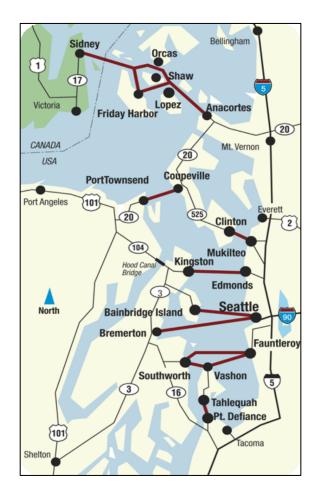




WASHINGTON STATE FERRIES Electrification Program

SE Alaska Conference Matt Von Ruden, Program Administrator Thursday, Feb. 2, 2023





Our Ferry System

Largest ferry system in the United States



21 auto-passenger ferries



10 routes serving 20 terminals



23.9 million riders in 2019



10.5 million vehicles in 2019



450 sailings per day



1,800 employees



Launch of WSF Electrification Program



RCW 70A.45.050 – Greenhouse gas emission limits for state agencies (2020)

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Governor Inslee's Executive Orders 2018-01 and 2020-01





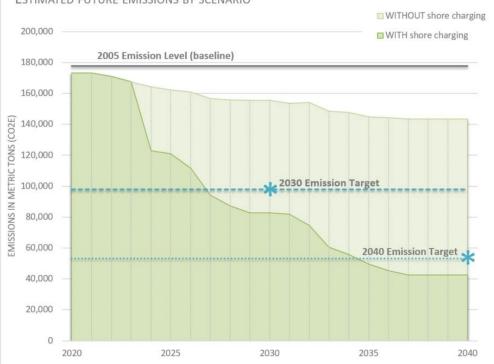
Meeting Emission ReductionRegulationsEstimated FUTURE EMISSIONS BY SCENARIO

Two scenarios evaluated:

With Shore Charging

 CO_2e reductions: 53% by 2030 76% by 2040 Meets requirements of RCW 70A.45.050.

Without Shore Charging CO₂e reductions: 20% by 2040 Not compliant with RCW 70A.45.050.





Program Elements

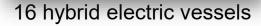
Vessel improvements

Terminal improvements



Rapid charging system (in development)

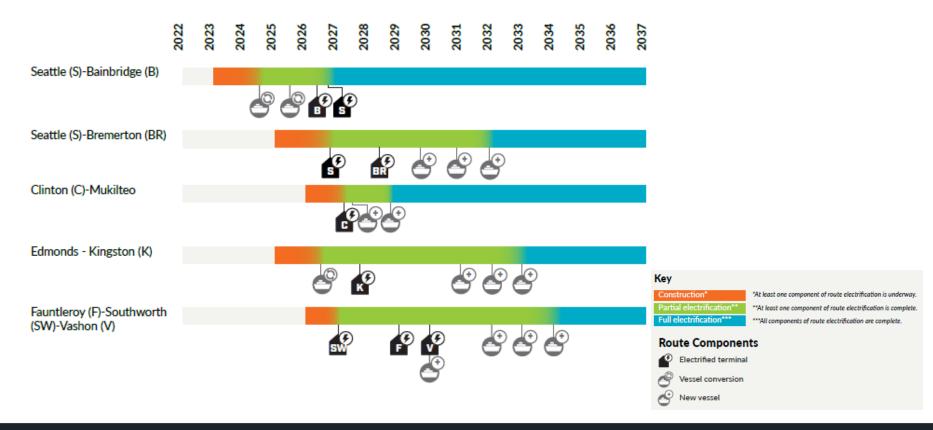
6 existing vessel conversions



OF REAL PROPERTY.



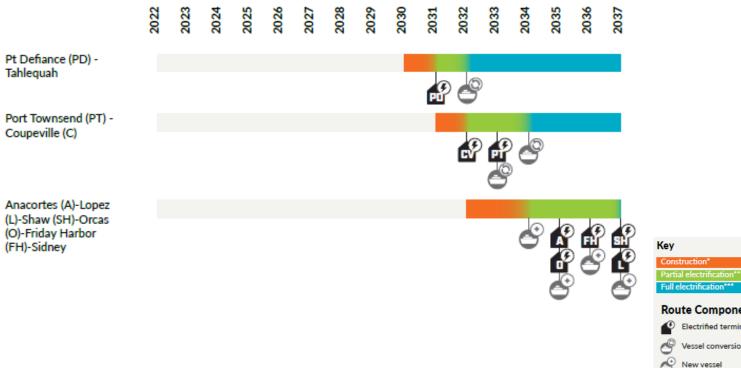
Implementation Schedule*



*Updated as of July 2022. All dates are subject to change and are dependent upon additional funding.

WSDOT

Implementation Schedule*



"At least one component of route electrification is underway *At least one component of route electrification is complete. ***All components of route electrification are complete.

Route Components



Jumbo Mark II Conversions

Reduce total WSF fuel consumption by 26% (5 million gallons/yr)



Comparable reduction in particulates



Reduced maintenance costs

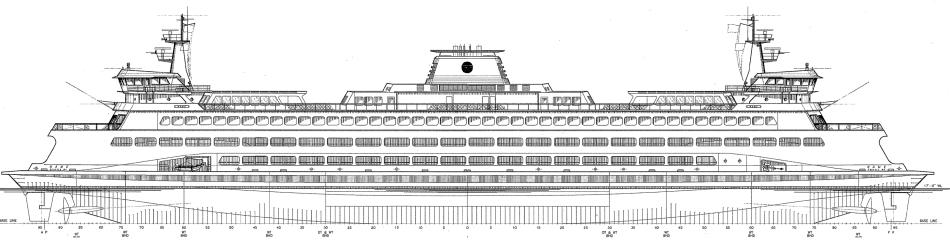


Lifecycle cost savings of \$60 million for the 3 converted vessels





Jumbo Mark II Conversions



- Invitation for Bid (3 vessel conversion contract), spring 2023
- Dockside conversion (propulsion control system and hybrid electric)
- First vessel conversion begins fall 2023



Hybrid Electric Olympic Class

Flexible vessel design that can operate on most system routes, with or without shore charging



300 million gallons of diesel fuel saved over 60 years



\$55 million lifecycle cost savings for five new vessels



Passenger comfort (quieter operations in most vessel areas)



WSDOT

Upcoming RFP spring 2023 to build five vessels

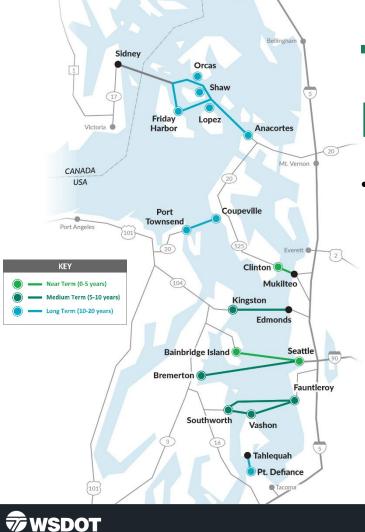


Hybrid Electric Olympic Class

- Request for Proposal (RFP) scheduled release, spring 2023
- Design-build
- First vessel to be delivered 2027
- Hybrid electric
- Rapid charging system







Terminal Electrification

• 16 terminals, powered by 5 different utilities

Seattle City Light



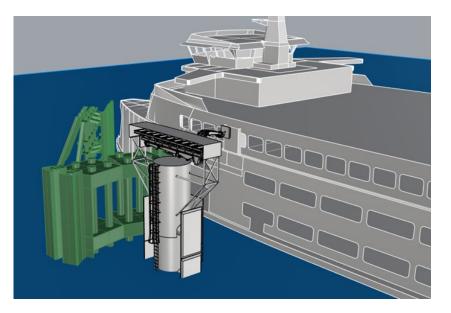




TACONA PUBLIC UTILITIES



Shore-based Rapid Charging System



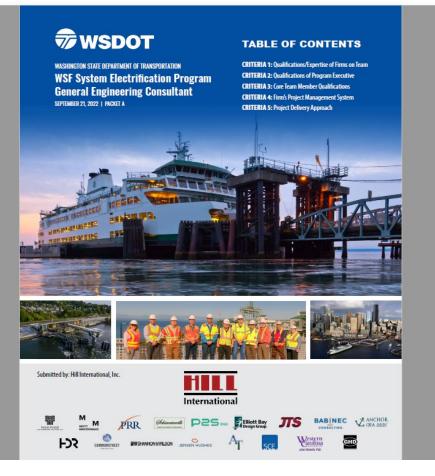
Advantages

- Less vessel weight
- Charging equipment away from passengers
- Full vehicle capacity retained
- Retain integration efforts from prior concept
- Easier to integrate in future vessel designs
- Improves vessel operations/turn around time
- Established column design (Edmonds passenger overhead loading)



GEC Contract

- Hill International, Inc. awarded General Engineering Contract
- GEC will supplement WSF staff
- Designed to work as one team
- Key elements of work include:
 - Program management
 - Program Controls
 - Design Engineering: Utilities, Mechanical, Marine, Electrical
 - Communications
 - Inclusion





Questions?





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