Washington State Ferries
2040 Long Range Plan

Technical and Policy Advisory Group

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Agenda

• Welcome and introductions
• Community engagement update
• Present key plan elements
• Lunch break
• Update on work to date for additional plan elements
• Small group discussions
  – Route-by-route service scenarios
  – Vessel maintenance and replacement
• Small group report out
• Next steps
Community engagement update

- 9 in-person open houses
- Online open house live from April 10- May 24

WSFlongrangeplan.com
Getting the word out

- 68 posters displayed at terminals and aboard ferries
- 2,150 project website views
- 44 tweets, 122,115 total impressions
- 28 emails sent to 35,350 people
- 1 press release sent to statewide media
- 22 news articles
Community engagement

9 open houses
6 floating open houses

2,100 participants
300 open house attendees
1,800 online open house participants

325 total comments
250 survey responses
What we’ve heard

Key themes:

• Reliability
  – Prioritize building new ferries and invest in maintenance so ferries don’t break down as often
  – Provide reliable service (no matter what)
  – Seek stable funding

• Plan for growth
  – Increase ferry service and add routes
  – Evaluate strategies such as vehicle reservations and adjusting schedules
  – Build more ferries and improve terminals
  – Questions about growth
What we’ve heard

Key themes continued:

• Accessibility and multimodal connections
  – Ensure accessibility for all users
  – Improve connections to transit
  – Better walking, biking, parking, and carpooling amenities

• Technology and customer experience
  – Improve ticket technology and wi-fi

• Sustainability and resiliency
  – Reduce carbon-emissions
  – Prepare for climate change and emergencies
Timeline

2017
- Kickoff stakeholder advisory groups
- Provide background information

2018
- January
  - Review work plan
  - Review ridership forecast data
  - Learn about the WSF budget
- March
  - Review plan elements
- May
  - Review plan elements
  - Public Meetings*

June
- Executive Advisory Group
  - Legislative progress report
  - Draft plan elements

July/August
- Technical Advisory Group
  - Draft plan elements
  - Public Meetings*

September
- Technical Advisory Group
  - Public 45-day comment period
  - Public Meetings*

Fall / Winter
- Technical Advisory Group
  - Finalize plan
  - Deliver final plan by Jan. 1

*Rounds of public meetings in ferry served communities and online open house.
Key findings and preliminary recommendations

• Technology
  – Assessment
  – Preliminary recommendations
• Vessel maintenance and replacement
  – Assessment
  – Preliminary recommendations
• Level of service
  • Current standards
  • Preliminary recommendations
Technology assessment: gap analysis

Gap analysis findings

- Need for integrated systems
- Ability to manage and analyze data is limited
- Customer information is incomplete
- Reliance on manual processes
- Electronic fare system needs upgrading
- Need for accurate and reliable passenger counting
- Communications infrastructure needs updating
- Managing specialized assets is challenging
- Landside infrastructure outside of WSF purview
- Opportunities to convert vessels to hybrid/electric
Technology assessment: priorities

Key priorities

Reliability
• Provide seamless and predictable customer planning, booking, ticketing, and traveling
• Support customers before and during travel with targeted, useful, and accurate trip information and alerts
• Improve data and technologies that enhance safety and security

Efficiency
• Use technology to load ferries more efficiently and spread demand across peak periods
• Improve operational efficiency with better data capture, management, and analytics
• Efficiently manage and apply technology investments and resources

Sustainability
• Plan strategically to upgrade and replace legacy systems
• Use technologies to improve WSF’s environmental footprint
# Technology assessment: recommendations

## Preliminary recommendations to WSF

<table>
<thead>
<tr>
<th>Near term (0-5 years)</th>
<th>Mid term (5-10 years)</th>
<th>Long term</th>
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<tbody>
<tr>
<td>• Upgrade ticketing and reservations</td>
<td>• Update vessel communication system</td>
<td>• Provide real time parking information</td>
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<tr>
<td>• Improve terminal queue detection and wait times</td>
<td>• Implement automatic passenger counting</td>
<td>• Provide real-time vessel monitoring system*</td>
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<tr>
<td>• Refresh website</td>
<td>• Improve terminal wayfinding and real time passenger information</td>
<td>• Implement automatic passenger counting-vehicles**</td>
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<tr>
<td>• Improve customer alerts</td>
<td>• Upgrade common schedule database</td>
<td>• Detect vehicle length automatically**</td>
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<td>• Convert vessels to hybrid/electric</td>
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<tr>
<td>• Vessel, terminal, and IT asset management system</td>
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<td>• Vessel automation systems**</td>
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* Indicates that this investment ranges in priority (e.g. moderate to high)
Vessel maintenance and replacement assessment

State of the fleet

- Lack of funding
- Prioritizing maintaining service over maintenance
- Lack of relief vessels to perform required maintenance
- Aging fleet
- High utilization
Vessel age compared to other systems’ vessel retirement age

![Bar chart showing vessel age comparisons between different systems and regions.](chart.png)
Vessel maintenance and replacement assessment

Key constraints:
• Shipyard availability
• Lack of reserve fleet
• Dedicated funding for vessel replacement program
Current vessel retirement schedule

WSF’s current plans assume ferry vessels will last for 60 years. Between now and 2040, 13 vessels will be at or near the end of their planned lifespan.

*Hyak did not have a mid-life refurbishment. It is scheduled to be retired in 2019.
Vessel maintenance and replacement assessment

Preliminary recommendations to WSF to stabilize the fleet:

- Build new Olympic Class vessel(s) immediately, in service by 2022/2023
- Build new ferries with hybrid and electric power and retrofit Jumbo Mark II Class
- Implement comprehensive, large-scale construction program that maximizes efficiency and builds vessels in sequence
- Replace Issaquah Class ahead of Jumbo Class

Policy review:

- Vessel service lifespan
- Contracting restrictions on shipyard contracts to streamline building process
- Public education and outreach campaign on the state of the ferry system and its importance to economy
Q&A
Current level of service standards

Collect vehicle ridership forecasts by route for January, May and August

Is vehicle capacity full on 25-35 percent of sailings in these months?

Potential strategies to accommodate growth

- Reservations
- Technology
- Incentives
- Adjusting ferry schedules

Tier 1

Is vehicle capacity full on 50-85 percent of sailings in these months?

Add vehicle capacity
- larger vessels
- additional sailings

Tier 2
Level of service recommendations

Preliminary recommended changes to LOS standards:

• Revise vehicle criteria:
  – On routes with reservations, measure space available for reservations instead of total vessel capacity

• Add passenger criteria:
  – Accommodate all walk-on passengers
  – LOS for bicycles?
  – Two tier approach
    • Level 1: Use vessel indoor seated capacity (could differ by route depending on length of crossing)
    • Level 2: Use total passenger capacity
Route-by-route service levels

North Puget Sound routes:
Heavier vehicle congestion

South Puget Sound routes:
Heavier passenger congestion, some vehicle congestion
Q&A
Lunch break
Existing performance metrics

Financial
- Annual operating cost
- Overtime hours
- Fuel consumption

Asset Management
- Average time vessels out of service

Operations
- Passenger and crew injuries
- Customer satisfaction
- On-time performance
- Service reliability

Capital Project Delivery
- Percent of terminal projects completed on time and within budget
- Percent of vessel contracts completed on time and within budget
- Preliminary engineering costs (% of capital cost)
Performance metrics recommendations

Preliminary recommendations to WSF:

• Revise existing metrics:
  – Vessel maintenance (out of service time)
  – Late departures (on-time performance)

• Add new metrics:
  – Vessel reliability
  – Queue length, peak period wait times
  – Dwell time by route
  – Greenhouse gas emissions
Seismic assessment and emergency preparedness

Preliminary recommendations to WSF:

Seismic assessment

• Identify and prioritize seismic upgrades
• Incorporate into asset management program
• Seek opportunities and clarity around funding requirements

Emergency preparedness

• Establish priority routes for repair (underway)
• Identify funding sources related to emergency preparedness
• Identify alternative landing sites
• Fuel supplier emergency access plan
• Increase number of spare vessels
• “Side-loading” engineering analysis
• Emergency staffing and communication planning
Sustainability

Preliminary recommendations to WSF:

• Executive orders
  – Begin transition to zero-carbon emission fleet
  – Quiet ferries to reduce impact to Orca whales

• Terminals and facilities
  – Reduce idle time for queued vehicles
  – Improve facilities’ energy efficiency

• Vessels
  – Reduce fuel consumption and electrify fleet
Review of local and regional plans

WSF reviewed local plans to assess how areas around terminals are likely to change. We asked three questions:

1. Do local plans support ferry service and the facilities needed?
2. Will development increase congestion and create operational challenges?
3. Are transit and non-motorized connections adequate to support a shift to non-single occupancy vehicle modes?
Review of local and regional plans: key findings

Policies in local plans:
• Policies in local plans are generally supportive of inter-modal connections.
• Terminals are in constrained locations where improvements may be difficult.

Impacts from expected development:
• Rapid growth is causing increased congestion across the region.
• Access to some terminals will become more difficult.

Transit and non-motorized connections:
• Strong transit connections at Colman Dock, Edmonds, Mukilteo, Clinton, Bainbridge and Bremerton, less frequent service at other terminals.
• Non-motorized connections vary greatly, plans include an expanded network.
Small group discussions

Session 1
• Group 1: Route-by-route service scenarios
• Group 2: Vessel maintenance and replacement

Session 2
• Group 1: Vessel maintenance and replacement
• Group 2: Route-by-route service scenarios
Look ahead

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- Policy Advisory Group
- Executive Advisory Group

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Public Information and Outreach

*Public Meetings*

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