

HB 1846, to provide for buying new Washington State Ferries

By Charles Prestrud, Director, Center for Transportation

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Key Findings

1. The WSF fleet renewal effort has fallen far behind the timeline in the agency's Long Range Plan, resulting in service interruptions and increased costs for maintaining the existing fleet.
2. Acquisition of new ferries has been delayed and made more expensive due to the Governor's Executive Order 18-01 that directed WSF to transition to a fleet with zero-carbon emissions.
3. HB 1846 modifies the vessel procurement process and is expected to result in more competitive bids and a more economical ferry design.
4. HB 1846 retains the requirement for hybrid-electric propulsion which is likely to result in ferries that are more costly to acquire than conventionally powered vessels.
5. Despite the expedited process called for in HB 1846, fleet constraints are likely to result in service reductions through the end of the decade.

Introduction

To renew the Washington State Ferry system's fleet the 2019 Long Range Plan calls for buying seven new ferries by 2028 to replace five older ferries nearing retirement.¹ Procurement of new vessels is years behind the planned timeline, however, with the result that WSF is hard pressed to maintain service at the level promised to the public.

The average age of a Washington state ferry is 32 years. Five ferries have been in service fifty years or more (including the Tillikum, launched in 1959), and six others have been in service

more than forty years. In many cases the boats are older than the crews that run them.

WSF added four new Olympic Class ferries to the fleet between 2014 and 2018, and four older vessels were decommissioned at roughly the same time. Meanwhile, the rest of the fleet continued to age so the fleet average age, which had already reached 32 in 2014, has not been improved. Ferries are in service year-round in a harsh marine environment, so corrosion is a constant problem, and mechanical and electrical systems eventually wear out. As the fleet ages, breakdowns become more frequent and more costly to fix.

Not only is the fleet elderly by commercial vessel standards, it has also been reduced in number. In 2014 WSF had 23 vessels available for service.² By 2022 that number had been cut to 21, and one of those ferries, the Cathlamet, was out of service for six months after the captain ran it into the pilings at the Fauntleroy dock. WSF does not have enough relief vessels so they can't schedule enough maintenance and dry-dock time for repairs. When a ferry is taken out of service for unplanned repairs, service to the public is often interrupted, sometimes for an extended period. Fleet limitations are expected to result in service reductions until the end of the decade, if not longer.

Origins of WSF's Fleet Problem

The difficult situation that WSF now confronts is the result of a series of decisions and circumstances that have played out over more than a decade.

WSF was quite aware of the looming fleet-shortage problem even before work began on the 2019 Long Range Plan. WSF had the option to extend a contract with Vigor Industries for five additional Olympic Class ferries, but the problem of renewing the fleet was made harder

1 "Washington State Ferries 2040 Long Range Plan", January 2019, <https://wsdot.wa.gov/sites/default/files/2021-10/WSF-LongRangePlan-2040Plan.pdf>.

2 "Federal Transit Administration National Transit Database, Agency Profiles", <https://www.transit.dot.gov/ntd/transit-agency-profiles>.

by Governor Inslee when he issued Executive Order 18-01. He directed WSF to,

“...ensure that the Washington State Ferry System begins the transition to a zero-carbon-emission ferry fleet, including the accelerated adoption of both ferry electrification and operational improvements that will conserve energy and cut fuel use.”³

WSF interpreted that order to mean that all new ferries must be electrically powered or hybrid-electric. That decision set in motion a long and costly effort to adapt the Olympic Class design to hybrid-electric propulsion. The transition to hybrid-electric power also means WSF must pay for extensive new electrical systems at terminals to allow ferries to re-charge their batteries each time they pull into the slip.

So, rather than acquiring additional diesel-powered ferries under the existing contract, the first of which could have been delivered in 2022, WSF spent the next four years studying and planning system electrification.

The study showed that converting the Olympic Class design to hybrid-electric propulsion was possible, but the result would produce a very heavy and costly vessel. After extended negotiations WSF was unable to reach agreement with Vigor Industries on a price for the new ferries or a timeline for their delivery.⁴ The final price offered by Vigor was not publicly disclosed, but it was rumored to be more than 50% above WSF’s initial cost estimate of \$185 million per ferry.

The failure to reach agreement with Vigor on construction of hybrid-electric Olympic Class ferries prompted the State Legislature to propose HB 1846, which would revise the procurement process and encourage shipyards to propose design modifications.⁵ These changes, however,

mean restarting the process. Even with the expedited process set forth in HB 1846, delivery of new ferries on the timeline called for in the WSF Long Range Plan is unachievable.

What the bill would do

HB 1846 would make significant changes in the procurement process WSF has been required to use for buying new ferries. The proposed changes would:

- Authorize procurement of up to five new ferries;
- Revise the procurement process to allow up to two contracts to be awarded to expedite construction;
- Encourage proposers to modify the Hybrid-Electric Olympic Class design to gain efficiencies and lower costs;
- Require WSF to use a best-value selection process and allow out-of-state shipyards to compete;
- Require WSF to hire third party experts to advise the procurement process;
- Exempt WSF from current procurement statutes.

These proposed changes are intended to expedite the acquisition of new ferries, to open competition to more shipyards, and to obtain a more economical design than the Hybrid-Electric Olympic Class developed by WSF. However, the bill would still require the new ferries to have hybrid-electric propulsion.

Unresolved problems

HB 1846 would leave unresolved several important problems that WSF officials face today. These problems include:

- Fleet renewal costs – The revised procurement process should result in more competitive bids but because of WSF’s unique requirements it remains to be seen whether the prices offered by shipyards will be within the budget provided by the legislature.

3 “Executive Order 18-01, State Efficiency and Environmental Performance”, State of Washington Office of the Governor, January 16, 2018, https://www.governor.wa.gov/sites/default/files/execute_order/18-01%20SEEP%20Executive%20Order%20%28tmp%29.pdf.

4 “Washington State to Rebid Hybrid-electric Ferries Contract”, MarineLink, June 14, 2022, <https://www.marinelink.com/news/washington-state-rebid-hybridelectric-497347>.

5 “HB 1846: An Act Relating to addressing vessel procurement at the Washington State Ferries”, Washington State Legislature, March 17, 2023. SB 5760 is the companion bill introduced in the State Senate, <https://lawfilesexternal.wa.gov/biennium/2023-24/Pdf/Bills/House%20Bills/1846.pdf?q=20230414115606>.

- Maintenance costs of the existing fleet –WSF will need to keep old ferries in service longer than planned which will increase maintenance costs. The Senate’s proposed budget includes \$202 million for vessel preservation but future costs will likely be higher.

Requiring hybrid-electric propulsion

HB 1846 specifies hybrid-electric propulsion, which is expected to significantly increase the cost of the new ferries. Allowing proposers to also provide a conventionally powered option would enable a comparison of cost-effectiveness consistent with the Governor’s Executive Order 20-01.

Rather than seven new ferries joining the fleet by 2028, WSF will be lucky to get just two new ferries into service by that date. As a result, WSF will have trouble maintaining a fleet of older vessels. They will likely impose service reductions due to unscheduled maintenance or vessel unavailability.

It may seem that buying new ferries should not be difficult, but existing state law requires a very involved and lengthy procurement process and it gives preference to in-state shipyards. Since there are so few in-state shipyards WSF typically receives only one or two bids for each contract, which also limits the rate at which new ferries can be built. Project initiation to entering service typically takes six years (assuming everything goes well). Private commercial vessels are usually built in half that time.

WSF is further burdened by the COVID lockdown and the Governor’s emergency directives, which caused considerable staff turnover and delayed fleet maintenance and other tasks. From the spring of 2020 to summer of 2022 the agency’s primary focus was on immediate service and staffing needs. Implementation of various elements of the agency’s Long Range Plan fell behind schedule.

This is not the first time WSF has found itself in a jam as a result of old ferries being taken out of service. For more than sixty years WSF and its predecessor operated four Steel-electric class ferries that had been brought up to Puget Sound from the Bay Area in 1940. Those ferries, while charming to ride, no longer met Coast Guard safety standards. In 2007 it was discovered their old, riveted steel hulls had such extensive

corrosion that WSF immediately withdrew all four ferries from service. With no suitable ferries available, service on the Port Townsend to Whidbey Island route was suspended. In response, the legislature provided funding for three new ferries, but the design selected was small and only suited for service on two of WSF’s least travelled routes, thus exacerbating the fleet availability problem.

The WSF Long Range Plan calls for decommissioning ferries when they reach the end of their useful service life, which is usually fifty to sixty years. However, in 2019 a routine inspection of the ferry Elwha discovered extensive corrosion. That ferry was not scheduled for decommissioning until 2028, but after further evaluation it was decided it didn’t make economic sense to spend at least \$12 million on further repairs, so WSF took it out of service eight years earlier than planned.

The Elwha was one of only two vessels in the WSF fleet certified for international service to Vancouver Island, and the other vessel, the Chelan, is more than forty years old. As a result, WSF says that service on the route to Vancouver Island is not likely to resume until 2030.

To sum up, over a 15-year period a combination of unanticipated events and a series of decisions and lack of action by the Governor, the Legislature and WSF, has resulted in the current problem of an aging fleet, very few vessels available for relief and delays in acquiring new vessels.

Given the lengthy timeline for design and construction of new ferries there is no near-term solution. As things stand today, fleet constraints are likely to result in unreliable or curtailed service through 2030, when state officials hope they will have acquired new vessels.

Conclusion

The revisions to the WSF procurement process proposed by HB 1846 move ferry policy in the right direction because they will allow more competitive bids and a more economical ferry design.

HB 1846 would still require hybrid-electric propulsion on the new ferries, so the new vessels are likely to be costly and may exceed the amount budgeted by the legislature.

Even with a better procurement process, however, WSF officials will still face serious fleet constraints that are likely to persist until the end of the decade. This will result in service interruptions to the public and higher costs for maintenance of the existing fleet.

*Charles Prestrud is the
Director
of Washington Policy Center's
Center for Transportation*

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