Puget Sound Passenger-Only Ferry Study
Washington State Transportation Commission: February 16, 2021
Agenda for Today’s Presentation

1. Background

2. Overall Study Findings
   • Overall POF Feasibility
   • Electrification
   • Engagement

3. Route Profiles and Findings
   • Review of Route Analysis Approach
   • Route Profile Assumptions
   • Route Profile Example – Tacoma - Seattle

4. Next Steps in Implementation
Overview of Project Scope:

- 12-County Puget Sound Region, including Lake Washington and Lake Union
- Analyze potential new passenger-only routes:
  - Terminal locations and capacity
  - Passenger demand/ridership
  - Capital and operating elements
- Assess environmental aspects of POF service
- Conduct early, inclusive, and continuous outreach
Background: Puget Sound POF Study Schedule

<table>
<thead>
<tr>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<tbody>
<tr>
<td>Existing Conditions &amp; Criteria Identification</td>
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<tr>
<td>Terminal/Route Identification</td>
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<tr>
<td>Stepped Evaluation</td>
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<td>Route Profile Development</td>
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<td>Draft/Final Study</td>
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<td>Due to Legislature</td>
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<tr>
<td>Stakeholder Engagement</td>
<td>Survey</td>
<td>Agency Route Profile Review</td>
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<td>RTPO Meeting</td>
<td>RTPO Meetings</td>
<td>Public Webinar</td>
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<td></td>
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<td>RTPO Meeting</td>
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<td>Public Webinar</td>
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Importance of time-competitive travel
  - Regardless of route type

Route characteristics are specific to the route.
  - Vessel speed, confined waterways, currents, wind action, multimodal connections

POF service operates in a unique marine environment.
  - Tribal treaty rights
  - Sensitive habitat and marine mammal protection

POF improves transportation resiliency.
  - System redundancy
  - Emergency response
Electrification Findings

Electrification potential for most routes is generally low with current technology.

Low and zero emissions technologies are rapidly evolving.

- Hydro foils
- Hydrogen power
- Battery advancements

Regional efforts can be taken to advance electrification.

- Standardization of terminal infrastructure
- Standardization of vessel charging systems
- Harmonization of utility rates for mass transportation
Engagement Findings

There is generally public interest and enthusiasm for POF service.
- Positive feedback on potential time savings, route directness, additional modal options, and resiliency.
- Reactions vary by community with a range from strong community support on one end of spectrum, to seeing it as incompatible with community vision/uses on waterfront on the other end of spectrum.

Induce demand that could serve multiple purposes, including economic development, tourism.

Each potential route is unique and requires community engagement to implement.
- Concerns relating to specific terminal locations, modal connections, and parking.
**Stepped Analysis Approach**

**Step 1**
- Confined waterways
- Land use compatibility

45 Routes

**Step 2**
- Travel time savings
- Community interest

36 Routes

**Step 3**
- Travel time savings **
- Commute ridership potential *
- Discretionary trip opportunities *
- Modal connections *
- Community interest
- Resiliency contribution
- Operational considerations

18 Routes

Further Analysis
- Route profiles

7 Routes

** Indicates study-wide priority
* Indicates regional priority
Route Profiles

Tacoma – Seattle

Bellingham – Friday Harbor

Whidbey – Everett

Lake Washington/Lake Union Routes
- Kenmore – UW
- Kirkland – UW
- Renton – UW
- Renton – South Lake Union
Route Profiles

**Key Assumptions**

- For commute service levels
  - 3 round trips per each peak commute period
- Slowdown zones and maneuvering time included in travel times.
- Ridership estimates are based on 2018 as a base year.
  - Induced demand potential, beyond that already assumed
  - Profiles include startup service.
- Point-to-point service was profiled.
  - No interim stops assumed
Tacoma – Seattle

OPERATING PROFILE
- Commute service
- Hourly departures (3 AM peak & 3 PM peak)
- Top service speed of 35 knots
- Foss Waterway slowdown (4.3 knots)
- Commencement Bay slowdown (12 knots)

FLEET
Fleet: 3 vessels
2 service vessels
1 back-up vessel

Maximum Passengers per Vessel: between 150 and 250

APPROXIMATE TRAVEL TIMES
<table>
<thead>
<tr>
<th></th>
<th>Bus</th>
<th>Sounder</th>
<th>POF</th>
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</thead>
<tbody>
<tr>
<td>11th Street Dock - 11th Street Dock</td>
<td>70 minutes</td>
<td>60 minutes</td>
<td>55 minutes</td>
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<tr>
<td>Downtown Seattle Waterfront</td>
<td></td>
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Time Saved: 5 to 15 minutes

POF travel time is from dock to dock and include maneuvering time and slowdown zones. Transit times are from transit stop to transit stop.
Tacoma – Seattle

**TACOMA 11TH STREET DOCK**
- Overwater improvements, ticketing, & signage
- Federal, state, & local approvals

**SEATTLE WATERFRONT**
- Capacity constraints
- Varying levels of infrastructure investment

*Not all piers were evaluated for docking options.*
Tacoma – Seattle

RIDERSHIP

<table>
<thead>
<tr>
<th>Estimated Ridership</th>
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<tr>
<td>Estimated Daily Riders</td>
<td>290</td>
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<tr>
<td>Projected Annual Ridership</td>
<td>73,300</td>
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COST SUMMARY

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<tr>
<th>Annual Operating Costs (in thousands)</th>
<th>$4,280</th>
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<tr>
<td>Operating Labor</td>
<td>$1,160</td>
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<tr>
<td>Energy / Fuel</td>
<td>$800</td>
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<tr>
<td>Maintenance (Labor, Materials, &amp; Contracts)</td>
<td>$1,065</td>
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<tr>
<td>Insurance &amp; Other</td>
<td>$545</td>
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<tr>
<td>Management, Support, &amp; Overhead</td>
<td>$710</td>
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ENVIRONMENTAL

- Environmental permitting
- Habitat evaluation
- Wake impact mitigation
- Electrification potential

RESILENCY

- Alternative to I-5 corridor
- System redundancy
Tacoma – Seattle

COMMUNITY OUTREACH
- Tacoma community connections
- Ruston option
- Seattle landings
- Competing modes

HURDLES
- POF landing capacity limitations in Seattle
- Low potential for electrification with current technology
- Increased capital costs of fleet size

OPPORTUNITIES
+ High community interest
+ Previous feasibility study
+ Kitsap Transit’s Seattle Terminal Siting Study
+ City of Des Moines Study

48%
39%
8%
5%
Next Steps for POF Implementation

Local

- Incorporate the route and associated facilities into regional transportation plan(s): local comprehensive plan(s) and other appropriate implementer plans (transit agency, port, etc.).
- Develop a business and implementation plan.

State

- The State can continue to support policy work and explore funding provisions to ensure local jurisdictions have the tools they need to support implementation.

Federal

- Investigate funding opportunities.
Questions and For More Information

To review the final report, please visit:

https://www.psrc.org/passenger-ferry-study

Questions?

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Thank you.

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