of ZE technology**
- Regulatory Awareness
  - **Limited engagement in regulatory process**
  - **“Just in time” compliance**

# Grants and Incentives

## Common Issues

- Limited funding
- Difficult/complex to access
- Often come with tax implications
- May contain infeasible procurement requirements
- Match share requirements
- Scrappage requirements
- Alignment of deployment timelines with infrastructure availability
- Long term compliance/reporting obligations

# Key Strategies

- **Grants/Incentives are critical**
  - Minimize upfront capital outlays
  - RD&D projects should focus on capable partners
  - Programs need to provide flexibility for technology/infrastructure delays
  - Tailor outreach and engagement to the local community and fleet operators
- **Technology Fit promotes success**
  - Target deployments of technologies where they very comfortably fit the application.
  - Stretching technology to fit an application leads to failures.



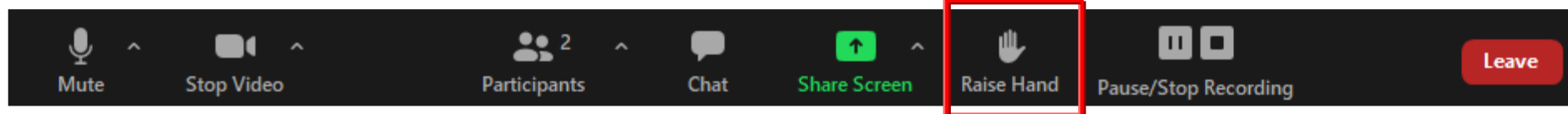
# Public Comment





# Instructions for Public Comment

- Members of the public that are interested in making 2-minute statements are invited to do so
- Please use Zoom to raise your hand if you would like to make a statement, and you will be unmuted
- Please introduce yourself
- To the extent possible, please frame remarks as comments rather than questions



# Next Steps

- Meeting summary
- Meeting slides and materials on website
- August meeting scheduling—August 15 (Tues), 18 (Friday) or 21 (Monday)