WSF Passenger-Only Ferry Study

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Washington State Department of Transportation

Washington State Department of Transportation – Ferries Division
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Table of Contents

Appendices

List of Figures

List of Tables

Abbreviations and Acronyms

BIL	Bipartisan Infrastructure Law
CWT	Community Water Taxi
M/V	Motor Vessel
PTBA	Public Transportation Benefit Areas
POF	Passenger-Only Ferry
PSRC Study	2020-2021 PSRC Passenger-Only Ferry Study
PSRC	Puget Sound Regional Council
ROM	Rough-Order-of-Magnitude
SJI Study	2023-2024 WSF Anacortes to-San Juan Islands Walk-on Ridership Maximization Study
SLU	South Lake Union
Study	(2024-2025) WSF Passenger-Only-Ferry Study
UW	University of Washington
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries

Executive Summary

The Washington State Ferries (WSF) Passenger-Only Ferry Study (Study), initiated by the Washington State Legislature, evaluated options for the State to return to providing passenger-only ferry (POF) service to support existing WSF ferry service routes. As directed by a proviso in the 2024 Supplemental Transportation Budget Bill, the Study evaluated specific routes, including those recommended for further study in the 2020-2021 Puget Sound Regional Council (PSRC) Passenger-Only Ferry Study (PSRC Study), as well as the San Juan Islands interisland service.

Approach

This Study evaluated POF route options at a planning level to provide decision makers with information on potential route implementation and operating requirements. The following approach was used to review the list of routes identified by the proviso language and identify those most likely to support existing ferry services to be carried forward for detailed route evaluation. In addition to the steps of study analysis, engagement with project stakeholders was conducted throughout the study process to inform route screening and evaluation and to report out on findings.

Step 1 – Background Review. To understand the context for WSF's potential return to POF service, the Study reviewed existing Puget Sound regional POF service and San Juan Islands interisland ferry service, previous POF planning and funding efforts, WSF's current system and history of POF service, and recent legislative support for POF expansion.

Step 2 – Route Screening. The potential routes considered in the Study, as directed in the proviso, were screened based on their potential to support existing WSF routes.

Step 3 – Route Evaluation. Route operating profiles were developed for the routes carried forward from screening. These profiles were used to estimate demand levels, estimate costs, identify vessel design considerations and procurement options, and develop potential route implementation considerations.

Findings from the above activities have been compiled into this final report, which will be delivered to the State Legislature and available to the public.

Findings

The Puget Sound and San Juan Islands areas have seen renewed interest in expansion of POF service as an opportunity to increase transportation resiliency and reduce reliance on cars for many communities, while providing an essential service for island communities. While the recent PSRC POF expansion study identified feasible route opportunities, it also outlined various challenges for implementation. Additionally, an intra-island focus has not yet occurred in recent POF studies.

This Study reviewed the seven routes recommended for further evaluation as part of the PSRC Study, along with existing landing sites in the San Juan Islands with the potential to support an interisland POF route. The route screening process resulted in the narrowing of seven previously-studied PSRC routes to two routes (Whidbey Island – Everett and Bellingham – Friday Harbor), along with two alternative routes to serve San Juan Islands Interisland service (routing using WSF terminals and routing using other POF facilities). These four potential routes were shown to provide the greatest opportunity to support existing WSF service and were carried forward for more detailed evaluation, as highlighted on the following pages.

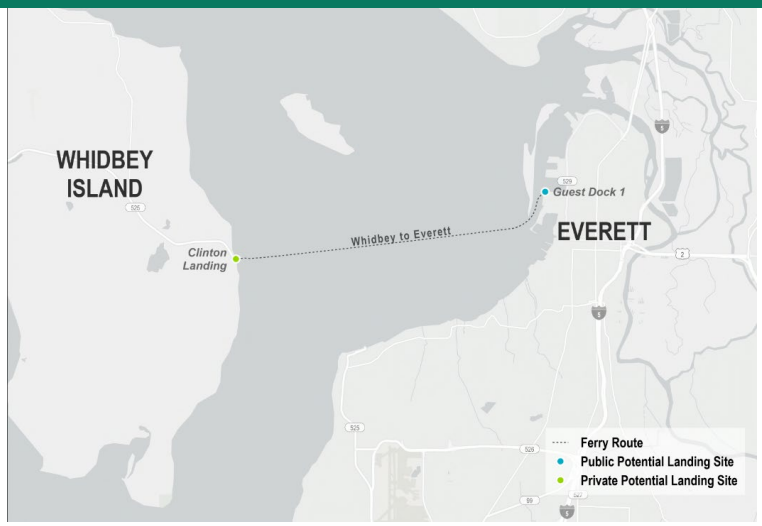
PSRC Study Routes

Two of PSRC routes met the criteria for additional analysis as part of this Study. These routes are Whidbey Island – Everett and Bellingham – Friday Harbor, and this Study updated their route profiles based on current conditions, traffic patterns, costs, and planned transportation projects. Both routes assume landing sites outside of WSF terminals at either public or private landing locations.

WHIDBEY ISLAND – EVERETT

With the potential to augment the WSF Clinton-Mukilteo vehicle-and-passenger ferry service, this route would provide an option for direct connection to Everett and strengthen the resiliency of Whidbey Island's transportation system.

- **20-minute POF trip time**
- **5.5 nautical miles**
- **30 to 40 minutes in travel savings** (vs. car)
- **Use POF docks & two 150-passenger vessels**
- **Commute period service 6 round trips / 5 days a week / year-round service**
- **Est. average 85 daily / 22,100 annual riders**
- **Est. capital costs: $34.1M - $39.3M**
- **Est. annual operating cost: $2.7M**



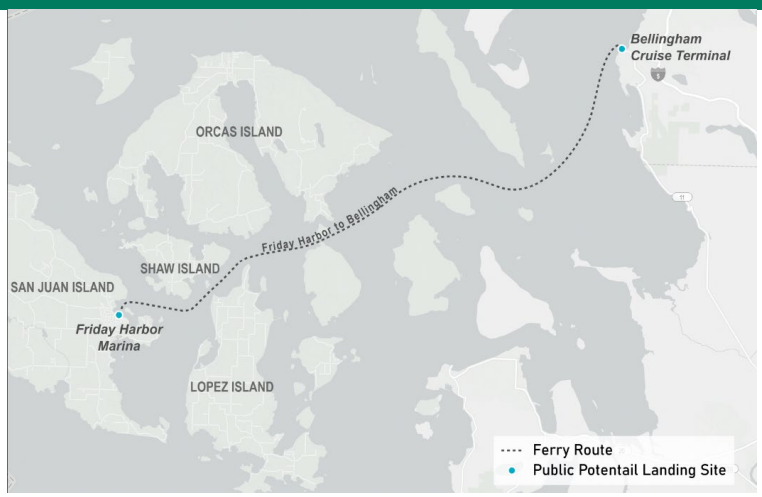
Key Opportunities: Travel time savings. Suitability for future electrification.

Key Implementation Considerations: Assumes completion of the planned Clinton POF Dock Replacement project.

BELLINGHAM – FRIDAY HARBOR

Connecting mainland Washington to the San Juan Islands, this route would provide major time savings compared to current travel options for tourists traveling from Washington and Canada, as well as for San Juan Islands residents connecting to medical and other services in Bellingham.

- **50-minute POF trip time**
- **26.7 nautical miles**
- **110 minutes travel time savings** (vs. car)
- **Use POF docks & two 250-passenger vessels** (needed to navigate longer, exposed route)
- **Seasonal service, 7 days a week**
- **Est. average 180 daily / 26,500 annual riders**
- **Est. capital costs: $72.4M - $82.8M**
- **Est. annual operating cost: $3.5M**



Key Opportunities: Travel time savings and potential recreational demand.

Key Implementation Considerations: Long crossing with exposed sea states. Limited multimodal connections.

San Juan Islands Interisland Routes

The Study developed and evaluated two potential routes to provide interisland service to the San Juan Islands, with varying landing site and vessel requirements. One option focuses on the use of existing WSF terminals, which require specialty bow-loading vessels designed to be compatible with existing WSF terminal infrastructure. The second option utilizes existing landing sites that could support a smaller POF vessel. Both options offer a comparable or faster trip time compared to WSF vehicle ferry service. As directed by the proviso, the Study focused on interisland service and did not review potential connections to Anacortes.

EXISTING WSF TERMINALS

This route provides a circular round trip connecting the four WSF San Juan Islands terminals and using a bow-loading POF vessel to load and unload passengers between vehicle ferry landings.

- **65-minute round trip**
- **17 nautical miles**
- **Use WSF slips & two 250-passenger vessels**
- **Year-round service, 5 days a week** *(with option for extended summer service if desired)*
- **Est. up to 223 weekday / 40,800 annual one-way trips** *(commute only)**
- **Est. capital costs: $69.8M**
- **Est. annual operating cost: $3.3M**

Key Opportunities: Minimal landside improvement needs.

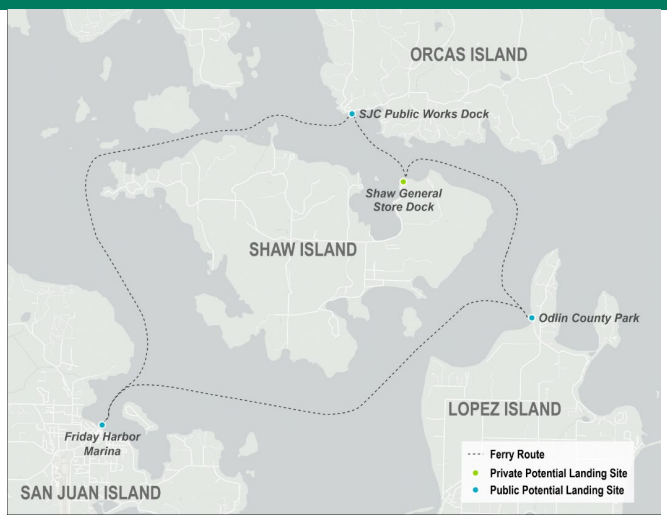
Key Implementation Considerations: Scheduling challenges and potential impacts of sharing vehicle ferry landing slip use. Limited multi-modal connections at landing sites.

EXISTING POF LANDING SITES

Assumed to be operated by a contract operator or by WSF, this circular route connects all four islands and would land at existing POF-specific facilities.

- **60-minute round trip**
- **16.5 nautical miles**
- **Use existing POF landing sites & two 50-passenger vessels**
- **Year-round service, 5 days a week** *(with option for extended summer service if desired)*
- **Est. up to 223 weekday / 40,800 annual one-way trips** *(commute only)**
- **Est. capital costs: $16.1M - $21.1M**
- **Est. annual operating cost: $2.1M**

*Both SJI Interisland route options explored extended service beyond the commute period. This extended service would bring additional ridership and operating costs. Refer to Chapter 4 in the report for more detail.



Key Opportunities: Potential minimal capital needs for start-up. Lowest ongoing operating costs due to small vessel size.

+ **Potential near-term startup**

Key Implementation Considerations: Need for landing site use agreements or purchase. Limited multi-modal connections at landing sites.

Financial Summary

Operating costs are somewhat similar for all four identified routes with some exceptions due to shorter route length or higher operating costs for larger vessels that utilize WSF slips. Capital costs, however, are more variable with lower costs associated with smaller vessels that would serve non-WSF slips. A "snapshot" annual financial projection was prepared for each route. These annual operating expenditure forecasts reflect a mature service, typically between 5 to 10 years after start-up. Capital investments are related to start-up costs to improve landing site infrastructure and construct vessels. Financial considerations vary by route, key findings include:

Whidbey / Everett: Operating expenditures are relatively low for this route due primarily to the short crossing distance and lower fuel consumption. Capital expenditures are also relatively low due to the use of a smaller, 150-passenger vessel for the short crossing distance.

Bellingham / Friday Harbor: Operating expenditures are the highest for this route due to the longer crossing distance and higher fuel consumption rate for the larger, 250-passenger vessel needed. Capital expenditures are also the highest of the routes studied, due to both the higher cost for the larger vessel and the higher landing site improvement costs.

San Juan Interisland (using POF docks): Operating expenditures are the lowest for this route due primarily to lower fuel and maintenance cost associated with using a smaller, 150 passenger vessel. While landing site improvements would be needed at the sites, capital costs for the smaller vessels are lower.

San Juan Interisland (using WSF slips): The primary driver of higher operating costs on this route, compared to the SJI Interisland route that uses existing POF slips, is higher fuel consumption and maintenance costs. Capital costs are more than three times greater than the SJI (POF docks) route alternative due to the higher cost of the larger, 250 passenger vessel required to land in WSF slips.

More detail is provided in the body of the report within Chapter 5: Funding requirements and opportunities.

Table ES-1. Estimated Funding Levels by Route

Route Description	Whidbey - Everett	Bellingham - Friday Harbor	San Juan Interisland WSF Slips	San Juan Interisland POF Docks
Service Levels	6 daily commute period round trips / 5 days a week / year-round service	Seasonal, 7 days a week	Year-round, 5 days a week	Year-round, 5 days a week
Annual Expenditures (in 2025 dollars)				
Operating Labor	781,000	665,000	850,000	698,000
Fuel	424,000	991,000	893,000	283,000
Maintenance (labor, materials, & contracts)	719,000	794,000	745,000	568,000
Insurance & Other	345,000	433,000	278,000	205,000
Management & Support	455,000	578,000	555,000	352,000
Total Operating Expenditures	**$2,724,000**	**$3,461,000**	**$3,321,000**	**$2,106,000**
Capital Investments				
Vessels	$32,824,000	69,786,000	69,786,000	$14M to $19M
Landing Site Improvements	$1.3 to 6.5M	$2.6 to 13M	n/a	$2,100,000
Total Capital Investments	**$34.1 to 39.3M**	**$72.4 to 82.8M**	**$69.8M**	**$16.1 to 21.1M**

Notes: Refer to body of the report for full financial analysis and site profiles describing capital improvement needs and service levels.

Next Steps

The next steps in determining the State's role in potential POF service require policy decisions around service coordination, funding, and operations. These decisions would guide service planning, landing site selection, service levels, revenue targets, and the assets necessary to operate the service. Based on the selected role in POF service, the Washington State Legislature would need to take action to approve a funding package sufficient to support the staff, operating or capital needs of that role. Potential roles for the State in POF service are outlined below, along with opportunities and actions to support POF implementation in the near and long term. In each of the roles, additional engagement with stakeholder partners and property owners is needed to fully understand opportunities, context of other on-going efforts, and landing site availability.

Role as Service Operator: WSF would directly manage and operate the potential service, providing full or partial funding. Compared to the other options, this model would provide the **most control** over all aspects of the service but would also require the **greatest commitment of agency resources**.

- *Near term actions:* Implementation of a new POF service is unlikely in the near term. There are policy and operating decisions to be considered, landing sites to be acquired, operating plans to be developed and a funding plan to be prepared for capital investments and ongoing operating costs.
- *Long-term actions:* As a next step toward implementation of a new POF service, further study is needed, including business and implementation planning efforts. These efforts should include ridership forecasting to support schedule development and detailed revenue forecasting, confirmation of preferred landing locations, detailed operating and capital cost estimates, and development of a funding plan and fare policy.

Role as Service Contractor or Financial Support: Partnering with a public or private entity, WSDOT would oversee operator contracts, with varying options for ownership and maintenance of terminal and vessel assets. This role would allow WSF **moderate control** and would require **moderate resource commitment**.

- *Near-term actions:* As an opportunity to provide POF service in the near-term, WSDOT could coordinate support for or directly provide continued funding for the San Juan County Emergency POF service (currently funded April 14 through June 30, 2025).
- *Long-term actions:* If an existing vessel could be secured, a full-scale pilot POF service could be implemented on one of the Study routes to demonstrate demand levels and viability.

Role as Regional Coordinator and Partnership Facilitator: As an alternative to directly operating or funding POF service, WSDOT could collaborate with transit partners and/or local agencies to support POF service implementation and operations. WSF would have the **least control** and the **lowest resource commitment**.

- *Near-term and long-term actions:* Continue coordination with regional transportation agencies and groups, with the goal of identifying a POF implementation champion to lead future planning efforts and garner regional support. Build upon previous efforts to expand multi-modal connects at terminals to support walk-on and roll-on passengers.

As discussed above, there are several models for State involvement in POF service. However, before any action can be taken to advance future POF routes, the State must decide on their role. To support that decision process and to provide local agencies and stakeholders a greater understanding of POF service feasibility, this report outlines opportunities and constraints of service including potential landing sites, service profiles, projected operating costs, and capital investment needs of four potential POF routes.

Chapter 1. Introduction

Washington State Ferries (WSF) conducted the WSF Passenger-Only Ferry Study (Study) to evaluate options for the State to return to providing passenger-only ferry (POF) service to support existing WSF service routes. The Study was conducted in response to a proviso in the 2024 Supplemental Transportation Budget Bill which directed the Washington State Department of Transportation (WSDOT) to evaluate ridership, costs and implementation of a specific set of routes, including those recommended for further study in the 2020-2021 Puget Sound Regional Council (PSRC) Passenger-Only Ferry Study (PSRC Study), as well as San Juan Islands interisland service. The exact bill language is below.

Engrossed Substitute House Bill (ESHB) 2134, SL, Section 222, subsection 22

Proviso Citation:

$500,000 of the Puget Sound ferry operations account—state appropriation is provided solely for the department to evaluate options for the state to return to providing state passenger-only ferry service to support existing ferry service routes.

(a) The study must focus on the routes recommended for further study by the 2020 study of passenger-only ferry service by the Puget Sound regional council as well as San Juan County interisland passenger-only ferry service. The department must contract with a third-party entity with experience in passenger-only ferry service.

(b) The evaluation must study options for the state to return to providing state passenger-only ferry service to support existing ferry service routes. The study must include estimated ridership, operating costs including labor, vessel procurement options with prioritization given to clean fueled ferries such as electric ferries, funding options including state subsidies of passenger-only ferry districts, and schedule and timing to implement passenger-only ferry options in evaluated routes.

A progress report is due to the governor and transportation 40 committees of the legislature by October 30, 2024, and a final report is due by June 1, 2025.

Purpose of this Study

As directed by the Washington State Legislature, the Study is guided by the following goals:

- Explore opportunities for implementation of POF routes to support existing WSF service
- Understand potential roles for WSF in implementation and operation of new POF routes
- Evaluate specific POF routes as directed by the proviso
- Conduct outreach to assess interest and demand for POF service by reviewing existing data and engaging key interested parties, and to keep interested parties informed of project status

The Study outlines recommendations and options for WSF to be involved with POF service through operating or non-operating roles such as funding, collaboration with other regional agencies and organizations, and development of key POF partnerships, along with potential next steps and timelines for implementation.

Approach

This Study aims to evaluate POF route options at a planning level to provide decision makers with information on potential POF route implementation and operating requirements. To focus on the Study goals, the following

approach was used to review the list of routes identified by the proviso language and identify those most likely to support existing ferry services to be carried forward for detailed route evaluation.

Step 1 – Background review. To understand the context for WSF's potential return to POF service, the following information was reviewed:

- Existing Puget Sound regional POF service and interisland ferry service
- Previous POF planning and funding efforts
- Current WSF service, history of POF service

Step 2 – Route screening. The list of Study routes, identified in the proviso, included routes identified in the PSRC Study and the San Juan Islands Interisland route. PSRC Study routes were screened based on their potential to support existing WSF service routes. San Juan Islands Interisland service screening reviewed potential landing sites to identify two example route profiles.

Step 3 – Route evaluation. The four routes carried forward from screening were evaluated based on the following:

- Estimated demand levels
- Route operating profile
- Estimated costs and revenue
- Vessel design considerations and procurement options
- Funding options
- WSF's potential role in providing POF service
- Potential next steps and timeline for route implementation

Community outreach and engagement was conducted throughout the three steps of the study process to gather feedback to inform route screening and evaluation and to report out on findings. As part of outreach and engagement efforts, the study team provided one-on-one and small-group briefings and conducted email outreach to key stakeholders to share emerging findings, clarify study assumptions, and collect information and feedback. This engagement helped align the study with local priorities and provided region-specific insights. In partnership with WSF, the project team engaged the following entities:

- San Juan Islands Ferry Advisory Committee (FAC)
- San Juan County (SJC) Council members
- San Juan County Economic Development Council (EDC)
- North Sound Transportation Alliance

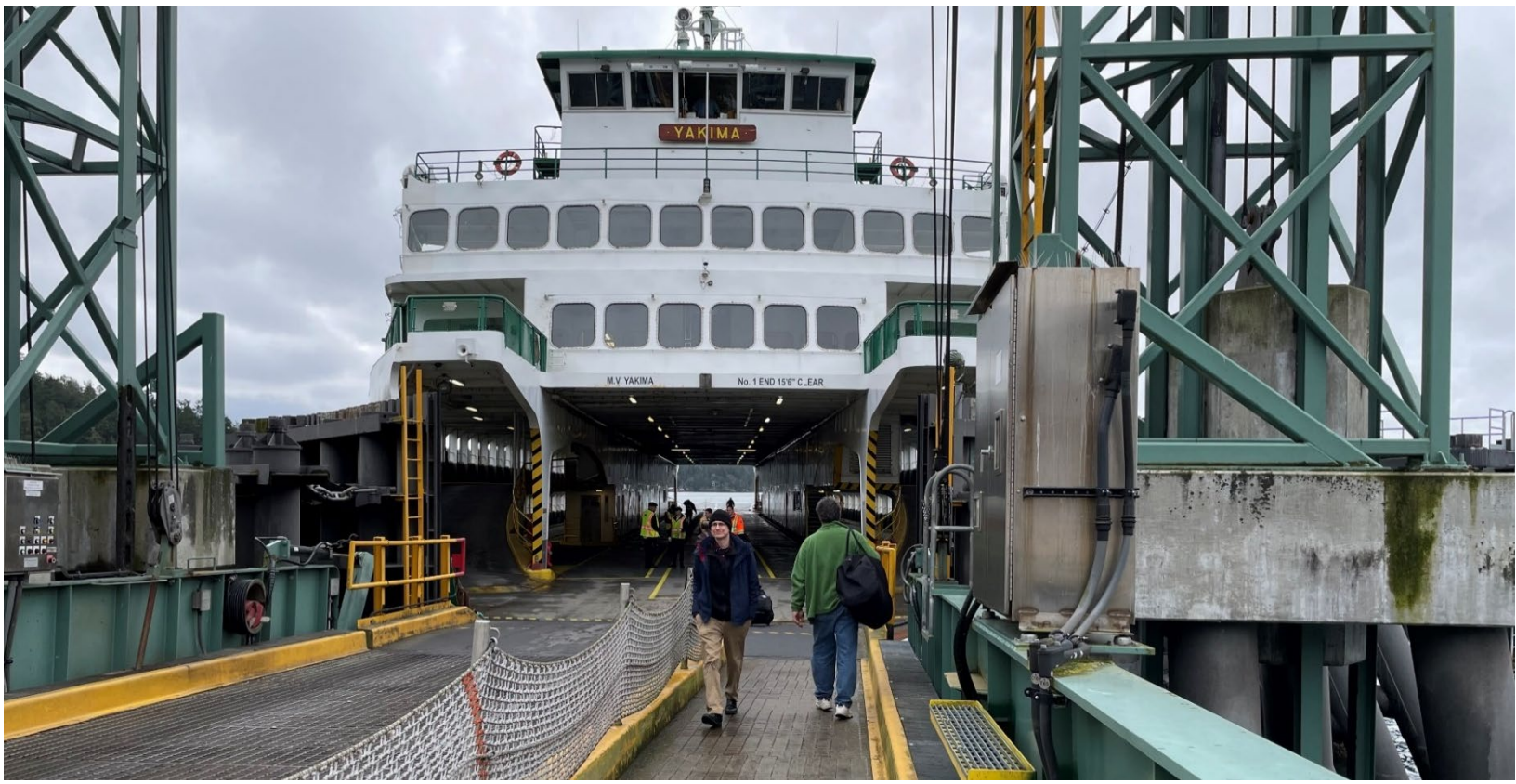
General engagement also occurred with stakeholders on Whidbey Island who provided feedback to the study team via email and other existing WSF regional engagements.

Engagement findings informed all steps of the Study, leading to the identification and incorporation of additional data sources into Step 1, providing insight into landing site preferences and travel needs during Step 2, and identifying vessel design recommendations, demand estimation, and implementation considerations in Step 3. Please see Appendix A for more details regarding this Study's community outreach and engagement efforts.

Document Organization

This document is organized into the following chapters:

- **Chapter 2 – Background:** Provides an overview of information reviewed to understand existing POF services in the Puget Sound and San Juan Islands areas, and previously-completed POF planning and funding efforts relevant to the routes that are the focus of this Study. WSF's current system and history of providing POF service is summarized to support assessment of options for WSF's involvement in potential new POF routes.
- **Chapter 3 – Route Screening:** Discusses the initial review of the POF route options identified in the proviso and the analysis process used to narrow the PSRC Study route options and San Juan Islands interisland service options to the four routes selected for detailed evaluation.
- **Chapter 4 – Route Evaluation:** Discusses the approach and assumptions used for route evaluation and presents findings in a detailed route profile for each of the four routes.
- **Chapter 5 – POF Funding Options:** Identifies POF funding requirements and discusses opportunities for potential service
- **Chapter 6 – Recommendations and Next Steps:** Outlines POF service implementation considerations, governance and funding opportunities, potential roles for WSF's involvement in POF service, and implementation timelines and next steps.



Chapter 2. Background

Current ferry services in the Puget Sound and San Juan Islands have evolved from the region's long history of water transportation, beginning with Native American tribes and then the bustling Mosquito Fleet of the late 1800s and early 1900s. The region's geography demands solutions like these, as many island communities would be otherwise isolated from neighboring areas without the access that water transportation provides. Today, regional access is provided by several regional ferry operators, including WSF, the largest in the region and in the United States.

In addition to providing an essential service for some communities, POF service presents an opportunity to increase transportation resiliency and reduce reliance on cars for many communities. As roadway congestion increases, overwater connections can greatly benefit local connectivity, as they often provide a faster travel time. This benefit is invaluable, especially when regional transportation is impacted by large events such as the 2026 World Cup matches in Seattle or large roadway construction projects such as WSDOT's 2025-2027 Revive I-5 projects.

Despite these benefits, POF expansion faces significant challenges, including lack of funding and high capital and operating costs. The potential impacts of in-water construction and vessel operations to sensitive marine environments is also of regional concern.

The following sections provide a summary of existing POF services in the Puget Sound and interisland ferry service in the San Juan Islands, and outline findings from previously completed POF planning and funding efforts relevant to the routes that are the focus of this Study.

The Study background also includes an overview of WSF's history of providing POF service and recent collaboration with other operators to fund POF services to augment vehicle-and-passenger ferry service during periods of unreliability.

Existing POF Services

Puget Sound

Two public POF operators, King County Metro and Kitsap Transit, currently provide service in the Puget Sound study area. In addition to the public POF services, numerous private operators provide scheduled and on-demand water taxi services providing cross-sound and island connections.

Kitsap Transit Fast Ferry Program

The Kitsap Transit Fast Ferry program provides faster transportation options for people traveling across Sinclair Inlet and between the Kitsap Peninsula and downtown Seattle. Kitsap Transit operates local foot ferry service from Annapolis and Port Orchard to Bremerton and cross-sound fast ferry service between three sites on the Kitsap Peninsula (Kingston, Bremerton, and Southworth) and downtown Seattle, all arriving at the King County Metro-owned POF facility at Pier 50.

Kitsap Transit launched its first Fast Ferry POF route between Bremerton and Seattle in 2017. The Kingston-Seattle route followed in 2018, and the Southworth to Seattle route in 2020. The service is partially funded by three-tenths of a cent local sales tax, approved by Kitsap County voters in 2016. All three routes offer morning and afternoon weekday commute service year-round, with all-day service on Saturdays from May through September. Operating two vessels on weekdays, the Bremerton-Seattle route also offers some midday service. The Kingston-Seattle and Southworth-Seattle routes each operate a one-vessel schedule.

King County Water Taxi

In 1997 King County started a pilot project offering water taxi service between West Seattle and downtown Seattle as a seasonal service through a private operator. In 2006 when the State announced their intention to discontinue the Vashon Island Seattle passenger-only ferry service, Vashon community activist Sally Fox led a successful campaign to extend interim State funding for the service and to establish a long-term County funding source for the route. The King County Ferry District was established in 2007, assuming responsibility for both the West Seattle and Vashon routes in 2008.[1] In 2015, the county introduced two custom-designed vessels, the *M/V Sally Fox* and *M/V Doc Maynard*, enhancing accessibility and accommodating various bike types and pets. The Water Taxi has since become an integral part of the regional transit system, offering expanded midday sailing, supported by funding from the State, and plans to transition to battery-electric vessels to meet climate goals.

San Juan Islands

The San Juan Islands, including San Juan, Orcas, Lopez, and Shaw islands, are currently served by scheduled vehicle-and-passenger ferry service provided by WSF, as well as on-demand water taxi service provided by private operators. The islands depend on the lifeline access to the mainland provided by ferries. Existing San Juan Islands services are summarized below.

Figure 2-1. WSF Walk-on Passengers Unloading at Lopez Island

WSF Interisland Service

The WSF Interisland Route provides five daily trips on a circular route connecting to four of the San Juan Islands, with free fares for walk-on passengers. The interisland ferry schedule varies from season to season and has been adjusted for operational considerations over the last few years. The Interisland Route operates with the *M/V Tillikum*, with capacity for 87 vehicles and 1,061 passengers. Additional connections between select islands are provided by sailings to and from Anacortes.

Emergency Interisland Water Taxi Services

In response to reduced reliability of WSF Interisland service in the wake of COVID-19 and industry-wide crewing shortages, the privately-operated Community Water Taxi (CWT) began operating in August 2023 during WSF Interisland service cancellations, providing critical interisland connections during vehicle ferry outages. Between its launch and July 2024, the CWT facilitated 557 passenger trips. The CWT assisted individuals in reaching medical appointments, work, court dates, school, and other essential travel during WSF disruptions.[2]

In September 2024, San Juan County received $1 million in emergency and short-term funding from the Washington State Department of Commerce's Emergency Rapid Response Fund and $500,000 from the Governor's Emergency Fund to supplement WSF service and contract with local barge services, charter businesses, and water taxis to provide service for the San Juan Islands communities through Spring 2025. San Juan County solicited proposals for three separate service contracts, one of which focused on establishing an

[1] King County began funding the Vashon service in 2008, but WSF continued operating the route until fall 2009.
[2] *The Orcasonian,* "WSF chaos| SJC community stranded as ferry service deteriorates," July 13, 2024, https://theorcasonian.com/wsf-chaos-sjc-community-stranded-as-ferry-service-deteriorates.

emergency interisland water taxi service for foot passengers. The service provides round-trip water taxi ferry service to Lopez, Orcas, San Juan, and Shaw Islands when the WSF Interisland ferry experiences service disruptions (periods that the interisland ferry is out of service and service restoration time is either unknown or estimated at greater than 4-hours). The service is currently funded through June 30, 2025, and may be extended as funding allows.

Private Water Taxi Services

Several private operators offer charter services between islands or connecting to Anacortes, with costs varying depending on the trip length and number of passengers. Table 2-1 provides a summary of the existing water taxi operators in the San Juan Islands.

Table 2-1. Current San Juan Islands Private POF Operators

Name	Origin	Serves	Passenger Capacity	No. of Vessels
Community Water Taxi	Orcas Island	San Juan Islands (interisland)	6	1
Friday Harbor Boat Rental	Friday Harbor	San Juan Islands	4 - 6	2
Paraclete Charters	Anacortes	Typical Run: Anacortes-Decatur-Blakely-Anacortes	32 – 48	2
Outer Island Excursions	Anacortes	Orcas Island, others	6 – 80	6
Island Express Charters	Anacortes	Orcas Island, others	16 – 33	3
Island Opportunity Charters	Bellingham	San Juan Islands	12	1

Previous POF Planning and Funding Efforts

Several recent studies have been conducted on the Puget Sound region ferry service to assess the feasibility, demand, and potential expansions of vehicle and POF services. These studies, commissioned by agencies like the PSRC, WSF, and local transit agencies, have examined factors such as ridership projections, route viability, economic impacts, and infrastructure needs to guide policy and funding decisions. A summary of each of these studies is provided below, outlining key findings, recommendations, and their impact on ferry service planning in the Puget Sound region.

POF Route Feasibility Studies

2019 Tacoma Fast Ferry Feasibility Study, Pierce Transit

In partnership with the City of Tacoma and the Port of Tacoma, Pierce County commissioned a study that assessed the potential for POF service between Tacoma and Seattle. The analysis reviewed route options between downtown Seattle and five potential landing sites in Tacoma, finding that a POF from downtown Tacoma to Seattle was feasible and would generate sufficient ridership and farebox revenue. However, further planning was suggested in order to build a viable business plan and to garner the community support necessary to support a successful service. Next steps toward route implementation were recommended and included the following:

- **Funding and Governance Plan:** Development of a governance plan and funding portfolio that addressed both start-up capital requirements and ongoing operating subsidies.
- **Detailed route planning and analysis** including development of schedule alternatives, ridership forecasts for off-peak weekday and weekend service, landing site coordination and infrastructure needs planning.

- **Regional coordination and collaboration** to assess opportunities for partnerships and shared facilities usage.
- **Community support:** A new service would most likely be funded with tax revenue, requiring voter support. Early engagement with the community is an important step to garner interest in and support for the project.

2020-2021 Puget Sound Passenger-Only Ferry Study, Puget Sound Regional Council

The Washington State Legislature commissioned this study to evaluate the potential demand for new POF service to connect communities throughout the 12-county area surrounding Puget Sound and included potential services on Puget Sound, Lake Washington, and Lake Union. The PSRC Study evaluated routes and landing sites, potential demand, and estimated capital and operating costs.

Seven of the 45 route combinations assessed in the study were identified as the most feasible and profiled in detail. For the seven recommended routes, the study developed detailed route profiles to inform analysis including travel time savings, expected ridership demand, fleet composition, and estimated operating and capital costs.

The study identified the following key opportunities for POF service:

- Importance of time-competitive travel for POF route feasibility regardless of service type—commute or recreational/discretionary.
- Potential to attract ridership by considering factors that contribute to the quality of the customer experience and feasibility of the route, such as vessel speed, currents and wind action by season, and landside connections to transit, biking, walking, and parking.
- The value of marine transportation alternatives within the Puget Sound in strengthening the transportation resiliency of the region for both scheduled travel and response/recovery in an emergency event.
- Anticipated future opportunities provided by continuous improvement of electric propulsion and other zero emissions technologies and alternative vessel materials and designs (such as composites and foils).

Additionally, the study identified challenges that would require further study and planning efforts, including the unique elements of the marine operating environment, landing site identification and procurement, the significant level of permitting and capital costs required for in-water improvements, the high cost of larger and faster vessels needed to provide time-competitive and comfortable travel on the Puget Sound, and potential environmental considerations such as confined waterway navigation and marine mammal protection.

2024 Anacortes to San Juan Islands Walk-On Ridership Maximization Study

The WSF Walk-on/Roll-on Passenger Ridership Maximization Study (SJI Study) aimed at identifying strategies to maximize walk-on/roll-on ridership to and from the San Juan Islands. The SJI study reviewed existing transportation options and challenges for walk-on/roll-on passengers to identify potential strategies that provide an alternative to driving on the ferry in a personal vehicle. Community and stakeholder engagement was conducted to inform transportation needs and identify potential strategies. The SJI study was initiated by the Washington State Legislature in the 2022 Supplemental Transportation Budget.

The findings included recommendations for cost-effective near- and long-term strategies to maximize walk-on/roll-on ridership and potential public funding sources to support the strategies. The SJI study found the most significant challenges with walk-on ridership to be cost, timing of connections, parking, non-motorized connections, and luggage/cargo. Those with mobility challenges or those carrying goods/luggage may face additional challenges navigating throughout the vessel or when loading and unloading.

Access to terminals and available transportation connections vary by terminal, posing a greater challenge at some sites than others. Figure 2-2 summarizes the existing transportation options available at each existing terminal, including transit, rentals, parking, taxi/rideshare and shuttle service.

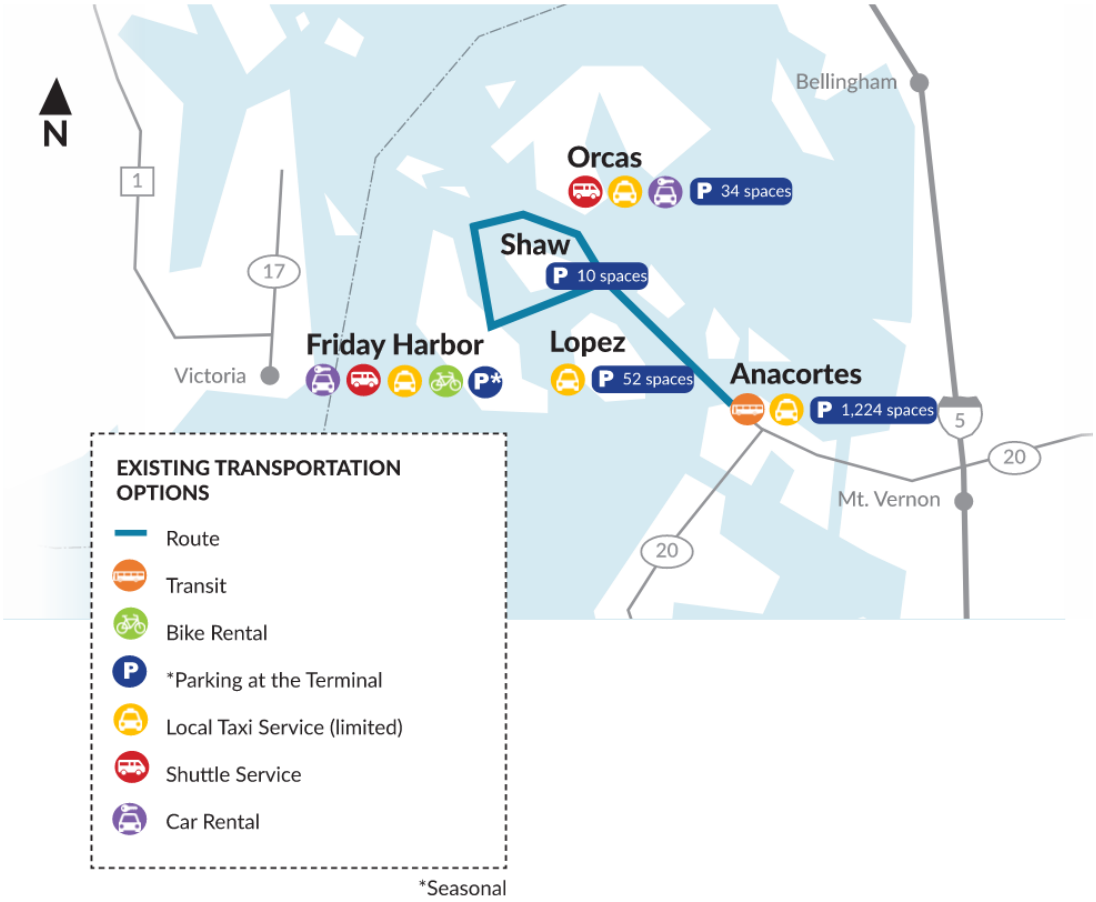


Figure 2-2. Existing Transportation Options – San Juan Islands

Friday Harbor on San Juan Island has the most transportation options available, including car rental, shuttle service, local taxi service, bike rental, and parking. Orcas Island also has a variety of options including shuttle service, local taxi service, and car rental. Lopez Island has limited options, including local taxis. Shaw Island is the most constrained of the islands, with no existing transportation modes and limited parking at the terminal.

The study identified several cost-effective near- and long-term strategies to maximize walk-on/roll-on ridership, including:

Near-Term Strategies (One to Three Years)

- Promote existing discounted parking options and explore additional cost-saving options for island residents and seniors.
- Conduct outreach to understand needs and potential expansion of medical transportation services
- Establish dedicated curb and/or parking spaces for car share rentals
- Explore contracting with an existing private operator to provide expanded shuttle service on San Juan Islands
- Improve webpage information and increase wayfinding at terminals.

Long-Term Strategies

- Incorporate strategies to maximize vessel capacity and increase walk-on/roll-on ridership into future terminal projects.
- Seek and create opportunities to collaborate on planning studies and support grant applications and funding requests for transportation connections to terminals.

Lake Washington and Lake Union Route Studies

Several recent studies have assessed the feasibility of potential Lake Washington and Lake Union POF routes to provide an additional travel option for Seattle area residents and visitors.

2015 King Country Marine Expansion Demonstration Project Study

The King County Council directed the Marine Division, through a proviso in the 2015-2016 adopted budget, to revisit a previous 2008 Expansion Demonstration Project study to expand the analysis to incorporate potential new long-term POF route expansion opportunities. That effort resulted in a Final Report on Ferry Expansion Options for the Marine Division, which identified Kenmore and Ballard routes as top potential expansions.

The table below describes key findings from review of potential landing sites.

Table 2-2. Opportunities & Challenges by Site Identified in the 2015 Expansion Demonstration Project Study

Site	Opportunities (2015)	Challenges (2015)
Kenmore – Log Boom Park	+ The city was supportive of POF service. + Connection to pedestrian/bike access via Burke Gilman Trail.	- Poor pedestrian/transit connections. - Assumed shuttle required
Kenmore – Lakepointe	+ The city was supportive of POF service. + On-site parking opportunity	- Private ownership - Development timeline unknown
Renton – Southport	+ POF could be an alternative to HCT connecting Link to downtown Seattle. + On-site parking opportunity	- Lack of direct terminal connections.
Leschi	+ Public ownership	- Difficult connection to downtown - Lack of transit connections
Madison Park	+ Public ownership	- Difficult connection to downtown. - Lack of transit connections

2020 King County Report on Implementation of a Kenmore Water Taxi Route

The King County Council directed the Marine Division, through two separate proviso requests in the 2019-2020 adopted budget, to continue planning and implementation work on both Kenmore and Ballard expansion water taxi routes. The Kenmore route assessed two route options:

- Lakepointe to University of Washington Waterfront Activities Center (UW WAC)
- Lakepointe to Madison Park

The Kenmore to UW WAC was found to be the preferred route option due to the higher ridership potential and multimodal connections at the UW landing site. After discussions with the City of Seattle Parks and Recreation, a Leschi Park landing site option was removed from consideration. At that time, POF service was identified as incompatible with planned in-water improvements.

2020 Lake Washington Water Taxi Service Study (Prepared by SECO Development in collaboration \ KCMD)

SECO Development, Inc., former owner of Southport Development in Renton, partnered with King County to explore the planning and implementation of a water taxi service linking the cities of Renton at Southport and Seattle at South Lake Union. A water taxi service between Renton and Seattle was found to provide an opportunity to connect residents of both cities to growing job centers, housing opportunities, and cultural attractions, including the Seattle Center and Key Arena. The study focused on potential commute ridership and special event service.

2021 King County Preliminary Water Taxi Expansion Progress Report[3]

Preliminary and final water taxi expansion progress reports were prepared to discuss the progress on water taxi route expansion planning activities, including shoreside preliminary design, route planning, equipment specification, preliminary capital and operating budgets, and other details necessary to prepare for the routes' implementation.

The City of Kenmore identified the Lakepointe development site as its preferred landing site, which has the potential to be utilized for vessel maintenance and tie-up.

The WSF System

WSF operates the largest ferry system in the United States, managing 21 vehicle-and-passenger vessels across 10 routes and serving 20 terminals in the Puget Sound and San Juan Islands regions (service to Sidney, British Columbia, is currently suspended). In 2024, WSF transported approximately 19.1 million riders and 9 million vehicles. 4

WSF is actively pursuing fleet modernization and environmental sustainability through its System Electrification Program. This initiative aims to transition the fleet to hybrid-electric propulsion, reducing greenhouse gas emissions and operational costs. The program includes constructing new hybrid-electric vessels and retrofitting existing ones. As of May 2025, WSF is actively pursuing contracts to build five new hybrid-electric ferries, with the first two expected to enter service by 2029. Additionally, the conversion of existing vessels, such as the M/V Wenatchee, to hybrid-electric power is underway, with completion anticipated by summer 2025.5

Current and recent WSF planning efforts have also focused on improving service reliability and recovering to pre-COVID-19 service levels, including the following:

2040 Long Range Plan: Focused on developing implementable recommendations that will lead to a sustainable, resilient, and efficient ferry service, the 2040 Long Range Plan called for more vessels and crewing levels to combat WSF's aging fleet and support increased service levels and reliability.

WSF Contingency Plan: The goal of this plan was to provide a clear decision framework to assist decision-makers on the timing of service restoration to WSF routes following the COVID-19 pandemic. WSF has

[3] King County, "Preliminary Water Taxi Expansion Progress Report," November 29, 2021, available at: https://mkcclegisearch.kingcounty.gov/View.ashx?M=F&ID=10309620&GUID=55B188A4-1A14-4605-BBCF-CBE94AA1EBC5.

[4] Washington State Department of Transportation, "Washington State Ferries Fact Sheet – February 2025," https://wsdot.wa.gov/sites/default/files/2025-02/WSF-FactSheet-February2025.pdf

[5] *Washington State Standard*, "Conversion of Washington Ferry to Hybrid-Electric Power is Delayed," September 23, 2024, https://washingtonstatestandard.com/briefs/conversion-of-washington-ferry-to-hybrid-electric-power-is-delayed.

been making progress in restoring service levels and increasing reliability using this framework over the past few years and plans to reach pre-pandemic service levels by summer 2025.

San Juan Islands Schedule Update: The schedule update was completed in 2025, after nearly two years of collaboration by WSF staff and San Juan Islands communities in an effort to improve reliability and on-time performance.

History of WSF's Role in POF Service

In the late 1900s, WSF began providing POF service on direct runs from Bremerton and Vashon Island to downtown Seattle, with direct runs from Kingston and Southworth also envisioned. Shortly after, Initiative 695 (I-695), reduced state ferry funding by $93M between Fiscal Year (FY) 1999 and FY 2001, and though it was ultimately declared unconstitutional in March 2000, WSF was left without enough funding to maintain both its POF and auto-ferry services. To combat funding decreases, WSF increased fares and reduced service.

Figure 2-3. *M/V Chinook*, WSF Passenger-only Ferry Class[6]

By 2006, WSF was only operating one POF route, Seattle – Vashon Island, and in that year, was directed by the State to shift the route operation to King County, which was completed by 2007. Since that time, WSF has focused on vehicle ferry operations. Though WSF has not had a role in POF service since, as discussed earlier in the chapter, other regional players have been involved in or explored the feasibility of POF service. The timeline in Figure 2-4 shows a brief history of WSF's role in POF services, and highlights a few subsequent regional POF planning efforts, up to the PSRC Study in 2021, which the proviso directing this current study references.

[6] Source: *The New York Times*, https://www.nytimes.com/2007/11/18/us/18ferry.html.

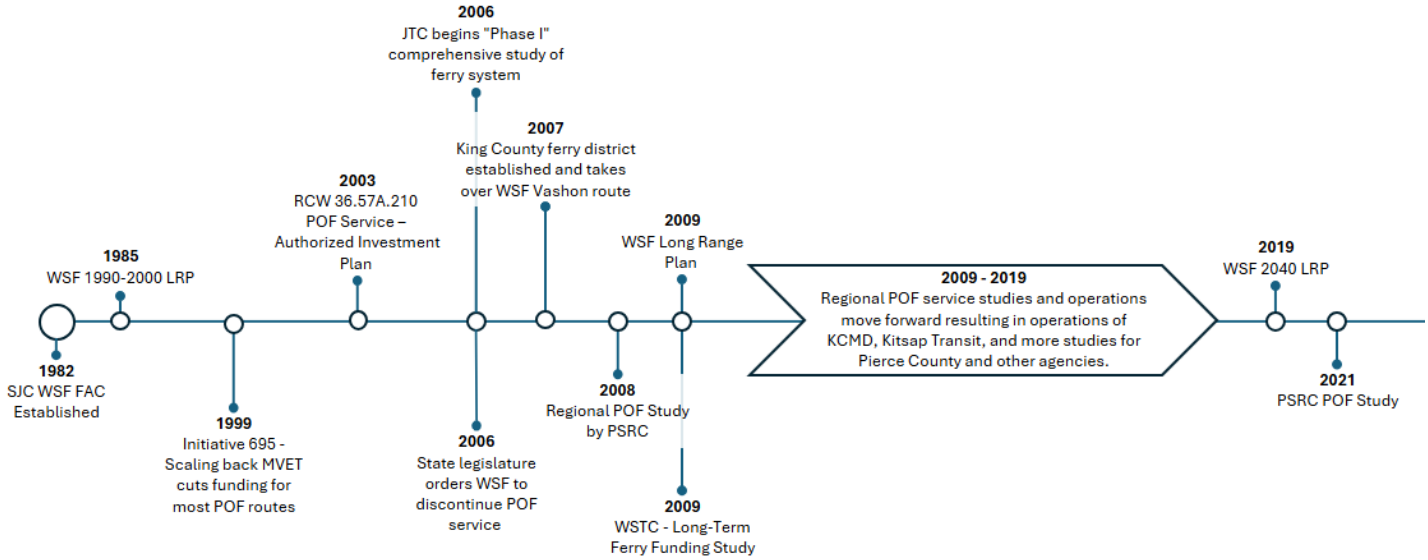


Figure 2-4. A History of POF Services from 1982 - 2021

Legislative Support for POF Service

In 2006, the Washington State Legislature passed a bill allowing any county with a population of over one million to create a ferry district. The ferry district is allowed to collect a property tax of up to 75 cents per $1,000 of assessed value for ferry district purposes. The legislation was intended to enable WSF to discontinue providing POF service, and to allow counties the capability to create a ferry district and begin operating POF services. While allowing some county operators to enter the POF market, the legislation did not explicitly eliminate the authority of WSF to operate POF service.

In recent years, the State has provided funding to other agency operators to expand POF service to supplement WSF's service. In 2022, Kitsap Transit began receiving funding from the State for additional Fast Ferries service between Bremerton and Seattle to supplement WSF's one boat vehicle and passenger ferry service, with an additional $4.4 million provided in the fiscal year 2024 supplemental budget. In 2024, the Washington State Legislature allocated $3.2 million in one-time funding to King County to subsidize additional weekday midday POF services from downtown Seattle to Vashon Island. The 2025-27 Transportation Budget included $5 million provided for continued support of the Kitsap Transit passenger ferry to supplement service on the Seattle-Bremerton WSF route, and $3.2 million for expanded weekday midday King County Water Taxi service support to and from Vashon Island. The 2025-27 budget also provides funding support to Kitsap Transit and King County Metro to expand POF services during the two-month period of 2026 World Cup events.

Chapter 3. Route Screening

Screening Approach

The budget proviso directed the Study to evaluate a specific set of routes. Routes were identified from two sources: 1) the seven routes recommended for further study by the PSRC Study, and 2) San Juan County interisland POF service.

In alignment with the goals of the Study, the initial routes were reviewed based on their potential to support existing WSF service routes. Because of the differences in geography, route types, and how potential POF service could augment WSF service, the route summary and screening process are discussed separately for the PSRC Study routes and San Juan Islands interisland service.

Figure 3-1 outlines the stepped approach used for route screening and assessment. The following sections discuss the criteria used for route screening and the results of screening for the two sets of routes.

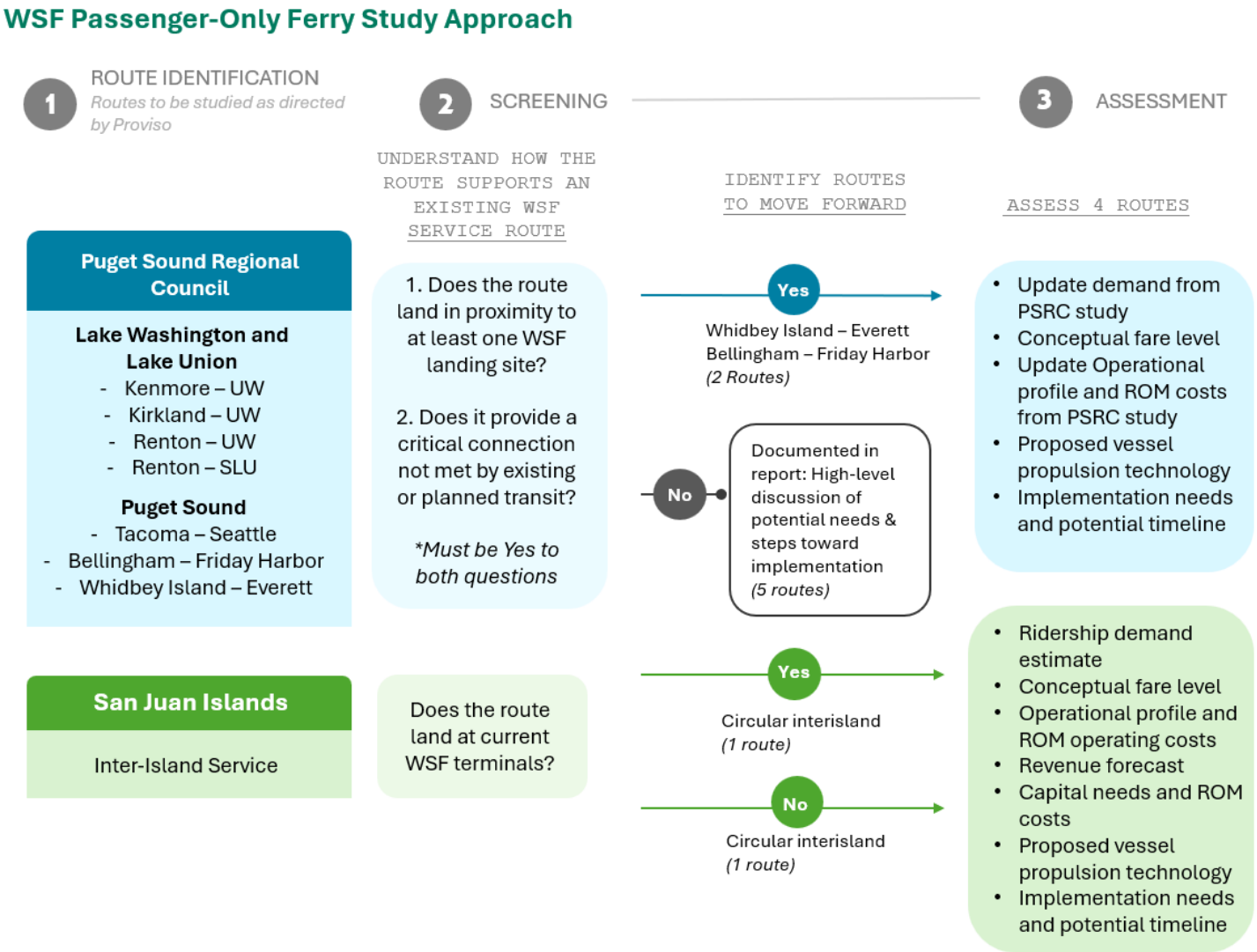


Figure 3-1. WSF Passenger-Only Ferry Study Approach

2021 PSRC Study Routes

The 2021 PSRC study assessed 45 route combinations, ultimately identifying seven as the most feasible. Those seven recommended routes were profiled and evaluated in detail. The recommended routes from the 2021 PSRC Study include the following:

- Tacoma – Seattle
- Whidbey Island – Everett
- Bellingham – Friday Harbor
- Lake Washington/Lake Union Routes (Kenmore-University of Washington [UW], Kirkland-UW, Renton-UW, Renton-South Lake Union [SLU])

The following sections summarize the operating characteristics and service assumptions used for evaluation of each of those seven routes in the PSRC Study. For the route screening process, current conditions and updates since the 2021 study were reviewed to identify any changed conditions, including current POF or transit operators in the route area, notable updates to landing site connections, and completed or planned transit projects that would provide a travel alternative to the potential route. The travel time comparisons from the 2021 study are updated to reflect current, 2025 vehicle or transit trip times, using the same assumptions.[7] The route summaries on the following pages include PSRC Study route maps updated to highlight completed or planned transportation projects near the route termini, and travel time comparisons updated to reflect current conditions.

[7] POF travel time is from dock to dock and includes maneuvering time and slowdown zones. Estimated vehicle or transit trip times for comparison are the fastest estimated trip from Google Maps. When a car trip was the comparative mode, trips were measured point-to-point from central city locations. Transit trip times were measured from the transit stops nearest to each POF landing.

Whidbey Island-Everett

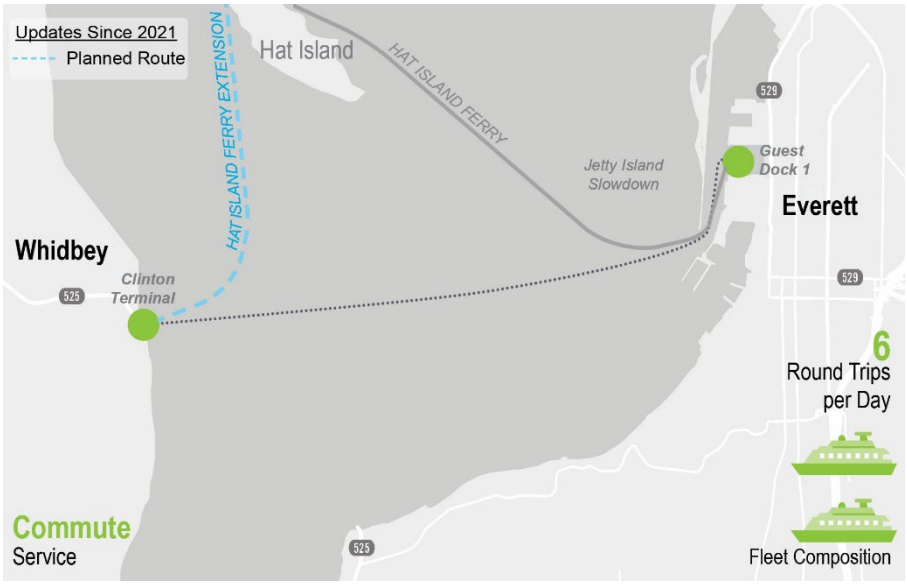


Figure 3-2. Whidbey Island to Everett Route Profile (updated from PSRC Study)

2021 PSRC Study Route Profile

This route would augment the WSF Clinton-Mukilteo passenger and vehicle ferry service, providing greater capacity and strengthening the resiliency of Whidbey Island's transportation system, ensuring more efficient and dependable travel options.

Landing Sites:

- *Whidbey Island:* Clinton Terminal
- *Everett:* Port of Everett, Guest Dock 1

Route & Speed: 5.9 nautical miles with a cruising speed of 35 knots, with one slowdown zone: Jetty Island Slowdown (7 knots).

Travel Time Comparison:

Car	POF	Time Saved
50 min	20 min	30 min

Vessel Size: A smaller vessel (maximum capacity of 150 passengers).

Service Scenario & Fleet Composition: Commuter service operating 5 days a week with two POFs (one active, one backup).

Est. Daily Ridership: 60 passengers.

Current Conditions

Nearby Transit Agencies/Operators: Hat Island Ferry, WSF, Private Operators

Transportation Updates Since the PSRC Study *(completed or planned)*:

- ***Planned replacement of the Clinton POF dock***, with preliminary design and permitting work underway. The new dock is anticipated to be around 100 feet long and is intended to be used by the Hat Island ferry, a 45-foot, 49-passenger catamaran-style ferry that currently provides service between Hat Island and the Port of Everett.
- ***Hat Island Ferry Expansion***. The Port of South Whidbey, Port of Everett, and Hat Island Community Association are collaborating on expanding the passenger-only ferry service, with discussions on adding Langley as a stop on the Hat Island-Everett route.[8]

[8] Kira Erickson, "Passenger-only ferries concept gaining traction," *Whidbey News-Times*, February 18, 2025, https://www.whidbeynewstimes.com/news/passenger-only-ferries-concept-gaining-traction/.

Bellingham-Friday Harbor

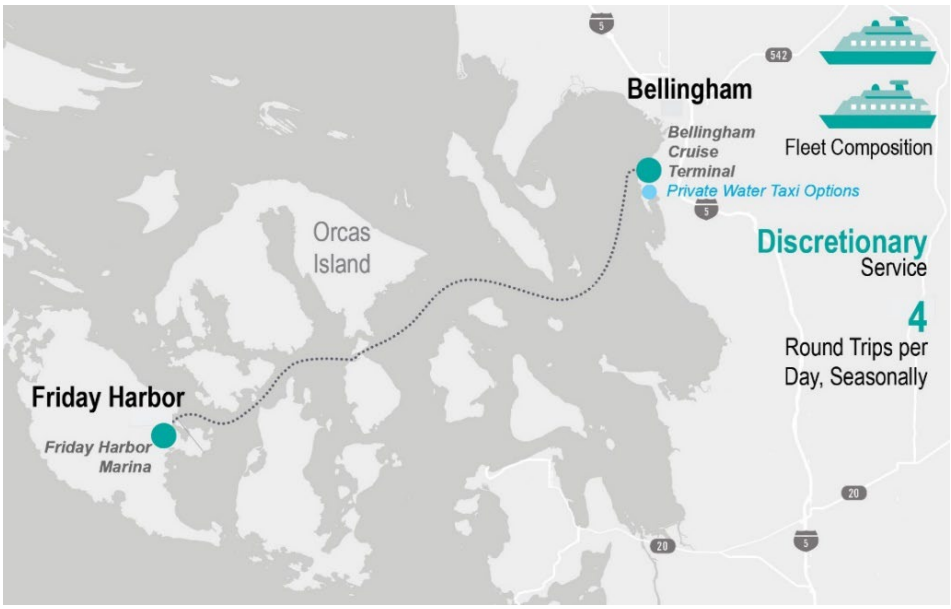


Figure 3-3. Bellingham to Friday Harbor Route Profile (updated from PSRC Study)

2021 PSRC Study Route Profile

This route connects mainland Washington to the San Juan Islands, providing major time savings compared to current travel options for tourists traveling from Washington and Canada, as well as for San Juan Islands residents connecting to medical and other services in Bellingham.

Landing Sites:

- *Bellingham:* Bellingham Cruise Terminal
- *Friday Harbor:* Friday Harbor Marina

Route & Speed: 26.7 nautical miles with a cruising speed of 35 knots, with one slowdown zone, Friday Harbor Marina Entrance (7 knots).

Travel Time Comparison:

Car & WSF	POF	Time Saved
160 min	50 min	110 min

Vessel Size: A 150+ passenger vessel was chosen for better stability and comfort in North Sound's rough waters.

Service Scenario & Fleet Composition: Seasonal service (April–September), operating 7 days a week with two passenger-only ferries (one active, one backup).

Current Conditions

Nearby Transit Agencies/Operators: Private water taxi operators, Whatcom Transportation Authority, WSF

Transportation Updates Since the PSRC Study *(completed or planned)*:

- ***Anacortes/San Juan Islands Schedule Update:*** A planning study was completed spring 2023 through winter 2025 to refine winter and spring sailing schedules and enhance service reliability. WSF began implementing the new schedules beginning with the revised winter schedule effective December 29, 2024.[9]
- ***Anacortes to San Juan Islands Walk-On Ridership Maximization Study:*** This study, completed in January 2024, reviewed potential improvements to multi-modal connections to support passengers traveling to and from the San Juan Islands without a vehicle.
- ***Expanded private water taxi options:*** including Island Opportunity Charters (began operating from Squalicum Harbor in March 2023), joining existing operators such as San Juan Cruises and Specialized Marine Transport.

[9] Washington State Department of Transportation, "Anacortes/San Juan Islands Schedule Update," accessed February 18, 2025, http://wsdot.wa.gov/construction-planning/search-studies/anacortes-san-juan-islands-schedule-update.

Tacoma-Seattle

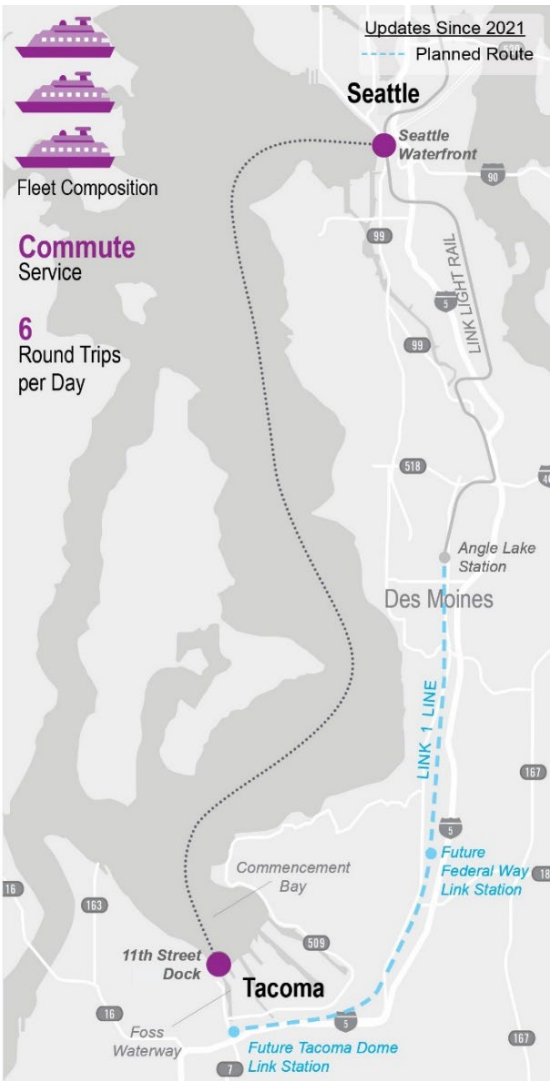


Figure 3-4. Tacoma to Seattle Route Profile (updated from PSRC Study)

2021 PSRC Study Route Profile

The Tacoma-Seattle route connects two job centers and provides commuters with a time-competitive travel option that avoids the congested I-5 corridor.

Landing Sites:

- *Seattle:* Seattle Waterfront
- *Tacoma:* 11th St Dock

Route & Speed: 27 nautical miles with a cruising speed of 35 knots, including two slowdown zones: Foss Waterway (4.3 knots) and Commencement Bay (12 knots).

Travel Time Comparison:

Bus	Sounder Train	POF	Time Saved
70 min	60 min	55 min	5-15 min

Vessel Size: A 150+ passenger capacity POF was chosen for better seakeeping and comfort.

Service Scenario & Fleet Composition: Five-day commuter service with three POFs (two in service, one backup).

Est. Daily Ridership: 290 passengers.

Current Conditions

Nearby Transit Agencies/Operators: City of Des Moines, King County Marine Division, Kitsap Transit, Pierce Transit, Sound Transit, and WSF

Transportation Updates Since the PSRC Study *(completed or planned)*:

- ***Sound Transit Sounder S Line:***[10] Service between Tacoma and Seattle was fully restored to the 13 weekday round trips in September 2022.
- ***Sound Transit Link Light Rail:*** Direct light rail connection between Tacoma and downtown Seattle is anticipated to begin in 2035 with the projects below.
  - *Hilltop Tacoma Link Extension:*[11] Opened September 2023, doubling the T-Line with seven new stations with connection to Link Light Rail.
  - *Federal Way Link Extension:* Under construction, opening in 2026 with new park-and-rides at three stations.
  - *Tacoma Dome Link Extension:* In the planning phase, expected 2035 start.

KT Fast Ferry Terminal EIS: Kitsap Transit is evaluating three Seattle Waterfront sites for a fast ferry terminal, supporting potential long-term expansion of POF landing capacity on the downtown Seattle waterfront.

[10] Sound Transit, "Sounder S Line – Routes & Schedules," accessed February 18, 2025, https://www.soundtransit.org/ride-with-us/service-alerts/multiple-s-line-trains-are-canceled-until-further-notice-due-to.

[11] Sound Transit, "System Expansion", accessed February 18, 2025, https://www.soundtransit.org/system-expansion.

Lake Washington / Lake Union

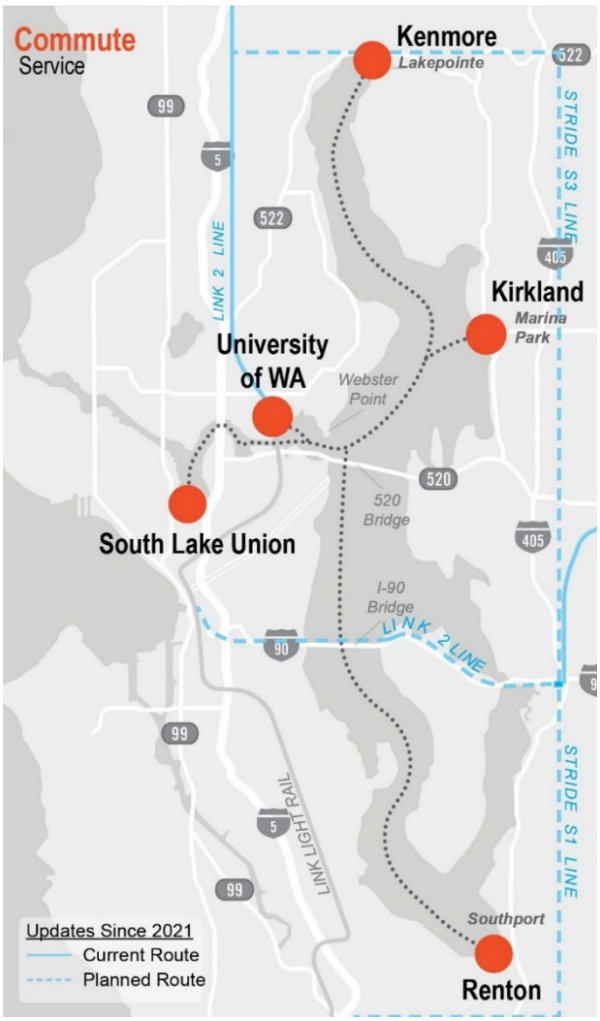


Figure 3-5. Lake Washington & Lake Union Routes Profile (updated from PSRC Study)

2021 PSRC Study Route Profile

Four commute-focused routes on Lake Washington and Lake Union (Kenmore – UW, Kirkland – UW, Renton – UW, and Renton – SLU) have the potential to increase the resilience of the regional transportation system by providing additional travel options across Lake Washington to Seattle that avoid the congestion on area roadways and bridges. The PSRC Study identified additional efforts needed to support implementation, including environmental and wake studies and the identification of a Seattle landing location.

Landing Sites:

- *Lake Washington:*
  - Lakepointe Development, Kenmore
  - Southport Development, Renton
  - Marina Park, Kirkland
- *Seattle Landing Sites:*
  - University of Washington
  - South Lake Union Park

Vessel Size: Smaller vessel (maximum capacity 150 passengers).

Service Scenario & Fleet Composition: Commuter service operating 5 days a week year-round.

Current Conditions

Nearby Transit Agencies/Operators: King County Metro, Sound Transit

Landing Site Updates Since the PSRC Study *(completed or planned)*:

- ***Lakepointe Development, Kenmore:*** In November 2024, King County Council approved a $7.5 million Conservation Futures grant to support the City's acquisition of 15 acres of Lakepointe property for shoreline restoration and public parkland.[12]
- ***Southport, Renton:*** Construction of the parking garage and remaining waterfront complex completed in 2023.
- ***Marina Park, Kirkland:*** The **City of Kirkland** plans to renovate and repair several features in 2026, including repairing the South Pier by replacing some of its existing piles.[13]

Transportation Updates Since 2021 *(completed or planned)*:

- ***Sound Transit Crosslake transit expansion:*** Planned implementation of Link Light Rail 2 Line between Redmond, Bellevue, and Seattle (2025) and Stride rapid bus connections between Bothell and Shoreline (2028).
- ***King County Metro Phase 2 Expansion:***[14] Metro plans to enhance transit in South Seattle by streamlining services and improving routes to connect underserved communities, including Renton, to the 2026 Link Light rail expansion, with a service proposal expected in the summer of 2025.

[12] City of Kenmore, "Lakepointe Development: Project Updates & News," January 2025, https://www.kenmorewa.gov/our-city/projects/lakepointe-development.

[13] City of Kirkland, "Marina Park Dock and Shoreline Renovations," November 2024, https://www.kirklandwa.gov/Government/Departments/Public-Works-Department/Construction-Projects/Marina-Park-Dock-and-Shoreline-Renovations.

[14] King County Metro, "South Link Connections", January 31, 2025, https://www.southlinkconnections.com/?lng=en.

2021 PSRC Study Route Screening Results

The routes recommended for further study in the 2021 PSRC Study were screened based on their potential to support existing WSF service. Screening criteria included the following:

- Does the route connect to at least one community currently served by a WSF route?
- Does the route support a critical connection not met by existing or planned high-capacity transit?

To move forward to detailed route evaluation, the routes were required to meet both of the screening criteria. The results of the screening process for the PSRC Study routes are presented in Table 3-1, indicating whether routes meet each of the two screening criteria.

Table 3-1. PSRC Study Route Screening Results

Route	*Screening Criteria 1: Does the route connect to a WSF-served community?*	*Screening Criteria 2: Does the route provide a connection not met by existing or planned high-capacity transit travel alternatives?*
Whidbey Island – Everett	**Yes** (Clinton)	**Yes** (No direct connection. Alternative routes include SR 525 & I-5 (Car): 50 min)
Bellingham – Friday Harbor	**Yes** (Friday Harbor)	**Yes** (No direct connection. Alternative routes include Car & WSF- 160 min.)
Tacoma – Seattle	**Yes** (downtown Seattle and Tacoma waterfront)	**No** (Sound Transit Sounder Train, planned Link Light Rail)
Lake Washington / Lake Union Routes		
Kenmore – UW	**No**	**No** (rapid bus / light rail alternatives)
Kirkland – UW	**No**	**No** (rapid bus / light rail alternatives)
Renton – UW	**No**	**No** (rapid bus / light rail alternatives)
Renton – SLU	**No**	**No** (rapid bus / light rail alternatives)

Based on the identified criteria, screening of PSRC routes identified two routes with the greatest potential to support existing WSF service routes which met both screening criteria: **Whidbey Island – Everett** and **Bellingham – Friday Harbor**.

Whidbey Island – Everett

This route augments the WSF Clinton-Mukilteo route by providing a passenger-only ferry travel alternative between Clinton and the mainland, providing an additional travel option for Whidbey Island residents and visitors. The route would strengthen the resiliency of Whidbey Island's transportation system, where access is currently limited to WSF ferry connections at Clinton and Coupeville, and roadway access via SR 20 and the Deception Pass Bridge.

The route is assumed to provide year-round, commute-focused service, with 3 hourly morning and 3 hourly evening departures provided five days a week. The assumed landing sites include the POF ferry landing adjacent to the WSF Clinton terminal, and the Port of Everett Guest Dock 1.

Bellingham – Friday Harbor

This route would provide an additional connection between mainland Washington to the San Juan Islands, offering a major time savings compared to current travel options for tourists visiting the San Juan Islands from Whatcom County and Canada, as well as for island residents connecting to medical and other services in Bellingham.

The route is assumed to provide seasonal service to support recreational and discretionary trips, with four daily round trips provided 7 days a week. The assumed landing sites include the Friday Harbor Marina adjacent to the WSF Friday Harbor terminal, and the POF dock in the Bellingham Cruise Terminal.

Routes Not Carried Forward

Five of the seven PSRC routes identified for review were not recommended for further study as part of this study. This is not reflective of the viability of these routes but rather that these routes were not the focus of this particular study either because of their relationship to current WSF routes or because they are geographically located within a county that currently operates POF service and the expansion and implementation of routes within this area is within the purview of that agency/organization. Routes on Lake Washington and between Tacoma and Seattle continue to present an opportunity to implement additional travel options between population centers. The focus on routes presented in this study should not negate the future consideration of these routes. Additional POF implementation considerations discussed in Chapter 4 and governance and funding considerations discussed in Chapter 5 are applicable to these routes and potential next steps toward their implementation.

San Juan Islands Interisland Service

In addition to the routes recommended by the PSRC Study, the proviso directed the Study to review potential San Juan County interisland POF service. While the Study will build upon the route profiles and assessment previously developed for the PSRC Study routes, preliminary assessment and screening for the Interisland POF service will focus on reviewing potential landing sites and developing a route operating profile.

San Juan Islands Interisland Service Screening Results

Screening of interisland POF route options focused on reviewing existing landing sites on each of the four islands served by WSF for their suitability to augment existing WSF interisland service. To assess potential opportunities for implementation of POF service in the near- and medium-terms, the Study limited review to publicly accessible sites with existing in-water vessel landing structures.

Potential landing sites were grouped into two categories: **existing WSF terminals** and **existing POF landing sites**. Potential planning and operating considerations related to landing site ownership are discussed further in Chapter 4.

Interisland Route Option 1 - Existing WSF Terminals

The first interisland route option completes a circular round trip connecting to the four existing WSF San Juan Islands terminals, using a bow-loading POF vessel to load and unload passengers between vehicle ferry landings.

The WSF terminals route option carried forward to detailed analysis is shown below in Figure 3-6.

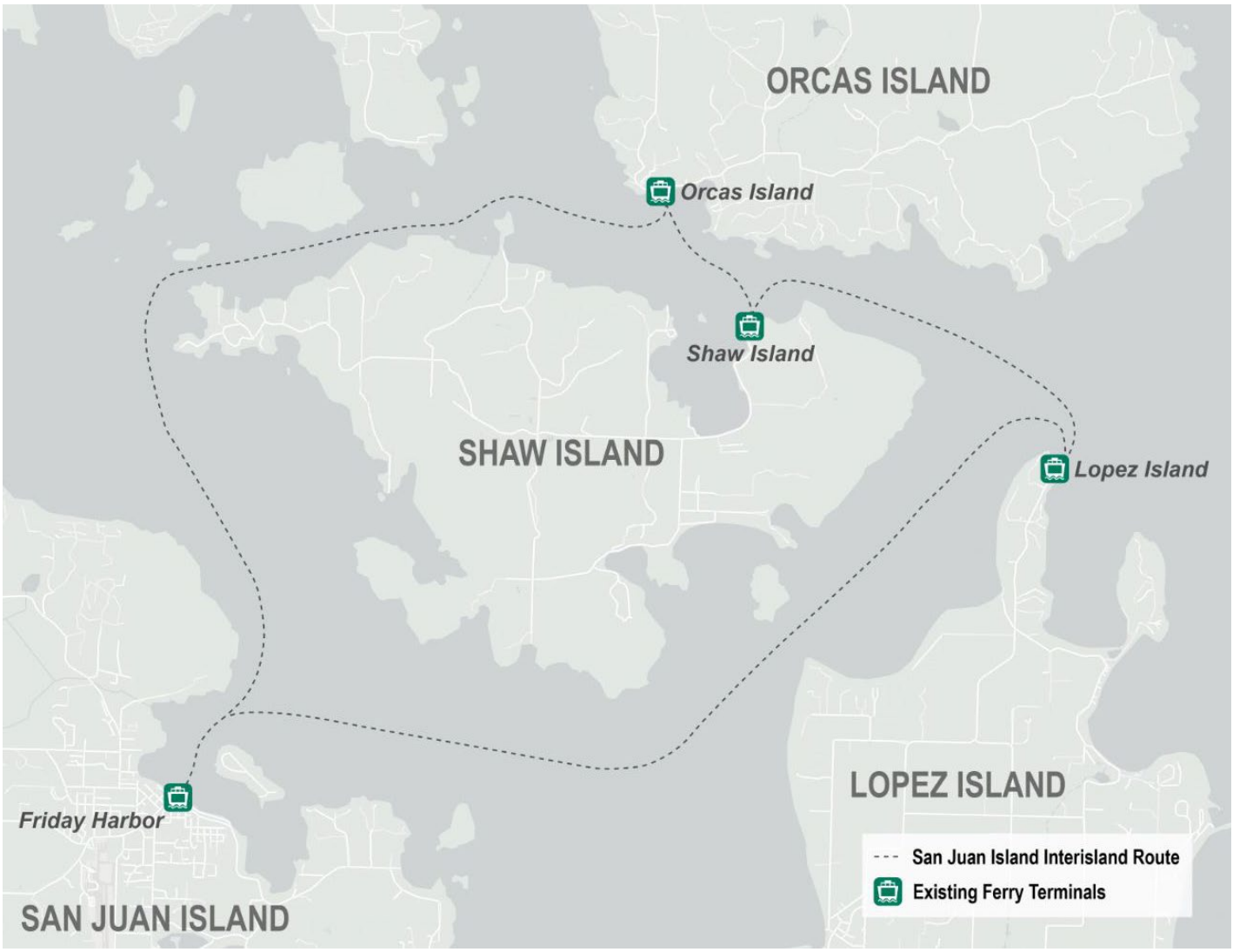


Figure 3-6. WSF San Juan Islands Interisland Route

Interisland Route Option 2 – POF Landing Sites

The second potential interisland route option would serve each of the four islands using existing POF landing sites. The Study assumes that a service operating from POF landing sites could be operated by a contract operator or by WSF.

Existing POF landing sites were screened based on their potential to meet POF service needs, their capability to meet the travel needs of passengers, and their ability to support a fixed route that meets the Study goal of augmenting WSF's interisland service. Twenty-five total POF landing sites were identified across the four islands, as shown in Figure 3-7. The numbering for each dock lock location shown in the figure below corresponds to Table 3-2.

Figure 3-7: Existing POF Landing Sites

POF landing site evaluation included a review of the following characteristics:

- **Minimum Dock Length:** Existing POF landing infrastructure was reviewed using imagery from Google Earth to estimate the length of available POF docks. While specific vessel requirements will be established for the routes carried forward to detailed review, a dock length of at least 50 feet was identified as a minimum requirement to support POF service, therefore, landing sites with docks under 50 feet were not carried forward to detailed analysis.

- **Ownership:** Site ownership (public or private) was reviewed. Publicly-owned sites were assumed to provide greater partnership opportunity for implementation of a POF service; however, privately-owned sites could be also feasible with purchase or a long-term lease.
- **Proximity for Circular Route:** The location of each landing site was reviewed to understand if the landing could be used for a circular route with a comparable or faster trip time to the current Interisland route. Landing sites within 2 nautical miles of the current WSF Interisland route were found to meet this criterion.
- **Proximity to Key Destination:** This location-based criteria identified landing sites within walking distance of key island destinations including population centers and major destinations for tourists.
- **Parking Availability:** Availability of parking near the landing site to support POF users. Other existing multi-modal connections will be reviewed in detailed assessment of routes moved forward.
- **Locational Preference:** Engagement with community representatives was conducted to identify sites with the greatest potential to support the travel needs of island residents and visitors. Based on the feedback received, community-preferred sites were identified as those most frequently used by the CWT. Feedback indicated that proximity to existing WSF terminals is a key factor supporting POF landing site use due to the availability of parking and multi-modal connections, as well as convenience in the event of a WSF Interisland service cancellation.

Table 3-2 presents the findings from evaluation of all existing San Juan Island POF landing sites. For the first criterion, minimum dock length, sites that do not meet this criterion are shaded in red. For all other criteria, sites that provide the greatest opportunity to support POF service based on the requirements defined above are indicated with a green “Yes”. Two sites are noted as potential future opportunities and are further discussed below. Site numbering in the far left corresponds with Figure 3-7.

Table 3-2. San Juan Island POF Landing Sites Evaluation

	Name	Minimum Dock Length (feet)	Ownership	Proximity for Circular Route	Proximity to Key Destination	Parking Availability	Locational Preference	Site Selected
	San Juan Island							
1	Port of Friday Harbor	660	Public	Yes	Yes	Yes	Yes	Yes
2	Friday Harbor Labs – UW	275	Public	Yes	Yes	Yes	-	
3	Shipyard Cove	300	Private	Yes	Yes	Yes	-	
4	Roche Harbor Seaplane Base	550	Private	No	Yes	Yes	-	
5	Roche Harbor Boat Ramp	60	Private	No	Yes	Yes	-	
	Orcas Island							
6	San Juan County Public Works Dock	146	Public	Yes	Yes	Yes	Yes	Yes
7	Bay Head Marina	42	Private	Yes	Yes	Yes	-	
8	Eastsound County Dock	42	Public	No	Yes	No	-	Potential future opportunity
9	Obstruction Pass Dock	42	Public	No	No	Yes	Occasional	
10	Olga County Park	98	Public	No	No	No	-	
11	West Sound Marina	205	Private	Yes	No	Yes	-	
12	Deer Harbor Marina	110	Private	Yes	No	No	-	
13	Orcas Fern St Dock	115	Private	Yes	No	Yes	-	
14	Brandt's Landing Marina	350	Private	No	Yes	Yes	-	
15	West Beach Dock	57	Private	No	No	Yes	-	
16	Rosario Village Dock	227	Private	No	No	Yes	-	
	Lopez Island							
17	Lopez Island Marina	340	Private	Yes	Yes	Yes	Occasional	Potential future opportunity
18	Spencer's Landing Marina	109	Private	Yes	No	Yes	-	
19	Odlin County Park Dock	55	Public	Yes	No	Yes	Yes	Yes
20	MacKaye Habor	60	Public	No	No	Yes	-	
21	Hunter Bay	80	Public	No	No	Yes	-	
	Shaw Island							
22	Blind Bay Dock	73	Private	Yes	No	No	-	
23	Neck Point Coves Dock	520	Private	Yes	No	Yes	-	
24	Hudson Bay Dock	78	Private	Yes	No	Yes	-	
25	Shaw General Store Dock	85	Private	Yes	Limited	No	Yes	Yes

POF Landing Site Screening Results

Screening of existing POF landing sites identified four sites, one on each island, to be included in a POF route carried forward for detailed analysis (see Chapter 4). The identified sites provide the greatest opportunity to support a feasible POF service, based on the combined results of screening criteria. Further investigation of these sites is needed to understand the compatibility of POF service with other uses and willingness of landing site owners to accommodate POF. Figure 3-8 shows the resulting POF landing sites and route option.

Figure 3-8. San Juan Islands Interisland POF Landing Sites for Further Analysis

Sites Noted for Potential Future Opportunity

While the four landing sites identified above were found to best meet the minimum programming requirements of a POF service, findings from desktop review and discussions with community representatives indicated that the two following landing sites present notable opportunities to support a future POF service due to their proximity to island destinations.

The **Lopez Island Marina**, located in Fisherman Bay as shown in Figure 3-9 below, provides a potential landing opportunity for POF use that is more centrally located for island residents and visitors. This location could provide a more accessible location with closer proximity for POF riders to reach destination areas or connection points on the island. Use of the landing site for POF service would require a service agreement for the use of dock space. Challenges of this landing site include coordination with existing marina uses and potential issues with accessibility due to a longer access path needed to reach the disembarking area of the float. In addition to these challenges, this landing site would increase sailing times due to the time needed to navigate into Fisherman Bay.

Figure 3-9. Lopez Island Potential Landing Locations

The county-owned Eastsound Dock, located just south of Eastsound on Orcas Island, provides a potentially advantageous landing site that is centrally located on the island and closer to the most populated area. Additionally, the site offers an opportunity for parking and shuttle access adjacent to the dock. The main disadvantage of this landing site is the significantly longer sailing time needed to reach this landing site, along with additional concerns for infrastructure suitability. Currently, the POF dock is removed during the winter to avoid exposure to weather events. The current dock, which is around 42 feet in length, would need to be replaced to be compatible with larger POF vessels.

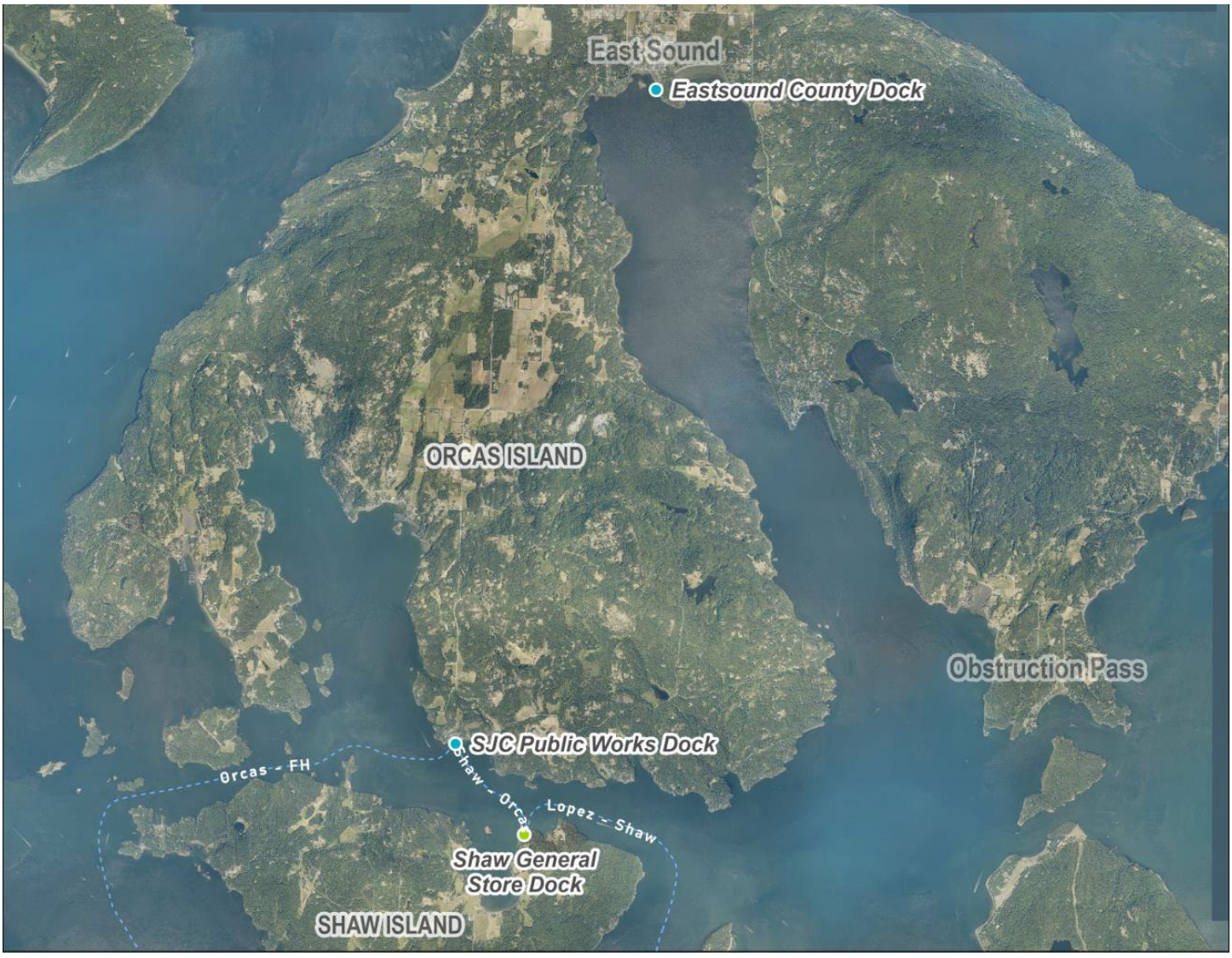


Figure 3-10. Orcas Island Potential Landing Locations

Chapter 4. Route Evaluation

The screening process resulted in four potential routes that provide the greatest opportunity to support existing WSF service to be carried forward for more detailed evaluation:

PSRC Study Routes

1. Whidbey Island – Everett
2. Bellingham – Friday Harbor

San Juan Islands Interisland Routes

1. Existing WSF Terminals
2. Existing POF Landing Sites

Route evaluation considered several factors aimed at assessing the potential feasibility and cost requirements of each route, including landing site condition assessment, schedule and service profile development, ridership demand estimation, vessel and fleet needs identification, financial analysis, and identification of implementation considerations. Route evaluation assumptions and findings are included in Appendices C, with findings summarized in the Summary of Route Evaluation Findings sections of this chapter.

Route Evaluation Approach

The following sections outline the approach and assumptions used for evaluation under each topic, identifying areas where differing approaches were used for evaluation of PSRC Study and the San Juan Islands interisland routes.

Landing Site Condition Assessment

All landing sites were reviewed for infrastructure conditions and nearby multimodal connections. The review included both current conditions and planned updates.

For the **PSRC Study routes**, landing site review built upon the analysis completed in the previous study and focused on identifying completed and planned changes to infrastructure and connections since the study took place. Previous cost estimates were escalated to 2025 dollars.

For the **San Juan Islands Interisland route**, site visits were conducted to the four preferred landing sites and two notable sites identified through initial route screening to assess each site's compatibility with minimum POF programming requirements. A minimum level of infrastructure needed to support POF service was assumed to include amenities such as lighting, signage, and a covered waiting area. Additional improvements to support vessel fit and passenger access are identified based on findings from landing site conditions assessment.

Evaluation assumed that service for both **San Juan Islands Interisland route** options would start and end in Friday Harbor, and that vessel fueling, daily maintenance, and overnight tie-up would occur at the Friday Harbor Marina owned by the Port of Friday Harbor, with crew facilities (break room, etc.) provided at the WSF terminal. Potential costs for landing site use and overnight moorage are not included in estimated operating costs.

Any landing site improvements, especially those requiring in-water work, may require an environmental review and permitting process with potentially multi-year timelines. While outside the scope of this analysis, additional

planning needs and costs should be expected related to securing long-term use of a POF landing site, requiring either site purchase or a long-term lease or use agreement.

Appendix B provides additional details on site condition findings.

Schedule & Service Profile Development

Service profiles and schedules were established for each route to inform fleet needs, ridership estimates, and operational costs. In the case of the **PSRC Study routes**, schedule and service assumptions from the previous route profiles were reviewed to understand if changes in travel demand or transportation alternatives would warrant an updated service profile or operating schedule. While ridership demand was estimated to have moderately increased for both routes, the service profile assumptions from the previous study were found to be appropriate for the estimated demand levels and were maintained for this analysis.

Schedule and service profiles were developed for the two **San Juan Islands Interisland route** options that progressed to the detailed analysis stage. Example service schedules were developed based on sailing times between landing sites and on typical commute period arrival and departure times. These schedules were developed to demonstrate that POF operations would be possible while minimizing impacts on WSF operations by avoiding arrivals/departures at the same time as WSF vessels. In the scenario where the POF vessels are not operating out of the WSF slips, the POF schedule was adjusted to allow a user that missed a sailing (either POF or WSF) sufficient time to walk over to the other service provider and catch their next sailing (except at Lopez Island where the existing POF landing site option is not located adjacent to the WSF terminal). Additionally, schedules accounted for assumptions for dwell time, start-up/shut-down times, and fueling needs. Accompanying crew schedules were also developed to inform costing.

In addition to commute-only **San Juan Islands Interisland route** option schedules, an extended service profile and associated estimated operating costs were developed for each route option based on findings from preliminary review of ridership data which indicated potential mid-day and weekend demand. Final service profiles and schedules for the San Juan Islands Interisland route options were informed by ridership demand estimates as well as engagement conducted with the island community representatives and stakeholders.

Ridership Demand Estimates

Potential ridership demand was estimated for each evaluated route. For the **PSRC Study routes**, ridership estimates were built on the analysis from the previous 2021 PSRC Study and were updated to reflect current market and commuting conditions. The primary ridership data source used for assessment was ridership data from nearby WSF routes, supplemented with other sources related to job and transit user growth, and market capture in the applicable areas. The ridership estimates assume the same level of fares as for the existing nearby WSF routes (Clinton to Mukilteo and Anacortes to Friday Harbor).

For the **San Juan Island Interisland route** options, potential ridership was estimated using the following three-step methodology:

1. Average daily foot passenger ridership for the WSF San Juan Islands interisland route was estimated using ridership counts from May 2021 to November 2024, focusing on the peak period of historic interisland walk-on ridership in 2021.
2. The share of WSF San Juan Islands interisland foot passenger ridership that would switch to using the POF service was estimated based on assumptions that consider travel time differences between the two services and which service would be most convenient option at commute time.

3. Potential increase to ridership demand associated with travel time and frequency improvements was estimated based on demand elasticity assumptions.

Final demand estimates were developed for the San Juan Island Interisland route options for both a commuter-focused service schedule and for an expanded service schedule option that provided full weekday and weekend sailings.

Appendix C presents details on assumptions used and findings from ridership demand estimates.

Vessel and Fleet Needs

Based upon the identified schedules and service profiles, fleet and vessel needs were identified for each route. Four representative vessel types were developed with characteristics that would meet the varying needs of the evaluated routes. Available vessel technology was reviewed to understand each route's potential to support electric or hybrid-electric operations.

For the **PSRC Study routes**, preliminary fleet needs from the previous study were reviewed to identify any updates based on changes in landing site conditions or available vessel technologies. Key updates include the following:

- Whidbey Island – Everett route: Identified a slower sailing speed (30 knots instead of 35 knots) based on market assessment of available vessel types.
- Bellingham – Friday Harbor route: Recommended a larger vessel size (250-passenger instead of 150- to 250-passenger) for passenger comfort based on analysis of seakeeping needs.

For the **San Juan Islands Interisland route** options, potential vessel requirements were developed based on the following considerations:

- Sailing speed requirements to provide time-competitive crossings and complete a target number of sailings within a given window
- Landing site compatibility, including minimum water depths, maximum vessel sizes, and freeboard
- Anticipated passenger capacity needs based on estimated demand levels. However, ridership estimates were found not to be restricted by vessel capacity.
- Crew size assumptions were determined from a review of guidelines in the Marine Safety Manual and an evaluation of crew sizes on reference vessels. Final crewing requirements are ultimately at the discretion of the local U.S. Coast Guard Office in Charge, Marine Inspection based on factors such as the number of passengers, voyage length, exposure to weather and sea conditions, and vessel layout. Additionally, operator policies and standards of best practice often result in crew sizes that exceed the regulatory minimum to ensure a high standard of safety and customer service. Crew sizes were therefore estimated conservatively.
- Service reliability impacts by vessel size based on weather and seakeeping needs. This involved first validating weather data from mapped buoys throughout the region, followed by an assessment of relative reliability between boat sizes by reviewing wave length and characteristics to identify limiting wind speed by boat length.
- The route analysis completed in this study reviewed options for use of both existing and newly constructed vessels based on a high-level review of market availability and the likely operating requirements of each route. Where feasible, use of existing vessels was assumed to allow faster implementation and lower up-front costs. However, the feasibility of this option depends on availability.

Additionally, if the POF service requires more than one vessel, there are potential operating challenges of non-standardized fleet. Purchase of new vessels provides the potential to design a vessel optimized to the specific operating and capacity needs of a route, as well as lower near-term maintenance requirements. Drawbacks of new vessel purchase include the higher costs and timeline requirements for service startup.

- The feasibility of hybrid and battery-electric propulsion was reviewed for each route. Assessment assumed that new-build representative vessel types would be capable of operating hybrid- or battery-electric vessels, while for existing vessel acquisitions it is assumed that hybridization and electrification would not be feasible due to the limited market availability. This analysis reviewed potential limitations such as difficulty accommodating electrification equipment on smaller vessels, the potential for shoreside charging infrastructure, and the feasibility of utilizing battery power by route duration.

The four representative vessel types are identified in the table below. Appendix D presents the assumptions and procedures used to identify characteristics for these representative vessel types.

Table 4-1. Representative Vessel Types

	Subchapter T (Existing Vessel, Small)	**Subchapter T** (Existing Vessel, Large)	**Subchapter T** (New-Build)	**Subchapter K** (New-Build)
Characteristic				
Vessel Size	50 ft length 17 ft beam	70 ft length 26.8 ft beam	70 ft length 26.8 ft beam	140 ft length 36.8 ft beam
Passenger Capacity	49	150	150	250
Vessel Speed	30 kt max 26 kt cruising	30 kt max 26 kt cruising	30 kt max 26 kt cruising	37 kt max 32 kt cruising
Crew Size	3	3	3	3
Cost	**$5 - $9 million**	**$7 - $11 million**	**$9 - $13 million** + $3 - $4 million for electrification	**$26 - $32 million** + $8 - $10 million for electrification
Fuel Consumption	70 cruising 40 maneuvering	135 cruising 80 maneuvering	135 cruising 80 maneuvering	250 cruising 175 maneuvering
Considerations				
Fits non-WSF San Juan Islands Docks	+	+	+	-
Limited Crew Size	+	+	+	+
Hybrid Capability	-	-	+	+
Electric Capability	-	-	+	+
Suitability				
Route Length & Ridership	**Shorter** routes with **moderate ridership**	**Shorter** routes with **moderate ridership**	**Shorter** routes with **moderate ridership**	**Longer** routes with higher potential sea states or **higher ridership**
Immediacy of Solution	Ideal for **intermediate**, stop-gap solution	Ideal for **intermediate**, stop-gap solution	**Longer** timeframe but **greater customization**	**Longer** timeframe but **greater customization**

Financial Analysis

Financial projections were developed for each route to provide estimated annual operating expenditures and required start-up capital investments. Based on the previous analyses, rough-order-of-magnitude (ROM) capital costs were developed for each route and included costs for identified terminal and vessel infrastructure needs, as outlined below:

- **Landing Site Improvements:** ROM costs for identified landing site improvements were developed based on estimated unit costs. Based on best practice assumptions, ROM construction costs were escalated to include estimated costs for design and permitting, construction mobilization and demobilization, construction management and administration, taxes, and general contingency.
- **Vessels:** Cost ranges were calculated from known construction cost of reference vessels. Costs were inflated to 2025 dollars using the U.S. Shipbuilding Producer Price Index. A purchase cost for existing vessels was estimated based on a reduced cost for vessels aged 10 years at the time of purchase. For vessels found to be suitable for electrification, an additional cost range reflecting roughly 30% of total vessel cost is shown to reflect increased equipment costs and the potential increased vessel size to accommodate larger equipment.

Operating cost estimates were developed for each route reflecting the proposed schedule and service profile options. Operating cost components included estimated fuel/energy costs, crew costs, maintenance and overhead costs.

Additional details on cost inputs and assumptions are provided in Appendix E. A preliminary analysis of potential fare revenue potential is included in Chapter 6.

Implementation Considerations

Specific considerations for implementation of each route are identified in the route profile. Additional considerations are discussed in more detail in Chapter 6. Recommendations and Next Steps.

Summary of Route Evaluation Findings

Table 4-2 provides a summary comparison of the route evaluation findings that are further detailed in the Route Profiles section.

Table 4-2. Summary of Route Evaluation Findings

	Whidbey Island - Everett	Bellingham – Friday Harbor	San Juan Islands Interisland – WSF Terminals	San Juan Islands Interisland – Existing POF Docks
Crossing time	20 minutes	50 minutes	65 minutes (roundtrip)	60 minutes (roundtrip)
Ridership (one-way trips)	22,100 annual riders	26,500 annual riders	40,800 annual riders	40,800 annual riders
Fleet	2 vessels • 150-passenger size • New build • Potential hybrid or electric capability	2 vessels • 250-passenger size • New build	2 vessels • 250-passenger size • New build	2 vessels • 50-passenger size • Existing vessels
Level of landing site improvements needed	Minimal *(assuming planned completion of the Clinton POF Dock Replacement project)*	Minimal	Minimal	Moderate
Estimated capital costs	$34.1M - $39.3M	$72.4M - $82,8M	$69.8M	$16.1M - $21.1M
Estimated annual operating costs	$2.7M	$3.5M	$3.3M *(commute-only)* $5.1M *(extended)*	$2.1M *(commute-only)* $3.1M *(extended*
Estimated implementation timeline	Unknown *(pending planned completion of Clinton POF Dock replacement)*	Long-term *(assumes new vessel construction)*	Long-term *(assumes new vessel construction)*	Near-term *(assumes use of existing vessels)*

Route Profiles

The following pages present the route characteristics, proposed operating profiles, and evaluation findings for each of the four routes.

Whidbey Island – Everett

This route would augment the WSF Clinton-Mukilteo passenger and vehicle ferry service, providing greater capacity and strengthening the resiliency of Whidbey Island's transportation system. Based on increases in commute travel, annual ridership for this route is anticipated to be higher than the estimate in the PSRC Study.

Service Type: Commute, 6 round trips per day, 5 days per week

Seasonality: Year-round

Est. Avg. **85 Daily / 22,100 Annual one-way trips**

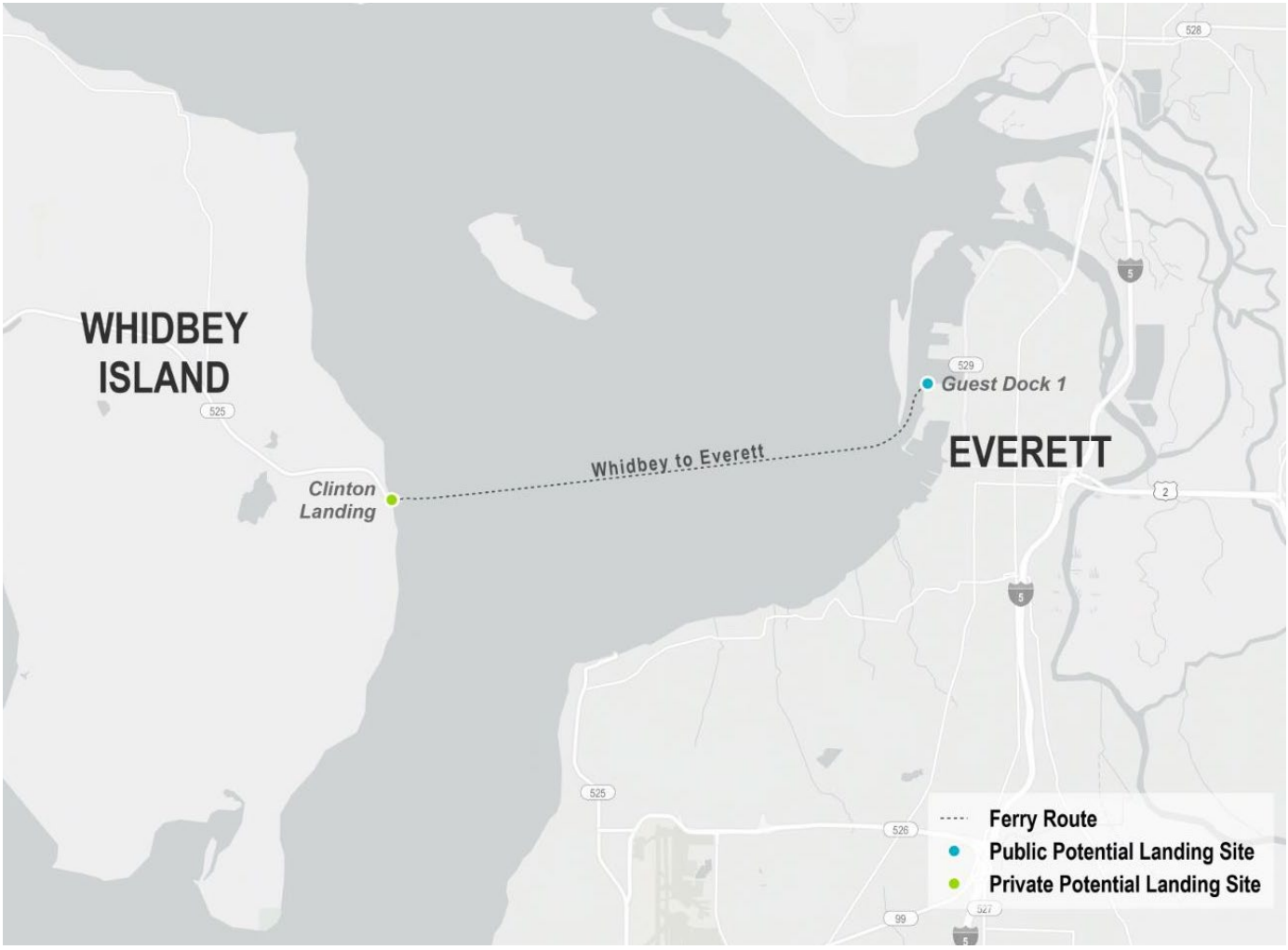


Figure 4-1. Whidbey Island to Everett Ferry Route

Approximate Travel Times

Clinton Terminal to Port of Everett	50 to 60 min by Car	20 min by POF	30 to 40 min in savings

The POF journey covers 5.9 nautical miles with a cruising speed of 30 knots, with one slowdown zone at Jetty Island Slowdown (7 knots). The service profile assumes operations 5 days a week, year-round, a total of 260 weekdays.

Landings:

- **WHIDBEY ISLAND:** Clinton Terminal
- **EVERETT:** Port of Everett, Guest Dock 1

Vessels:

- Two 150-pax vessels
- Potential suitability for hybrid/electric

Landing Site Details

Figure 4-2. Potential Landing Site Details at the Whidbey Island Clinton Terminal and Port of Everett Guest Dock

WHIDBEY ISLAND: Clinton Terminal

- **Existing infrastructure:** The landing currently supports a WSF vehicle and passenger ferry terminal and has a current POF dock and float. However, the POF in-water infrastructure is currently damaged and would need replacement to support a POF vessel.

  ***Clinton POF Dock Replacement Project**. This Port of South Whidbey project plans to replace the damaged dock with preliminary design and permitting work underway. The new dock is anticipated to be around 100 feet long and will potentially be used by the Hat Island ferry, a 45-foot, 49-passenger catamaran-style ferry that currently provides service between Hat Island and the Port of Everett.*

- **Multimodal connections:**

  Personal Vehicle: A small parking lot is adjacent to the landing while a larger parking lot is located within a five- to six-minute walk of the landing, across the street and up a set of stairs. This parking area provides a shuttle to the terminal, which also has a vehicle drop-off zone.

  Transit: Island Transit provides bus service at the WSF ferry terminal to and from Oak Harbor at the north end of Whidbey Island.

  Bicycle: No bike lanes are immediately adjacent to the landing.

  Pedestrian: Sidewalks are available near the terminal but not on both sides of the street.

- **Improvement needs:** Once the planned replacement of the Clinton POF Dock is complete, anticipated improvements include ticketing, signage, and minor uplands work to support a new service.

EVERETT: Port of Everett, Guest Dock 1

- **Existing infrastructure:** Guest Dock 1 has in-water facilities that can support the landing of a POF vessel and currently serves the Hat Island Ferry.
- **Multimodal connections:**

Personal Vehicle: Multiple large parking lots are nearby but availability for ferry-only parking is limited.

Transit: An Everett Transit Bus stop is a half mile walk away and provides service to Everett Station transportation hub.

Bicycle: The Mill Town Trail is a dedicated bike/pedestrian path along SR 529. Bicycle access to the north Everett neighborhoods is available via the nearby pedestrian bridge with a bike-sized elevator.

Pedestrian: Sidewalks are available on Mill Town Trail and other nearby roads. The landing is within an approximately 12-minute walk of the Puget Sound Naval Complex.

- **Improvement needs:** Ticketing, signage, and minor uplands work would be needed to support a new service.

Route Assessment

A POF route between Whidbey Island and Everett has the benefit of reducing travel time by 30 to 40 minutes. In addition, the proposed landing sites discussed above have the potential to transition to low-/no-emissions vessel in the future. Implementation requires the completion of the planned Clinton Dock Replacement project on Whidbey Island.

Capital and Operating Cost Summary:

Operating and capital costs were estimated based on the proposed operating profile using available regional operating and industry data expressed in 2025 level dollars. Costs for landing site improvements exclude acquisition or lease.

Capital Costs	**$34.1M - $39.3M**
Vessel Acquisition	$32.8M
Landing Site Improvements	$1.3M - $6.5

Annual Operating Costs	**$2.7M**
Operating Labor	$781,000
Fuel	$424,000
Maintenance (labor, materials and contracts)	$719,000
Insurance & Other	$345,000
Management Support & Overhead	$455,000

Implementation Considerations

- The 2021 PSRC Study identified Whidbey Island as a bridge and ferry dependent area, meaning that an additional ferry service represents an enhancement to the resiliency of transportation to Whidbey Island communities. The small rural hospital 30 miles from the ferry dock has limited capacity, and this route also increases access to necessary medical services in the Everett area.
- Implementation would require completion of the planned Clinton POF Dock Replacement project *(timeline currently unknown).*

Bellingham – Friday Harbor

This route connects mainland Washington to the San Juan Islands, providing major time savings compared to current travel options for tourists traveling from Washington and Canada, as well as for San Juan Island residents connecting to medical and other services in Bellingham.

Service Type: Commute & Discretionary
4 round trips per day, 7 days per week

Seasonality: Seasonal

Est. Avg. **180 Daily / 26,500 Annual one-way trips**

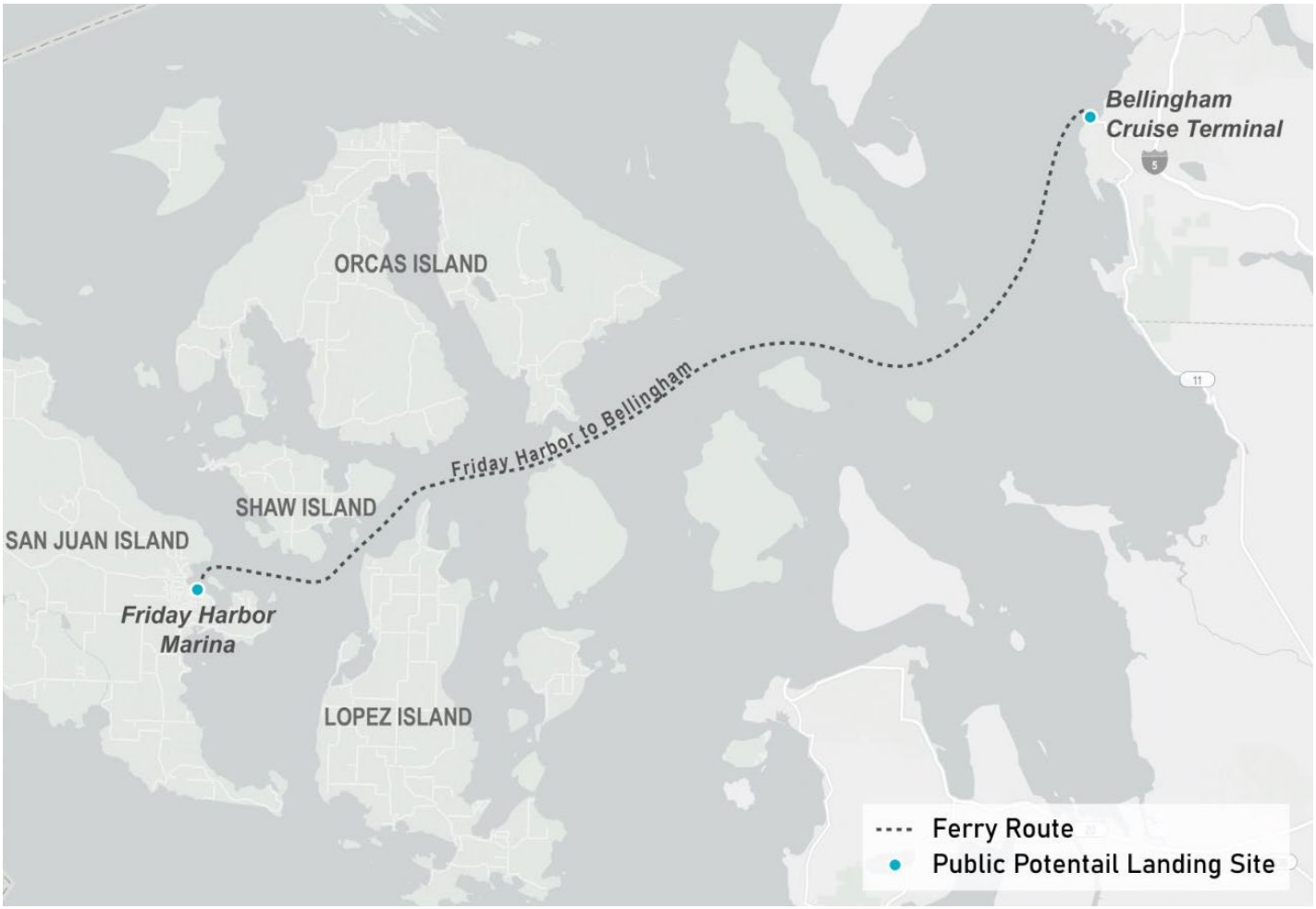


Figure 4-3. Bellingham to Friday Habor Ferry Route

Approximate Travel Times

Bellingham Cruise Terminal to Friday Harbor Marina	160 min by Car & Vehicle Ferry	50 min by POF	110 min in savings

The POF journey covers 26.7 nautical miles with a cruising speed of 35 knots, with one slowdown zone at the Friday Harbor Marina Entrance (7 knots). The service profile assumes operations 7 days a week from April through September for a total of 183 days.

Landings:

- **BELLINGHAM:** Bellingham Cruise Terminal
- **FRIDAY HARBOR:** Friday Harbor Marina

Vessels:

- Two 250-pax vessels

Landing Site Details

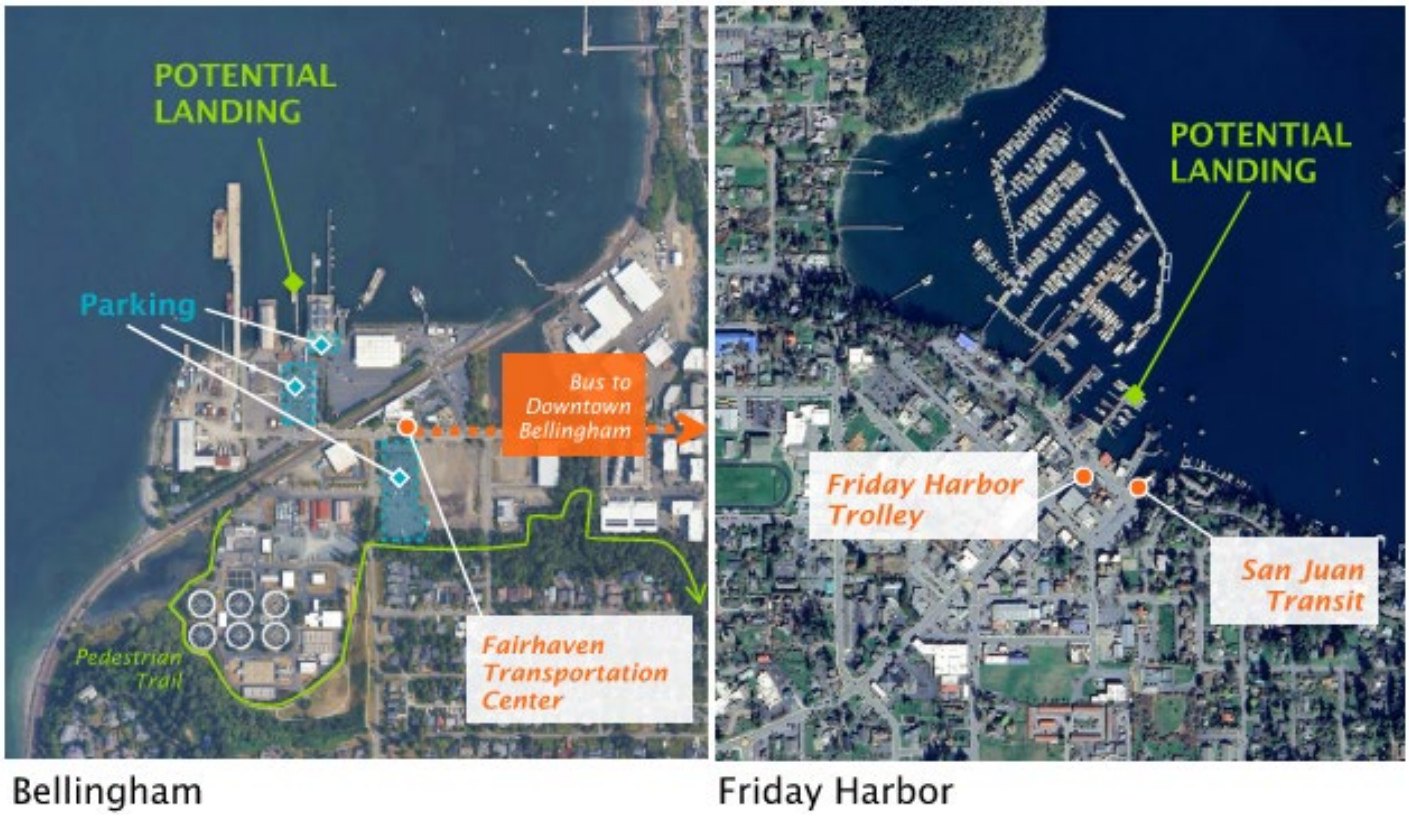


Figure 4-4. Potential Landing Site Details at the Bellingham Cruise Terminal and Friday Harbor Marina

BELLINGHAM: Bellingham Cruise Terminal

- **Existing infrastructure:** The Cruise Terminal currently has sufficient in-water infrastructure to support landing a 250 passenger POF vessel, including a float (approx. 120' by 12') and ramp (approx. 36' by 6').
- **Multimodal connections:**

  Personal Vehicle: Some parking is on site, and numerous parking lots are within a half-mile of the landing.

  Transit: The landing is a 5-to-6-minute mile walk from Fairhaven Station, where riders can connect to downtown Bellingham via local WTA bus services, and other destinations via Amtrak and Greyhound.

  Bicycle: No dedicated bike lanes are available on the nearest main road (Harris Ave).

  Pedestrian: Sidewalks connect to Fairhaven Transportation Center, and a trails network is within half a mile of the landing.

- **Improvement needs:** Ticketing, signage, and minor uplands work would be needed to fully support service.

FRIDAY HARBOR: Friday Harbor Marina

- **Existing infrastructure**: The Spring Street Landing at the marina has sufficient in-water infrastructure to support landing a 250-passenger POF vessel, including an existing float (approx. 176' by 21'), existing ramp (approx. 51' by 6') sheltered waiting area, and restrooms.

- **Multimodal connections:**

Personal Vehicle: Parking lots with capacity to support service are currently adjacent to the potential landing.

Transit: The landing is a 2-minute walk from the Friday Harbor Trolley which provides bus tours, and a 3-minute walk from San Juan Transit bus hub which provides regular and charter service for numerous San Juan destinations.

Bicycle: Though in a bikeable area, no designated bike lanes are adjacent to the site

Pedestrian: Located in walkable downtown Friday Harbor, the site has multiple attractions that can be accessed via sidewalks.

- **Improvement needs:** Ticketing, signage, and minor uplands work would also be needed to fully support service

Route Assessment

Compared to driving to Anacortes and taking the WSF vehicle ferry, a POF running from Bellingham to Friday Harbor would reduce total travel time almost 70%, saving passengers nearly two hours of travel time. This time savings has the potential to increase discretionary travel between Whatcom County and San Juan Island. However, multi-modal connections are limited at both ends of the route for walk-on/roll-on travelers. A larger, 250-passenger vessel is recommended to maintain passenger comfort in higher sea states possible on portions of the route.

Financial Summary

Operating and capital costs were estimated based on the proposed operating profile using available regional operating and industry data expressed in 2025 level dollars. Costs for landing site improvements exclude acquisition or lease.

Capital Costs	**$72.4M - $82.8M**
Vessel Acquisition	$69.8M
Landing Site Improvements	$2.6M - $13.0 M

Annual Operating Costs	**$3.5M**
Operating Labor	$665,000
Fuel	$991,000
Maintenance (labor, materials & contracts)	$794,000
Insurance & Other	$433,000
Management, Support & Overhead	$578,000

Implementation Considerations

- Future route implementation planning may consider additional route segments to incorporate connections on other islands.

San Juan Islands Interisland Service – Existing WSF Terminals

This circular route connects to the four WSF-served islands, landing at existing WSF terminals. To be compatible with the vehicle ferry slips, a large, bow-loading POF vessel is required.

Service Type: Commute with an option for extended summer service, 6 round trips/day

Seasonality: Year-round

Estimated Commute-Only Demand: up to 223 daily / 40,800 annual one-way trips

Estimated Extended Service Demand: up to 490 daily / 86,300 annual one-way trips

Figure 4-5. Location of Existing WSF Terminals on the San Juan Islands

Approximate Travel Times between Islands *(crossing times in minutes)*

	Friday Harbor	Lopez	Shaw	Orcas
Friday Harbor	-	21	34	44
Lopez	44	-	13	22
Shaw	31	50	-	10
Orcas	21	41	53	-

Vessels:

- Two 250-passenger vessels

Landing Site Details

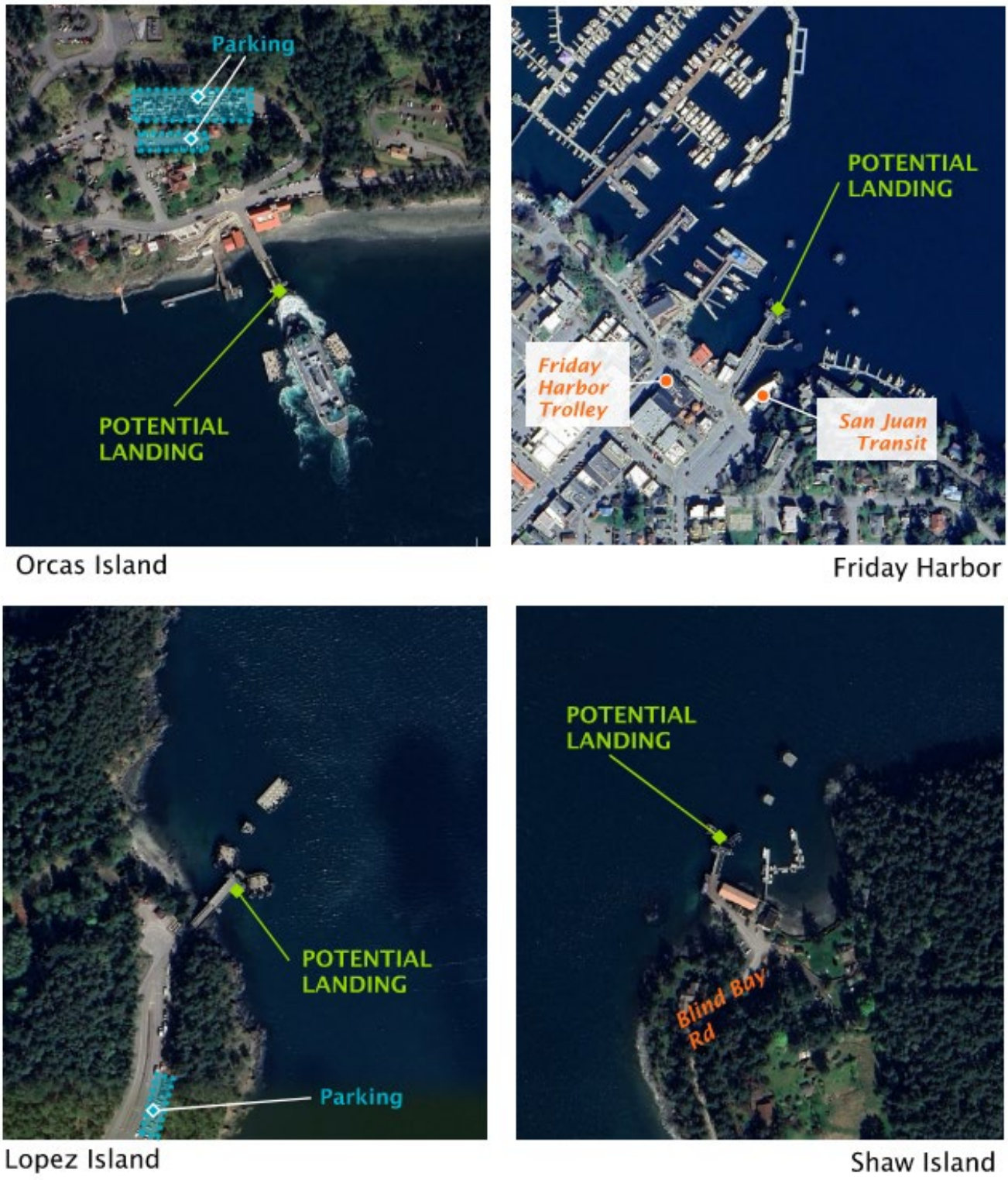


Figure 4-6: San Juan Islands Interisland Service – Existing WSF Terminals Landing Site Details

ORCAS ISLAND:

- Existing infrastructure onsite includes a ramp, dock, sheltered waiting area, and restrooms.
- **Multimodal connections:**

Personal Vehicle: Two parking lots are located within half a mile of the landing.

Transit: No nearby transit connections.

Bicycle: No designated bike lanes are adjacent to the site

Pedestrian: The site is not within walking distance of many desired destinations.

- Improvement needs: Fendering would need to be installed on the doc to allow a POF vessel to safely land.

FRIDAY HARBOR

- Existing infrastructure onsite includes a ramp, dock, sheltered waiting area, and restrooms.
- **Multimodal connections:**

Personal Vehicle: Parking is available near the potential landing, although capacity may be limited during peak times, and overflow lots require an uphill walk.

Transit: The landing is a 2-minute walk from the Friday Harbor Trolley which provides bus tours, and a 3-minute walk from San Juan Transit bus hub which provides regular and charter service for numerous San Juan destinations.

Bicycle: Though in a bikeable area, no designated bike lanes are adjacent to the site

Pedestrian: Located in walkable downtown Friday Harbor, the site has multiple attractions that can be accessed via sidewalks.

- Improvement needs: Fendering would need to be installed on the dock to allow a POF vessel to safely land.

LOPEZ ISLAND:

- Existing infrastructure onsite includes a ramp, dock, sheltered waiting area, and restrooms.
- **Multimodal connections:**

Personal Vehicle: Limited parking for WSF vehicle ferry riders is available within half a mile of the potential landing.

Transit: No nearby transit connections.

Bicycle: No designated bike lanes are adjacent to the site

Pedestrian: The site is not within walking distance of many desired destinations.

- Improvement needs: Fendering, a ladder, and lighting would need to be installed on the doc to allow a POF vessel to safely land.

SHAW ISLAND

- Existing infrastructure onsite includes a ramp, dock, and restrooms.
- **Multimodal connections:**

Personal Vehicle: Parking near the terminal is limited to a few stalls

Transit: No nearby transit connections.

Bicycle: No designated bike lanes are adjacent to the site

Pedestrian: The site is not within walking distance of many destinations.

- Improvement needs: Fendering, a ladder, and lighting would need to be installed on the doc to allow a POF vessel to safely land.

Route Assessment

The use of existing WSF terminals for a potential interisland POF route would require minimal upland and terminal improvements; however, a specifically-designed bow-loading vessel would need to be procured to be compatible with the vehicle ramp, resulting in a vessel that would be over-size for typical demand levels. Use of the WSF slips would require careful schedule planning to minimize risk of schedule conflicts and disruptions.

Capital and Operating Cost Summary:

Operating and capital costs were estimated based on the proposed operating profile using available regional operating and industry data expressed in 2025 level dollars. Costs for landing site improvements exclude acquisition or lease.

Capital Costs	**$69.8M**
Vessel Acquisition	$69.8M
Landing Site Improvements	$0

	Commute-only Service	Extended Service
Annual Operating Costs	**$3.3M**	**$5.2M**
Operating Labor	$850,000	$1.3M
Fuel	$893,000	$1.6M
Maintenance(labor, materials & contracts)	$745,000	$1.0M
Insurance & Other	$278,000	$348,000
Management, Support & Overhead	$555,000	$861,000

Implementation Considerations

- ***Use of WSF terminals and potential schedule impacts*:** POF arrivals and departures would need to be scheduled in coordination with WSF to avoid conflicts with vehicle ferries. Any potential delays, especially during peak demand days when late sailings occur most frequently, are likely to cause cascading schedule impacts. It is assumed that WSF vehicle ferries would get priority for landings, POF has more flexibility to make up time with faster sailing times. Whenever possible, the POF should be scheduled to depart the terminal five or more minutes prior to the vehicle ferry arrival.

San Juan Islands Interisland Service – Alternate POF Landing Sites

This route circular route connects to the four WSF-served islands, landing at the WSF terminals. To be compatible with the vehicle ferry slips, a large, bow-loading POF vessel is required.

Service Type:
Commute with an option for extended summer service, 6 round trips/day

Seasonality:
Year-round

Estimated Commute-Only Demand: up to 223 daily / 40,800 annual one-way trips

Estimated Extended Service Demand: up to 482 daily / 85,000 annual one-way trips

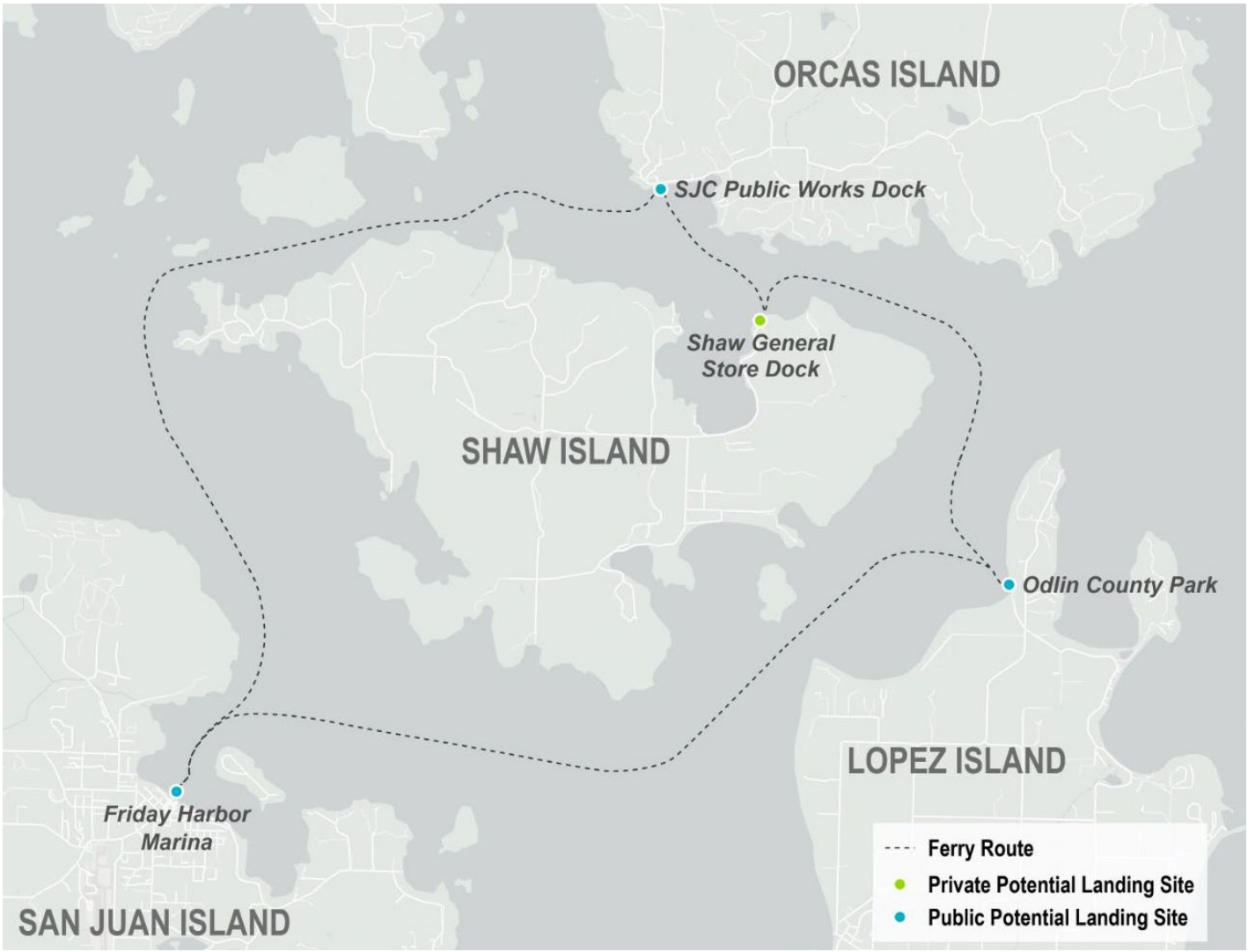


Figure 4-7. Location of Alternative Landing Sites on the San Juan Islands

Approximate Travel Times between Islands *(crossing times in minutes)*

	Friday Harbor	*Lopez*	*Shaw*	*Orcas*
Friday Harbor	-	18	30	38
Lopez	43	-	13	22
Shaw	31	55	-	8
Orcas	23	47	50	-

Landing Site Details

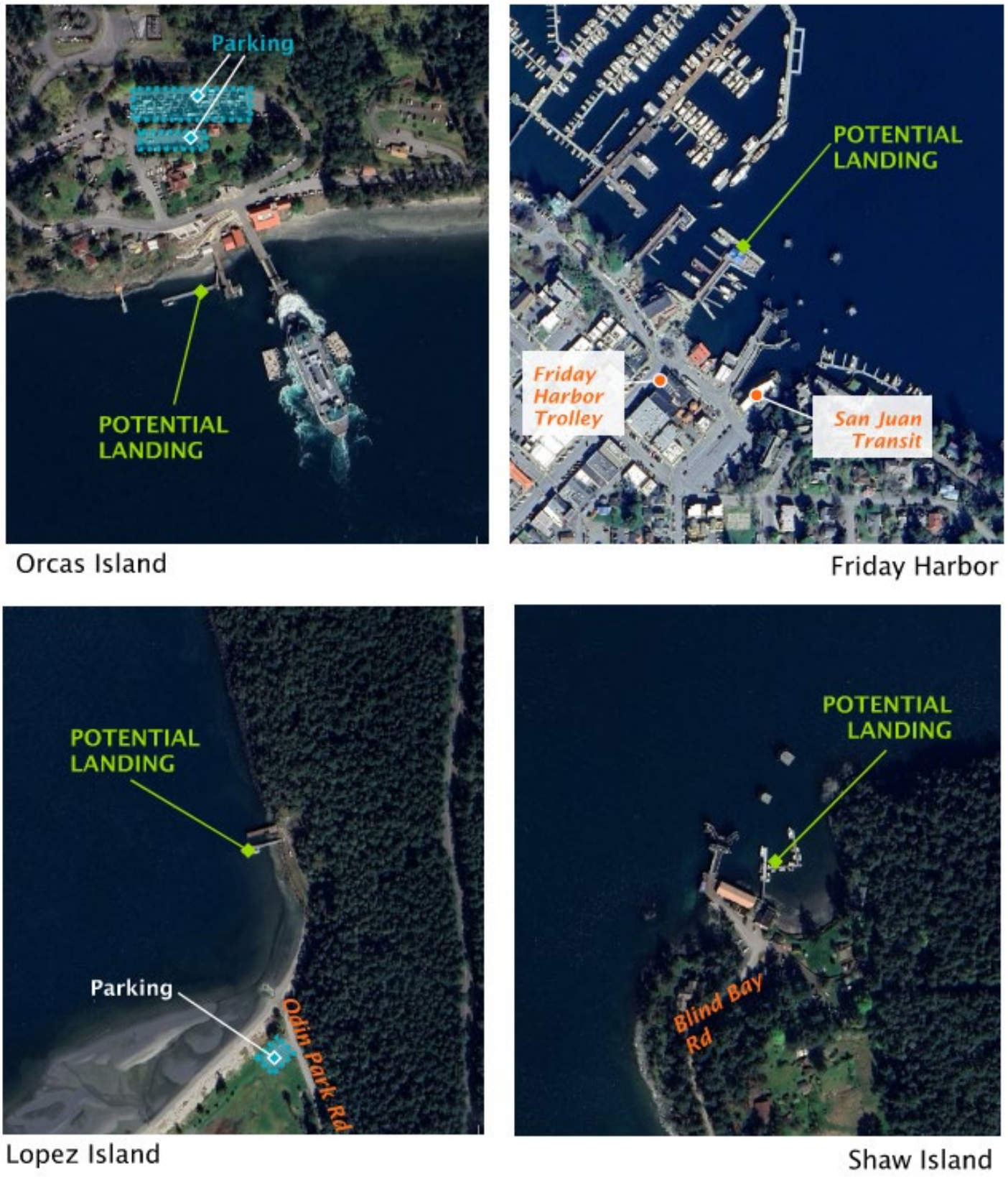


Figure 4-8. San Juan Islands Interisland Service – Potential Landing Site Details

ORCAS ISLAND

- Existing infrastructure: An existing float is located adjacent to the WSF terminal which includes parking, covered waiting area, and restrooms. The float is accessed via a steep walkway/driveway with limited vehicle turnaround space.
- **Multimodal connections:**

Personal Vehicle: Two parking lots are located within half a mile of the potential landing.

Transit: No nearby transit connections.

Bicycle: No designated bike lanes are adjacent to the site.

Pedestrian: The site is not within walking distance of many desired destinations.

- Improvement needs: Replacement of the existing, narrow gangway to provide ADA access to the float. Minor improvements to support POF service such as fendering, lighting and signage.

FRIDAY HARBOR

- Existing infrastructure: The Spring Street Landing float is well suited for POF service with minor improvements to support passenger access and potential vessel tie-up.
- **Multimodal connections:**

Personal Vehicle: Parking is available near the potential landing, although capacity may be limited during peak times, and overflow lots require an uphill walk.

Transit: The landing is a 2-minute walk from the Friday Harbor Trolley which provides bus tours, and a 3-minute walk from San Juan Transit bus hub which provides regular and charter service for numerous San Juan destinations.

Bicycle: Though in a bikeable area, no designated bike lanes are adjacent to the site.

Pedestrian: Located in walkable downtown Friday Harbor, the site has multiple attractions that can be accessed via sidewalks.

- Improvement needs: Minor improvements to support POF service such as fendering, lighting and signage. To provide overnight tie-up, improvements for vessel security would be needed.

LOPEZ ISLAND

- Existing infrastructure: The existing Odlin Park dock is in good condition to support POF service. While parking is available near the landing site, vehicle access to the float is restricted, and pedestrian improvements such as paving and lighting would support POF users.
- **Multimodal connections:**

Personal Vehicle: A small parking lot is available within half a mile of the landing.

Transit: No nearby transit connections.

Bicycle: No designated bike lanes are adjacent to the site.

Pedestrian: The site is not within walking distance of many desired destinations.

- Improvement needs: Minor improvements to support POF service such as fendering, lighting and signage. Uplands access improvements including paving and walkways, sheltered waiting area, and lighting.

SHAW ISLAND

- Existing infrastructure: The current, privately-owned float would be adequate to support POF service with minor improvements. The float is accessed via a narrow walkway through the privately-owned property.
- **Multimodal connections:**

Personal Vehicle: Very limited parking currently available.

Transit: No nearby transit connections.

Bicycle: No designated bike lanes are adjacent to the site.

Pedestrian: The site is not within walking distance of many desired destinations.

- Improvement needs: The existing ramp would require minor improvements such as handrail installation and surface infill. Minor improvements to support POF service such as fendering, ladder, lighting and signage.

Route Assessment

This option would allow for a possible near-term startup, based on landing site review, a smaller vessel would be needed in order to utilize the existing infrastructure; therefore, minimal capital needs and lower operating costs would be needed. However, the potential sites are not WSF owned. Additional negation would be needed for landing site usage or possible purchases. This could delay start-up activities.

Capital and Operating Cost Summary

Operating and capital costs were estimated based on the proposed operating profile using available regional operating and industry data expressed in 2025 level dollars. Costs for landing exclude acquisition or lease.

Capital Costs	**$16.1M - $21.1M**
Vessel Acquisition	$14.0M -$19.0M
Landing Site Improvements	$2.1M

	Commute-only Service	Extended Service
Annual Operating Costs	$2.1M	$3.1M
Operation Labor	$698,000	$1,1M
Fuel	$283,000	$507,000
Maintenance (labor, materials & contracts)	$568,000	$713,000
Insurance and Other	$205,000	$242,000
Management, Support & Overhead	$352,000	$510,000

Implementation Considerations

- Coordination with landing site owners would be required to understand feasibility of POF use and potential costs associated with site procurement or use agreements.

Additional Implementation Considerations

In addition to the key landing site and vessel investments needed to support the evaluated routes presented in the Route Profiles section, next steps toward implementation should consider service and operations factors related to fare policy and collection, vessel tie-up and maintenance, and landside operation and coordination with multimodal connections.

Fare Policy

Fare policy and fare levels are important considerations when evaluating new POF routes. They affect ridership demand forecasting, vessel size requirements, service schedules, capital investments and operating costs. WSF fares are set by the Washington State Transportation Commission. Local ferry service polices and fares are set by the governing body of the ferry district or benefit area.

Service and Operations

Fare Collection

Building on findings from the previous study, evaluation of the **PSRC Study routes** assumed fare collection and associated operating costs such as ticketing technology and equipment and shoreside staffing to help with ticket sales and customer service.

The estimated ridership levels and operating costs identified in Chapter 4 assume a $0 fare for the ***San Juan Interisland*** routes. Further ridership and financial analysis would be required to identify potential fare levels for these routes. Fare collection would require additional capital investments and operating costs for acquisition and maintenance of ticket vending machines and/or ticketing technology, as well as shoreside customer service staffing to assist with ticket sales and/or mobile ticketing technology. Fare collection would also add to onboard crew duties. While the cost of fare collection was not estimated as part of this Study, it is anticipated that it could represent a significant portion of any fare revenue collected.

For the San Juan Islands Interisland route options that include four segments on a circular route, additional analysis and engagement is recommended to determine the opportunities and challenges for fare collection, with potential options including charging a single fare for all trips, charging different fares for different length connections, or collecting round-trip fares at a single location on the circular route. Because the existing WSF Interisland passenger fare is $0, charging fares could have a significant impact on potential ridership levels. Therefore, more detailed ridership analysis would be required to understand fare elasticity.

Vessel Tie-Up and Maintenance

POF route implementation would require a use agreement to provide overnight tie-up at one of the landing sites, or a lease to tie-up at a nearby facility. Depending on the facility used for moorage, improvements may be needed for vessel tie-up or security.

In addition, the tie-up location would also be utilized for routine maintenance activities including minor repairs and cleaning. To support these activities, the following basic infrastructure would need to be available to added through improvements:

- Nearby storage space for required maintenance equipment and parts, consumables, and materials.
- Safe storage for new and used liquids, such as engine and hydraulic oils, anti-freeze, etc.
- Nearby parking for maintenance staff and vehicles.
- Fresh water available at the dock for routine wash-down of exterior surfaces, especially windows, and to fill potable water tanks on the vessel for onboard use.
- Vessels with onboard restrooms require regular pump out of sewage tanks. If this capability is not available at the vessel tie-up location, it will need to be completed at the vessel fueling location or another nearby facility.

Periodic maintenance such as hull repairs or out-of-water maintenance, inspections, and emergent repairs could be completed at the WSF Eagle Harbor maintenance facility or a local area shipyard.

Crewing and Staffing Costs

Estimated costs of operating each of the POF routes include labor costs for vessel crews, maintenance, and terminal staff. The average weighted hourly labor rates of Puget Sound public POF operators were applied to the estimated labor hours tailored to each route's operating profile. However, the financial plan does not explicitly address all of the challenges of implementation and ongoing service. For example, although workable crew schedules have been developed to support proposed service schedules and labor cost estimates, these crew schedules may not be attractive to potential qualified employees and/or may require dedicated recruitment and training programs if qualified employees are not readily available. Especially for the San Juan Islands Interisland routes, the challenges of staffing island-based routes and potential need for split shifts to provide the service schedule may necessitate higher wages or additional costs such as housing stipends to ensure a sufficient, reliable workforce.

Emissions

Emissions levels were estimated based on the potential route operating profiles. Table 4-3 below summarizes the estimated emissions for each route based on the operating profile and representative vessel assumptions. Fuel use is estimated for diesel-mechanical vessels only—while hybridization provides an opportunity to reduce fuel use on compatible routes, potential reduction of fuel consumption and emissions levels can vary considerably based on the level of hybridization and route profile. Annual emissions per route are estimated based on the number of gallons consumed annually.

Table 4-3. Annual Fuel Consumption and CO2 Emissions by Route

Route	Total Annual Gallons	Annual CO2 Emissions (mt)
Whidbey Island - Everett	121,485	1,237
Bellingham - Friday Harbor	284,252	2,895
San Juan Islands WSF Terminal: Commuter	256,158	2,609
San Jaun Islands WSF Terminal: Extended	454,691	4,630
San Juan Islands POF Landing: Commuter	81,094	826
San Juan Islands POF Landing: Seasonal Extended	145,533	1,482

Multimodal Connections

The success of POF service depends upon passengers' ability to connect to their destinations on both ends of the route. While this Study evaluated potential service schedules and estimated demand based on current conditions, it is recommended that future implementation of POF service be coordinated with improvements to multimodal connections to landing sites.

The potential Whidbey Island – Everett and Bellingham – Friday Harbor routes benefit from existing transit connections located near both ends of the route. Potential enhancements include coordination with transit operators to align schedules, and potential shuttle connections to parking, transit stops or other nearby destinations for users with mobility challenges.

Multimodal connections at the San Juan Islands WSF terminals and POF landing sites are more limited. The 2024 SJI Study recommended the following strategies for promoting walk-on ridership in the San Juan Islands.

Near-Term Strategies (One to Three Years)

- Promote existing discounted parking options and explore additional cost-saving options for island residents and seniors.
- Conduct outreach to understand needs and potential expansion of medical transportation services.
- Establish dedicated curb and/or parking spaces for car share rentals.
- Explore contracting with an existing private operator to provide expanded shuttle service on San Juan Island.
- Improve communications with updated webpage information and increased wayfinding at terminals.

Long-Term Strategies

- Incorporate strategies to maximize vessel capacity and increase walk-on/roll-on ridership into future terminal projects like the Anacortes terminal rebuild and Friday Harbor pedestrian loading.
- Seek and create opportunities to collaborate on planning studies and support grant applications and funding requests for transportation connections to Anacortes and island terminals.

Chapter 5. Funding Requirements and Opportunities

Both initial capital investments and ongoing operating subsidies will be required for all of the potential new POF routes evaluated. Funding start-up operations for POF service can be expensive and will depend on required vessel size and complexity and the availably and condition of existing landing sites. Capital investments range widely from $16-$21M for the existing POF landing sites on San Juan Islands interisland route to $72M for the Bellingham to Friday Harbor. In addition to front end capital investments some level of support for annual operating expenditures not recovered through the farebox will be required. Annual operating expenditures vary from as low as $2.1M for the commute level service using existing POF landing sites route in the San Juan Islands to nearly $5M for the commute plus extended service using the WSF terminal slips.

Analysis of capital financing alternatives is beyond the scope of this study but the scale of investment may require assembly of a funding portfolio that draws on a variety of grant, state and local revenue sources and debt financing. Capital equipment leasing may also be appropriate for some vessel types.

Potential funding requirements and opportunities are outlined below.

Funding Requirements

As identified in the Route Profiles section, Table 5-1 summarizes the estimated funding levels for capital and operating cost needs by route.

Table 5-1. Estimated Funding Levels by Route

Expenditures[1]	Bellingham Friday Harbor	Whidbey Everett	Interisland WSF Terminal *(Commuter)*	Interisland POF Landings *(Commuter)*	Interisland WSF Terminal *(+Extended)*	Interisland POF Landings *(+Extended)*
Schedule						
Seasonality	Seasonal	Year-round	Year-round	Year-round	Year-round	Year-round
Number of Service Days	183	260	257	257	300	300
Annual Expenditures						
Operating Labor	665,000	781,000	850,000	698,000	1,341,000	1,079,000
Fuel	991,000	424,000	893,000	283,000	1,585,000	507,000
Maintenance[2]	794,000	719,000	745,000	568,000	1,017,000	713,000
Insurance & Other	433,000	345,000	278,000	205,000	348,000	242,000
Management & Support	578,000	455,000	555,000	352,000	861,000	510,000
Total Operating Expenditures	**$3.5M**	**$2.7M**	**$3.3 M**	**$2.1M**	**$5.2 M**	**$3.1M**
Capital Investments						
Vessels	$ 69.8M	$ 32.8M	$ 69.8M	$14M to $19M	$ 69.8M	$14M to $19M
Landing Site Improvements[3]	$2.6-13M	$1.3-6.5M		$2.1M		$2.1M
Total Capital Investments	**$72.4-82.8M**	**$34.1-39.3M**	**$69.8M**	**$16.1-21.1M**	**$69.8M**	**$16.1-21.1M**

Notes:
1. Expressed in 2025 level dollars
2. Maintenance includes labor, materials & contracts
3. Landing Site capital investment estimates could vary widely depending on the location and design solution.
4. See Capital Costs – Landing Sites in the Analysis Results section of the report for a discussion of potential site investment costs.

Federal Funding Opportunities

Federal grants can be used for POF vessel and terminal capital investments. Current and previous federal grants programs available for POF projects include the Federal Transportation Authority's Passenger Ferry Grant Program which supports POF services in urbanized areas, and the U.S. Department of Transportation's Rebuilding American Infrastructure with Sustainability and Equity grant program which funds infrastructure projects with significant local or regional impact. Typically, federal funds are awarded through formula grants or through competitive programs. Federal environmental permitting processes are required for terminal construction elements that include in-water and over-water work, with potentially lengthy timeline requirements.

In November 2021, Congress enacted the Infrastructure Investment and Jobs Act commonly known as the Bipartisan Infrastructure Law (BIL) to fund investment in the nation's transportation infrastructure for five years ending in September 2026. There will be one more round of BIL competitive grant awards before the current act expires. Congress is expected to take-up consideration of a new transportation funding act over the next year.

State and Local Funding Opportunities

- **State Administered Grants:** The State administered a number of public transportation grants under the consolidated grants program that are funded with a variety of federal and state-level funds. 2025-2027 grants have been evaluated and are scheduled for award once the 2025-2027 biennial budget is signed by the governor.
- **State Legislative Appropriations:** The State legislature may make a direct appropriation through the biennial and supplemental budget process to WSDOT/WSF or a local municipality, ferry district or public transportation benefit area (PTBA) for passenger only ferry service.
- **Other State Funding:** In September 2024, Governor Inslee provided emergency short-term funding to San Juan County help restore critical ferry transportation in the San Juan Islands as WSF continues work to restore 95% completed sailing percentage on all routes. Other one-time funding sources may become available but long-term funding solutions will be required to implement and operate new POF routes.
- **Local Tax Revenues:** The legislature has granted certain taxing authority to Washington municipalities for local public transportation projects and services. For example, in 2003 and 2007 respectively, PTBA were authorized to levy, with voter approval, motor vehicle excise and/or sales tax within the boundaries of the PTBA and County ferry districts were authorized to levy an ad valorem tax on all taxable property located in the ferry district.
- **Bond Financing:** While not a funding source, a local municipality may employ bond financing to cover high front end cash needs pledging local revenues to service and retire the debt.

Fare Revenue

Most POF services charge a fare for their service. Typically, fares and other operating revenues only cover a portion of the cost of operations and are set by the Washington State Transportation Commission for WSF or local elected leaders for county operated ferry services.

Funding Considerations

Development of a WSF funding plan for potential POF service includes the following unique considerations:

- **WSF Funding Cycles:** Funding through a State appropriation is most likely to occur during the biennial budget process, with the next new cycle being the 2027-2029 budget taken up by the legislature when its session begins in January 2027.
- **Revenue Impacts:** Identifying potential fare levels for a new POF service must account for potential impacts to system-wide revenue. For example, if a new POF service encourages modal shift by attracting riders who would otherwise drive on to a vehicle ferry, this could result in a loss of system-wide revenue due to the reduction in higher vehicle fares.
- **Farebox recovery targets:** Setting fares for a new POF service or in a service area that has not charged for passenger ferry service before, such as the San Juan Islands inter-island service, can be challenging and requires a level of research and analysis that is beyond the scope of this study. If WSF were to operate the service, fare levels would need to be determined in alignment with the existing Washington State Transportation Commission's current ferry fare development process.

  However, to understand how fare revenue might contribute to a funding portfolio for POF service in the San Juan Islands, regional farebox recovery ratios and potential average fare realizations were evaluated. A representative farebox recovery ratio similar to those of other public POF operators in the region was estimated to be 14.4%. To achieve the example 14.4% farebox recovery target, fares would need to yield an average realization in the range of $15-$20 per round trip for commute-only service or $10-$14 per round trip for commute plus seasonal extended service.[15] The table below displays the results of the farebox recovery and fare level analysis. A more detailed discussion of this analysis is provided in the Appendix E.

Table 5-2. Example Fare Revenue Targets and Average Realization per Passenger Fare (SJI Interisland Existing POF Landing Sites Route)

	Example Revenue Target Based on 14.4% FBR [1]	A: **Average Revenue Realization Roundtrip per Passenger** *Projected Ridership with No Fare* [2]	B: **Average Revenue Realization Roundtrip per Passenger** *Projected Ridership with Fare* [2]
Commuter Service	$303,000	$15.00	$20.00
Commuter + Extended	$440,000	$10.00	$14.00

Notes:
1. Rounded to the nearest thousand
2. Rounded to the nearest quarter.

The ridership estimates used in column A were based on the demand for free service, to be consistent with the estimates developed in this Study. However, ridership when fares are charged will be lower. To estimate ridership levels when fares are charged, it was assumed that ridership would be 25% lower. The realization in the rightmost column of this table (column B) was calculated using the lower ridership estimate.

[15] Average realization was used as a proxy for fare level in this analysis due to the complexities and uncertainties of establishing an actual fare structure particularly for a service area that does not currently charge fares.

Chapter 6. Recommendations and Next Steps

Washington communities continue to express interest in implementation of new POF services, especially to serve island and peninsula communities that depend on ferries for mainland connections and in places where POF offers a time-competitive travel option. While WSF progresses toward restoring domestic service to pre-pandemic levels and bolstering reliability by addressing the vessel and crew shortages that have impacted service, POF service presents an opportunity to offer expanded service at a lower capital and operating cost than WSF vehicle ferry service.

Understanding WSF's potential role in providing POF service necessitates consideration of unique issues related to governance, service goals, and funding. The following sections outline considerations for WSF to return to POF service, discuss requirements for implementation of potential POF routes, and identify potential next steps and implementation timelines.

Governance and Funding Opportunities

Governance and Potential Partnerships

Regional Transportation Planning Organizations (RTPOs) coordinate transportation planning with local agencies and help support comprehensive planning within the State, including distributing state transportation monies. In urbanized areas, Metropolitan Planning Organizations (MPOs) may serve a similar role in receiving and distributing state funding. The central Puget Sound area is served by the PSRC, which acts as a champion for transportation projects and manages and distributes grant funding for planning studies and project implementation.

Of the areas served by WSF routes, the San Juan Islands is the only area that is not governed by a regional transportation and planning body. POF implementation in this area faces additional challenges due to the absence of a planning organization to advocate for POF and to lead coordination and funding strategy development. WSF could support POF implementation in San Juan County by providing regional coordination and support, with the following opportunities:

- Identify, encourage, or serve as a project champion.
- Provide feedback and ensure that transportation needs and priorities are incorporated into current and future planning efforts.
- Partner on grant applications and state funding requests to strengthen the request and increase the likelihood funding is awarded.
- Coordination of planning efforts to ensure the needs of all communities served by the route are addressed, particularly for service levels, multi-modal connections needs, schedule, and service capacity.

Additionally, as presented in the SJI Study, potential POF service would be strengthened by further efforts to enhance transportation connections to Anacortes and Island terminals. Potential partners for collaboration include San Juan County, the North Sound Transportation Alliance, Skagit Transit, San Juan Islands Visitor's Bureau, and island communities, organizations, and businesses.

Options for the State's Role in POF Service

The WSF system is State-owned and -operated. WSF's budget, service level, and investment decisions are directed by the Washington State Governor and Legislature, while fare policy and fare levels are determined by the Washington State Transportation Commission in accordance with provisions codified in the Washington Revised Code and Washington Administrative Code. WSF routes are considered components of the State highway system, and WSF is responsible for maintaining critical intercounty vehicle linkages for the communities it serves.

While the State does not restrict WSF's authority to start new POF routes, WSF's re-entry into POF service provision prompts a number of policy questions such as the State's role in service coordination, funding, or direct operation. These policy decisions would guide service planning, landing sites, service levels, revenue targets, and the assets necessary to operate service. For WSF to have a role in providing POF service, the Legislature would need to take action to approve a funding package sufficient to address staff, capital and operating costs to both initiate and sustain the service.

The following sections discuss considerations for potential WSF roles in POF service implementation. Additionally, potential next steps for supporting POF implementation in the near- and long-term are discussed for each potential role.

Service Operator

WSF could directly manage and operate the service. Compared to the other options, this model would provide the most control over all aspects of the service but would also require the greatest commitment of infrastructure, program management and overall agency resources. As with existing service, the State would be responsible for service levels and service schedules, all elements of operation and maintenance, workforce recruitment and training, crew scheduling, fare policy and fare levels, shoreside infrastructure acquisition and improvements, vessel acquisition and overall program management. Introducing a new vessel class would require new crew training and vessel maintenance programs to be developed. While WSF did manage a fleet of up to five POF vessels operating on routes to Vashon Island and Bremerton, re-initiating POF service would require a significant commitment of resources to plan and implement the new routes in addition to the ongoing management and delivery of the service.

- *Near-term actions:* It is unlikely that WSF could implement and operate a new POF service in the near-term due to the needed policy decisions, landing site use procurement, and funding plan for capital investments and ongoing operating costs.
- *Long-term actions:* As a next step toward the implementation of a new POF service, further study is needed to inform funding, planning, and engagement efforts. Specific efforts include:
- Business and implementation planning, including ridership forecasting to support scheduled development and detailed revenue forecasting, confirmation of preferred landing locations, detailed operating and capital cost estimates, and development of a funding plan and fare policy.
- Engagement, including regional agency coordination and discussion of opportunities for collaboration, outreach to stakeholders and potential partners, tribal coordination, and community engagement to assess and build support.

Service Contractor or Financial Support

WSF could contract with a public or private entity to operate the service, with varying options for ownership and maintenance of terminal and vessel assets. If service is publicly owned, WSF would provide access to state and federal grant funding opportunities for capital projects. Capital and operating costs would be funded through some combination of fares, state and local subsidies, and grants. As a funding entity, WSF would establish basic service parameters including fare and service levels, service schedules, performance targets and data collection and reporting requirements.

Alternatively, WSDOT could directly fund service provided by another agency. In recent years, the State has provided funding to Kitsap Transit and King County Metro Marine Division to expand their existing service levels on the Bremerton and Vashon Island routes, respectively, to help fill gaps in WSF service.

- *Near-term actions:* As an opportunity to provide POF service in the near-term, WSF could coordinate support for or directly provide continued funding for the San Juan County Emergency POF service currently funded April 14 through June 30, 2025.
- *Long-term actions:* If an existing vessel could be secured, a pilot POF service could be implemented on one of the Study routes to demonstrate demand levels and viability.

Regional Coordinator/Partnership Facilitator

As a regional ferry operator and state transportation agency, WSF could play an important role in collaborating with transit partners and/or local agencies to support POF service implementation and operations. Potential opportunities include collaboration on future planning studies, and support for grant applications and funding requests.

As previously discussed in the Governance and Funding Opportunities section of this chapter, this role could be especially important for implementation of POF service in the San Juan Islands which lacks governance by a regional transportation and planning body.

- *Near-term and long-term actions:* Continue coordination with regional transportation agencies and groups, with the goal of identifying a POF implementation champion to lead future planning efforts and garner regional support. Build upon previous efforts to expand multi-modal connections at terminals to support walk-on and roll-on passengers.

Next Steps

This report provides the information requested in the proviso. The next steps in POF implementation will require direction from the Legislature regarding the State's role in potential POF service. Policy decisions around service coordination, funding, and operations will need to be made before the identified near- and long-term actions can be taken. Depending on the preferred role of WSF in POF service and other direction from the Legislature, additional funding may be needed to move forward with further consideration of, or state involvement in POF service.

To support that decision process, and to provide local agencies and stakeholders with a greater understanding of POF service feasibility, this report outlines the opportunities and constraints including potential landing sites, service profiles, projected operating costs and capital investment needs of four potential POF routes.

Appendix A:
Engagement Report

Washington State Department of Transportation – Ferries Division
2901 Third Avenue, Suite 500
Seattle, WA 98121

Prepared by:
KPFF Consulting Engineers

In Association with:
BERK Consulting
Elliott Bay Design Group
Maul Foster & Alongi

Memorandum

To:	KPFF/Washington State Ferries	Date:	May 2025
From:	Taylor Hodges, MFA	Project No.:	M0964.13.002
Re:	WSF Passenger-Only Ferry Study, Engagement Report		

Overview

To support the 2024–2025 WSF Passenger-Only Ferry Study, Washington State Ferries (WSF) partnered with the project team to engage key stakeholders across the study area, limited due to project duration and proviso scope. The engagement approach focused on transparent communication, gathering feedback at key milestones, and incorporating stakeholder perspectives into the study's findings and recommendations.

Engagement Approach

Targeted briefings and outreach: The team provided one-on-one, small-group briefings and email outreach to key stakeholders to share emerging findings, clarify study assumptions, and collect feedback. This engagement helped align the study with local priorities and provided region-specific insights. In partnership with WSF, the project team engaged the following entities:

- San Juan Islands Ferry Advisory Committee (FAC)
- San Juan County (SJC) Council members
- San Juan County Economic Development Council (EDC)
- North Sound Transportation Alliance

Engagement Findings

How Engagement Influenced the Study

Influence on outreach and data collection

- Feedback from the SJC Council and San Juan Islands FAC prompted the inclusion of seasonal travel demand trends, recognizing the tourism-driven economy.
- After receiving input from SJC Councilmember Jane Fuller, additional coordination occurred around documenting landing site specifics, such as parking availability, public transit connectivity, and ground transportation logistics.
- Outreach efforts extended to include direct coordination with the San Juan County EDC, addressing economic impacts and broader community implications.

Vessel and design considerations

- Whidbey Island stakeholders emphasized the importance of bicycle storage and accessibility features on vessels. These considerations were incorporated into vessel design recommendations, particularly relevant for islands with limited ground transportation.

San Juan Islands engagement findings

Stakeholder input from the SJC Council, FAC, San Juan County EDC, and the Community Water Taxi (CWT) program helped inform the following themes and perspectives shared during engagement:

- **Service reliability and community trust:** Frequent ferry disruptions have diminished public confidence, negatively affecting travel behavior. Stakeholders highlighted reliability as critical to restoring trust and usage.
- **Medical and essential travel:** San Juan County's aging population frequently requires ferry services for medical visits, especially to Friday Harbor Hospital for specialized treatments. The challenge extends to post-disembarkation logistics due to limited transit options, suggesting preference for shorter, more reliable ferry routes.
- **Demand for interisland and mainland travel:** Data from the voucher-based Community Water Taxi (CWT) program (with reportedly over 800 users in two years) suggests significant demand for interisland and mainland travel, with a notable share using the service for medical and essential purposes. Monitoring outcomes of the state-funded CWT pilot program (that will end in June 2025) was recommended before funding future commitments.
- **Landing site challenges:** Stakeholders noted significant concerns regarding limited parking (especially on Lopez Island) and local community opposition on Shaw Island around private docks and business impacts.
- **Economic influence and tourism:** Reliable passenger-only ferry service could potentially boost tourism, especially during economic downturns when more residents opt for local travel within the state. However, summer visitors typically travel to just one island, limiting tourism-based demand for interisland service. Summer tourism may drive demand for the proposed Bellingham–Friday Harbor route.
- **Advocacy for scaled solutions:** Emphasis was placed on exploring flexible, smaller-scale ferry solutions rather than investing in large, costly vessels.

Additional San Juan Islands stakeholder feedback:

- Emphasized the lack of a public transportation governance structure and interest in exploring solutions, such as a Transportation Benefit District.
- Provided background on past pilot efforts, typical ridership, and current funding for various services, including on-call barge programs and scheduled interisland service.
- Shared that a Bellingham–Friday Harbor route would have limited relevance to community needs—instead advocating for prioritizing the Anacortes–San Juan Islands "Route 80" corridor due to its alignment with existing service and community use. While some island residents do need to travel to Bellingham for medical services, accessing the local hospital system (Peace Health) without a car would be difficult.
- Requested earlier consultation in determining routes for future studies.

Whidbey Island engagement findings

Engagement with Whidbey Island stakeholders showed broad support for passenger-only service, highlighting potential benefits such as improved regional connectivity. Stakeholders requested further detail on proposed schedules, fares, transit integration, and departure locations, and emphasized the importance of accessibility for wheelchairs and other mobility devices.

Appendix B:
Potential San Juan Islands Landing Site Inventory & Analysis

Washington State Department of Transportation

Washington State Department of Transportation – Ferries Division
2901 Third Avenue, Suite 500
Seattle, WA 98121

Prepared by:
KPFF Consulting Engineers

In Association with:
BERK Consulting
Elliott Bay Design Group
Maul Foster & Alongi

MEMO

Date:	May 15, 2025
To:	Washington State Ferries
From:	KPFF Consulting Engineers
Subject:	WSF Passenger-Only Ferry Study Task 3 – Potential San Juan Islands Landing Site Inventory and Analysis

Introduction and Approach

To evaluate the potential landing sites in the San Juan Islands for the Washington State Ferries (WSF) Passenger-Only Ferry (POF) Study and to supplement the information already known for the previously analyzed the PSRC routes, KPFF Consulting Engineers conducted on-site inspections to the San Juan Island potential landing site locations to develop improvement needs and develop cost estimate for needed landing site improvements. Landing site conditions for the PSRC landings were updated during a desktop review that was conducted as part of the initial route screening process.

Each new potential San Juan Islands landing site that was not a WSF Terminal was assessed for the presence of critical POF-supporting features, with evaluation of the conditions of those features. Based on these conditions, each landing was categorized to be in good, fair, or poor condition. Costs were identified based on the condition of the feature to prepare the site for potential future POF service. Each site is identified in more detail in the following sections.

Assumptions and Analysis

As part of the review, potential landing sites were reviewed based on typical elements needed for service, with conservative costing for repair or replacements, based on the condition of those elements. Contingencies and other costs are included and detailed in the following section.

Landing Site Elements

Site visits and costs were identified for the following POF landing site elements for all San Juan Island landing sites:

- **Marine Assessment**, focused on in-water infrastructures and including:
  - Ramp
  - ADA accessibility
  - Dock/float

- **Upland Assessment,** focused on general landside needs for passenger needs and general operations, including review of:
    - Accessibility
    - Passenger parking
    - Multi-modal connection
    - Sheltered area or potential waiting area
    - Area for signage, customer information, and ticketing
    - Restrooms
- **Safety Assessment,** focused on safety of potential passengers and operations staff:
    - Access and egress from dock/ramp
    - Lighting
    - Potential conflicts with other uses

For the top identified POF sites, rough-order-of-magnitude (ROM) costs of infrastructure improvements needed to support POF service were also identified. These costs included **construction costs** and **other costs**.

- **Construction Costs** of needed POF infrastructures. Costs include:
    - Mobilization/Demobilization (10% of construction costs)
    - Overwater Improvements
    - Upland Improvements
- **Other Costs** included to support and prepare for infrastructure construction:
    - Permitting
    - Construction management and administration (15% construction/environmental)
    - Contingency (40% construction/environmental costs)
    - Design engineering (15% of construction)
    - Tax (10.1% of construction)

Summary of Visited Sites

Only POF-specific sites were reviewed in this analysis, as the existing WSF terminals are known to be operational and could support the landing of a specifically designed POF vessel with no improvements. This approach has been taken at the WSF Southworth terminal to support the Seattle – Southworth POF service launched by Kitsap Transit in 2021.

The analysis of the four selected POF sites are summarized below.

Site	Island	Overall Condition	ROM Cost Estimate
Friday Harbor Marina	San Juan	Good	$181,000
San Juan County Public Works Dock	Orcas	Fair	$487,000
Odlin County Park Dock	Lopez	Good	$883,000
Shaw Island General Store Dock	Shaw	Fair	$289,000

Two additional POF sites, though screened out prior to the capital costing phase, were also reviewed at a high level. They are included in this memo, below, due to the level of interest in them for additional or alternative POF service, as they serve other areas of the relevant islands.

Site	Island	Overall Condition
Eastsound County Dock	Orcas	Under Repair
Lopez Island Marina	Lopez	Fair

The following sections cover each site in additional detail.

Friday Harbor Marina (San Juan Island)

Current Condition

Location Address:
Spring Street Landing
Friday Harbor, WA 98250

Overall Conditions:
Good

Description	Length	Width	Height
Ramp	~50'-0"	5'-2"	
Dock/Float	176'-0"	18'-0"	
Freeboard			19"

Needed Improvements for POF Service

Marine Facilities

Dock/Float Needs:

- Fendering
- Railing
- Vessel security

Upland Facilities:

Parking Needs:

- Long-term parking for passengers

Multi-Modal Connection Needs:

- Bicycle Facilities: Potential to add rack to pier adjacent to building

Lighting:

- Lighting needed on gangway

Safety:

Lighting Needs:

- 3-4 towers for foot lighting on float

Costs of Improvements

Item	Quantity	Unit	Unit Cost	Cost (2025 $)
Mobilization/Demobilization	1	LS	$8,500	$8,500
Mobilization/Demobilization Subtotal				**$9,000**
Overwater Improvements				
Lighting on Float	1	LS	$50,000	$50,000
Overwater Improvements Subtotal				**$50,000**
Uplands Improvements				
Signage and Wayfinding	1	LS	$25,000	$25,000
Lighting Improvements	1	LS	$10,000	$10,000
Uplands Improvements Subtotal				**$35,000**
Subtotal Construction				***$100,000***
Other Cost Items				80,100
Subtotal Other Cost Items				**$81,000**
Total ROM Estimate				**$181,000**

San Juan County Public Works Dock (Orcas Island)

Current Condition

Location Address:
8368 Orcas Rd
Orcas, WA 98280

Overall Conditions:
Fair

Description	Length	Width	Height
Ramp	35'-0"	2'-5.5"	
Dock/Float	~120'-0"	10'-0"	
Freeboard			24"

Needed Improvements for POF Service

Marine Facilities

Ramp Needs:

- Transition ramps for ADA

- Handrail

Dock/Float Needs:

- Fendering
- Railing

Upland Facilities:

This landing shares the current WSF upland facilities.

New Gangway and Lighting Needs:

- Gangway entrance relocation to accommodate 80' gangway
  - New pile + improvements
- Lighting for gangway/approach

Safety:

Lighting Needs:

- 3-4 towers for foot lighting on float

Costs of Improvements

Item	Quantity	Unit	Unit Cost	Cost (2025 $)
Mobilization/Demobilization	1	LS	$24,000	$24,000
Mobilization/Demobilization Subtotal				**$24,000**
Overwater Improvements				
Gangway Improvements				
New Gangway	1	LS	$100,000	$100,000
Relocate Gangway Entrance	1	LS	$50,000	$50,000
Lighting on Float	1	LS	$50,000	$50,000
Overwater Improvements Subtotal				**$200,000**
Uplands Improvements				
Signage and Wayfinding	1	LS	$25,000	$25,000
Lighting Improvements	1	LS	$15,000	$15,000
Uplands Improvements Subtotal				**$40,000**
Subtotal Construction				*$270,000*
Other Cost Items				*$216,300*
Subtotal Other Cost Items				**$217,000**
Total ROM Estimate				**$487,000**

Odlin County Park Dock (Lopez Island)

Current Condition

Location Address:
148 Odlin Park Rd
Lopez Island, WA 98261

Overall Conditions:
Good

Description	Length	Width	Height
Ramp	80'-0"	4'-0"	
Dock/Float	50'-0"	10'-0"	
Freeboard			16" to 19"

Needed Improvements for POF Service

Marine Facilities

Dock/Float Needs:

- Fendering

- Railing

Upland Facilities:

Accessibility Needs:

- Paving and walkways

Waiting Area Needs:

- New shelter

Lighting and Electrical improvements needed

Safety:

Lighting Needs:

- 3-4 towers for foot lighting on float

Costs of Improvements

Item	Quantity	Unit	Unit Cost	Cost (2025 $)
Mobilization/Demobilization	1	LS	$44,000	$44,000
Mobilization/Demobilization Subtotal				**$44,000**
Overwater Improvements				
Lighting on Float	1	LS	$50,000	$50,000
Overwater Improvements Subtotal				**$50,000**
Uplands Improvements				
Paving and Walkways	1000	SF	$15	$15,000
Covered Waiting Area	300	SF	$200	$60,000
Signage and Wayfinding	1	LS	$25,000	$25,000
Lighting Improvements	2000	SF	$25	$50,000
Electrical Improvements	1200	FT	$200	$240,000
Uplands Improvements Subtotal				**$390,000**
Subtotal Construction				***$490,000***
Other Cost Items				$392,500
Subtotal Other Cost Items				**$393,000**
Total ROM Estimate				**$883,000**

Shaw Island General Store Dock (Shaw Island)

Current Condition

Location Address:

37 Blind Bay Rd

Shaw Island, WA 98286

Overall Conditions:

Fair

Description	Length	Width	Height
Ramp	53'-3"	4'-0"	
Dock/Float	~88'-0"	8'-0"	
Freeboard			17"

Needed Improvements for POF Service

Marine Facilities:

Ramp Needs:

- Infill
- Handrail

Dock/Float Needs:

- Fendering
- Railing
- Ladder

Upland Facilities:

Accessibility Needs:

- Longer gangway for ADA accessibility
- Paving and walkways

Waiting Area Needs:

- Conversion of adjacent building

Lighting needed

Safety:

Lighting Needs:

- 3-4 towers for foot lighting on float

Costs of Improvements

Item	Quantity	Unit	Unit Cost	Cost (2025 $)
Mobilization/Demobilization	1	LS	$44,000	$13,800
Mobilization/Demobilization Subtotal				**$14,000**
Overwater Improvements				
Gangway Improvements	1	LS	$20,000	$20,000
Lighting on Float	1	LS	$50,000	$50,000
Overwater Improvements Subtotal				**$70,000**
Uplands Improvements				
Paving and Walkways	200	SF	$15	$3,000
Covered Waiting Area	300	SF	$50	$15,000
Signage and Wayfinding	1	LS	$25,000	$25,000
Lighting Improvements	1	LS	$25,000	$25,000
Uplands Improvements Subtotal				**$68,000**
Subtotal Construction				***$160,000***
Other Cost Items				$128,200
Subtotal Other Cost Items				**$129,000**
Total ROM Estimate				**$289,000**

Eastsound County Dock (Orcas Island)

Current Condition

Location Address:
Eastsound Dock Spur
Eastsound, WA 98245

Overall Conditions:
Under Repair

Description	Length	Width	Height
Ramp	36'-0"	4'-0"	
Dock/Float	-	-	
Freeboard			-

Needed Improvements for POF Service

Marine Facilities:

Ramp Needs:

- Handrail

Dock/Float Needs:

The current float at the site is in repair and was not observed at the site visit.

- In-water work is likely needed due to guide piles looking to be retrofitted

Upland Facilities:

No formal upland infrastructure was observed.

Waiting Area Needs:

- Restrooms
- New shelter
- Lighting

Parking Needs:

- Long-term parking for passengers

Multi-Modal Connections:

- No bicycle facilities

Lopez Island Marina (Lopez Island)

Current Condition

Location Address:

2864 Fisherman Bay Rd
Lopez Island, WA 98261

Overall Conditions:

Fair

Description	Length	Width	Height
Ramp	40'-0"	3'-0"	
Dock/Float	95'-0"	11"-3"	
Freeboard			13"

Needed Improvements for POF Service

Marine Facilities:

Ramp Needs:

- Handrail
- Transition ramps for ADA

Dock/Float Needs:

- Ladder
- Railing
- In-water work is likely for additional guide pile(s)

Upland Facilities:

The uplands of this site are private facilities owned by a resort that could not be reviewed.

Appendix C:
Ridership Estimates

Washington State Department of Transportation

Washington State Department of Transportation – Ferries Division
2901 Third Avenue, Suite 500
Seattle, WA 98121

Prepared by:
KPFF Consulting Engineers

In Association with:
BERK Consulting
Elliott Bay Design Group
Maul Foster & Alongi

WSF Passenger-Only Ferry Study

Ridership Estimates for Proposed POF Services | March 31, 2025

Prepared by

BERK Consulting

This technical memorandum summarizes the methodology, assumptions, and findings of the assessment of potential ridership demand for two Passenger-Only Ferry (POF) routes from the 2021 Puget Sound Regional Council (PSRC) study (Bellingham-Friday Harbor and Whidbey Island-Everett) and two potential San Juan Island (SJI) interisland POF routes (POF Landing Sites route and WSF Terminals route).

Routes Analyzed

Exhibit 1 shows the routes analyzed, including information about the service profile.

The two routes from the 2021 PSRC study use the same route profiles as in the past study:

- The Clinton to Everett route provides year-round commuter-focused service five days per week with three roundtrip sailings per day during the AM commute period, and another three roundtrips during the PM commute period.
- The Bellingham to Friday Harbor route is proposed as a seasonal service from April through September and operates seven days per week with four roundtrip sailings daily that are spaced throughout the day.

Two potential SJI interisland routes are proposed that differ in the landing sites used. One route serves existing POF landing sites and one serves Washington State Ferry (WSF) terminals. Both proposed routes are circular with one stop at each of the four ferry served islands (San Juan, Lopez, Shaw, and Orcas) and are intended to augment the existing WSF interisland service. The proposed SJI interisland route provides year-round commuter-focused service 5 days per week with three roundtrip sailings per day during the AM commute period, and three roundtrips during the PM commute period.

In addition to the commuter-focused service, BERK also estimated potential ridership demand for an extended SJI interisland service which extends service during the peak season (defined as May 1 to September 30) to 7 days a week and adds mid-day and evening sailings (for a total of 12 to 13 roundtrips per day).

Exhibit 1. Study Routes

Route	Service Type	Roundtrips Per Day
SJI Interisland (2 routes)	Year-round commuter service (5 days per week)	6
Clinton - Everett	Year-round commuter service (5 days per week)	6
Bellingham – Friday Harbor	Seasonal service for recreational travel (April through September , 7 days per week)	4

Sources: Puget Sound Passenger-Only Ferry Study, January 2021; KPFF, 2025.

Analysis of SJI Interisland Routes

This section presents the potential ridership methodology and findings for the proposed POF SJI interisland routes. The ridership estimate is the same for both routes, as the different terminal locations are not assumed to impact demand. Transit accessibility is similar between the existing WSF and proposed POF terminal locations. The proposed Orcas and Friday Harbor POF dock landings are directly adjacent to the WSF terminal and would benefit from the same transit connections, while Lopez and Shaw do not have transit connections at either terminal location.

Methodology and Assumptions

The San Juan Islands are currently served by a WSF interisland route that allows residents and visitors to travel between San Juan, Orcas, Lopez, and Shaw Islands with their car, bike, or by foot. The proposed POF service would provide an additional option for travelling between the islands and would supplement the existing WSF service. Foot passenger ridership for the existing WSF interisland service is the best available measure of total existing demand for travel between the San Juan Islands. The POF service also has the potential to induce additional demand due to faster travel times and increased frequency of travel.

The methodology used to estimate ridership demand for the proposed SJI Interisland route included the following steps:

1. Estimate average daily foot passenger ridership for the WSF SJI interisland.
2. Estimate the share of WSF SJI interisland foot passenger ridership that would switch to using the POF service based on assumptions that consider travel time differences between the two services and which service would be most convenient option at commute time.
3. Estimate potential increased ridership demand due to travel time and frequency improvements.

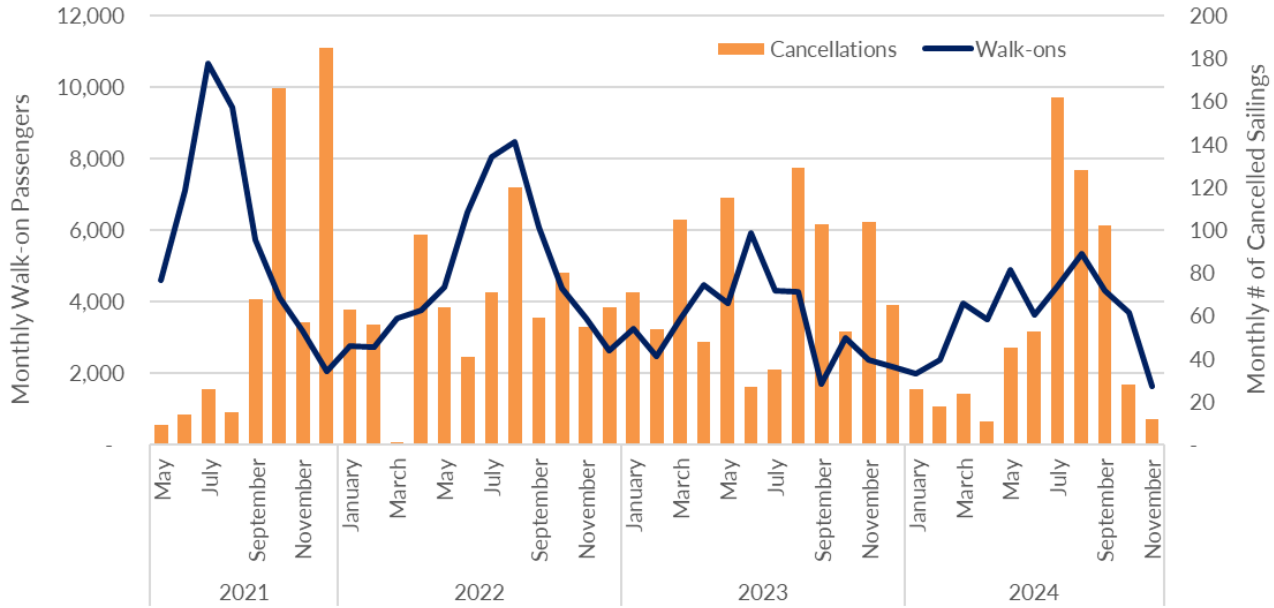
The rest of this section describes in more detail each step, including assumptions and data used to estimate potential ridership demand.

Average Daily Foot Passenger Ridership on WSF Interisland Service

To estimate average daily foot passenger ridership for the WSF SJI interisland route, BERK used ridership data provided by WSF for walk-on passengers which was available for the period from May 2021 to November 2024. This data is collected manually and is susceptible to errors or omittances if terminal staff do not enter the data or enter it incorrectly. However, this was the best available measure to estimate total existing demand for travel for the SJI interisland route and, from discussions with WSF, it is more likely that this data underestimates rather than overestimates ridership.

Exhibit 2 shows the monthly walk-on ridership and cancelled sailings[1] during the period for which walk-on data is available. It shows that walk-on ridership was highest in 2021 and declined steadily while the number of cancelled sailings increased. The on-time performance of the WSF interisland ferry service (defined as the percentage of trips that depart within 10 minutes of their scheduled departure time of the total number of trips taken) has also declined during this period, and in 2024, it was 61%, more than 30 percentage points below WSF's goal of 95%. Our assumption is that declining ridership during this period can be best explained by the reduction in the reliability of service. Over time, it is likely that many passengers concluded that they could not rely on WSF inter-island service for regular trips. Therefore, our analysis focuses on the peak period of historic ridership in 2021, which is the best available proxy for total ridership demand before WSF service reliability suppressed demand in the years that followed.[2]

Exhibit 2. WSF Inter-Island Walk-on Ridership and Cancelled Sailings, May 2021 – November 2024



Note: Washington State Ferries, 2021-2024; BERK, 2025.

[1] Scheduled sailings that are cancelled due to extenuating circumstances such as tidal issues, mechanical issues onboard or at the terminal, public emergency events, or other factors such as maritime labor shortages.

[2] Note that 2021 travel trends may have been negatively impacted by the COVID pandemic compared to earlier trend. As evidence, vehicle ridership on the WSF interisland route was 8% lower in 2021 than in 2019. Unfortunately, pre-pandemic foot passenger data is not available from WSF. Therefore, we focus on 2021 data for this analysis.

Exhibit 3 shows the average daily foot passenger ridership by route (each route includes both directions), season, weekday or weekend, and sailing time (AM, mid-day, PM, and evening) for May to December 2021. The table below only includes AM and PM average daily foot passengers for the non-peak season because it is assumed that passengers travelling mid-day and evenings will continue to travel at those times and use the existing WSF interisland service (in the absence of other data and information on travel needs that would suggest otherwise).

Exhibit 3. WSF SJI Interisland Average Daily Foot Passenger Ridership, 2021

Route	Weekday Non-Peak Season AM	Weekday Non-Peak Season PM	Weekday Peak Season AM	Weekday Peak Season Mid-day	Weekday Peak Season PM	Weekday Peak Season Evening	Weekend Peak Season AM	Weekend Peak Season Mid-day	Weekend Peak Season PM	Weekend Peak Season Evening
Friday Harbor-Lopez	20	3	36	12	11	3	17	7	4	4
Friday Harbor-Orcas	24	14	24	89	45	5	14	67	49	8
Orcas-Lopez	7	2	16	13	5	2	10	13	6	2
Friday Harbor-Shaw	3	0	6	2	2	1	3	2	1	1
Shaw-Lopez	0	0	2	2	0	0	1	1	1	0
Orcas-Shaw	1	1	1	2	3	1	2	3	3	2
Total	**55**	**20**	**85**	**119**	**65**	**11**	**47**	**93**	**64**	**16**

Sources: Washington State Ferries, 2021; BERK, 2025.
Note: The peak season is defined as May 1 to September 30, while the rest of the year is considered non-peak season. AM sailings are sailings with a departure time earlier than 10:30 am, mid-day sailings are between 10:30 am and 3:30 pm, PM sailings are between 3:30 pm and 7 pm and evening sailings are after 7 pm.

POF Capture Share

To estimate the share of WSF SJI interisland foot passenger ridership that would switch to using the POF service, BERK analyzed the change in travel time with the POF service by route and type of vessel for the AM and PM periods. For most routes, the proposed POF service would provide a faster trip than the existing WSF interisland service. The largest changes in travel times are for the Friday Harbor to Lopez route where travel times will be reduced by up to 66% on average. Travel times would only increase for Shaw to Lopez and Orcas to Shaw sailings.

BERK assumes that if the proposed POF service is faster than the existing WSF service, 100% of existing riders shift to using the POF service. If POF service is slower than the existing WSF service, all existing riders continue to use the WSF service.

Potential Increased Ridership Demand for POF

Beyond just shifting existing interisland ferry users from the WSF service, the proposed POF service can generate induced demand. The opportunity for faster travel times and increased frequency of service could encourage more demand for travel from residents and visitors. In a survey conducted by Community Water Taxi (CWT), a group of island residents running an emergency and on-call interisland water taxi service since August 2023, 51% of respondents reported they would use a walk on passenger service within San Juan County as an alternate to WSF and another 43% said they would use it depending on cost.

BERK used travel time and service frequency demand elasticities to scale up existing demand for the interisland ferry by route based on the change in service frequency and travel time by sailing time and vessel type. BERK used a transit travel time elasticity of -0.4 (Transit Capacity and Quality of Service Manual, 3rd Edition, 2013), meaning that for every 10% decrease in travel time, demand increases by 4% and a transit service frequency elasticity of 0.5 (Litman, 2024), meaning that for every 10% increase in frequency of service, demand increases by 5%.

Estimated POF Ridership

Exhibit 4 shows the estimated ridership for the proposed POF service for:

- The commuter focused service which runs 5 days a week year-round for a total of 257 weekdays per year, and
- The extended service which includes peak season full day weekday and weekend sailings and runs for a total of 300 days per year (257 weekdays in the peak and non-peak season and 43 weekends in the peak season).

The vessel type impacts travel time, but ridership estimates are not restricted by vessel capacity. These estimates assume 100% service reliability and that the service is provided free of charge, like the existing WSF interisland service, which is free for foot passengers.

Exhibit 4. Proposed POF SJI Interisland Service Estimated Ridership

	Daily Ridership: Weekday Non-Peak Season	Daily Ridership: Weekday Peak Season	Daily Ridership: Weekend Peak Season	Annual Ridership
Small Vessel (26 knot)				
Commuter focused	113	223		40,765
Extended service	113	482	384	85,086
Large Vessel (32 knot)				
Commuter focused	113	223		40,786
Extended service	113	490	394	86,255

Sources: Washington State Ferries, 2025; Kittelson & Associates, 2013; Litman, 2024; KPFF, 2025; BERK, 2025.

Analysis of Routes in the 2021 PSRC Study

This section presents the current ridership demand methodology and findings for two proposed POF routes from the 2021 PSRC study. The ridership estimates build on the analysis from the previous PSRC study and were updated to reflect current conditions. As before, BERK relied primarily on ridership data from nearby WSF routes, supplemented with other sources of data to estimate total demand for POF service. The ridership estimates assume the same level of fares as for the existing nearby WSF routes (Clinton to Mukilteo and Anacortes to Friday Harbor).

Clinton to Everett

This route was evaluated primarily for its potential to support commuter travel, with some modest expectations for visitor travel, mostly to the Everett waterfront, which is developing as a regional destination. Clinton lacks the walkability or density of attractions to draw a significant number of visitors on foot.

Methodology and Assumptions

This study employs the same methodology as the 2021 PSRC study for estimating ridership demand for the Clinton to Everett route which comprised the following:

- Estimate the number of transit riders from the Mukilteo ferry landing that are headed north to Everett.
- Estimate the growth in existing commuter demand between Clinton and Everett given expected job growth on Everett waterfront.
- Estimate recreational travel by visitors to the Everett waterfront.

There is an existing WSF service connecting Clinton to the mainland in Mukilteo, about eight miles to the south of the proposed terminal in Everett. Therefore, WSF foot passenger ridership statistics for the Clinton-Mukilteo route provide one potential indicator of total demand for the Clinton to Everett POF service. However, many of the foot passengers on the Clinton to Mukilteo ferry are assumed to board the Sounder heading south towards jobs in Seattle or bus transit service heading to other employment centers. To better understand the number of people who may be headed north to Everett, BERK reached out to Everett Transit to obtain passenger data for the bus route 18 that picks up at the ferry landing and heads directly to employment locations in and near downtown Everett. The average daily AM boardings at the ferry landing is 20 one-way passengers.

BERK also analyzed home and workplace data from U.S. Census OnTheMap[3] to calculate the number of people who live within a 30-minute drive of either landing and work within a 20-minute walk of the opposite landing. This resulted in a total of 10 people. BERK also collected data about development on the Everett waterfront to account for any development that has happened in the past five years and for any future job and housing growth in the walkshed during the next few years. This growth is expected to more than triple the number of jobs in the walkshed and therefore increase commuter demand between Everett and Clinton by 23 people.

Estimated Ridership

Based on these findings we estimate the average daily ridership demand (both directions) to be about 85 (not including any recreational travel by visitors to the Everett waterfront). This is higher than the 60 daily riders estimate from the 2021 PSRC study for this route, mostly due to the increase in existing commuter demand between Everett and Clinton from 3 to 10 people. This route is assumed to run 5 days a week year-round for a total of 260 weekdays. Annual ridership demand is estimated at 22,100.

Bellingham to Friday Harbor

The Bellingham to Friday Harbor route is proposed as a seasonal service and, consistent with the 2021 PSRC study, the ridership analysis for this route focuses on recreational and vacation ridership from persons living across Washington State and further afield. However, this route may also have the potential to support commuters traveling between San Juan Island and mainland Washington. For example, U.S. Census Bureau data shows that in 2022 there were 50 people that lived in Bellingham and worked on San Juan Island and another 140 people that lived on the island and worked in Bellingham. While some of these people may work from home (17% of San Juan Island residents work from home), the rest are most likely traveling to work using the WSF service from Anacortes to Friday Harbor and would likely switch to the Bellingham to Friday Harbor proposed POF service if it provided year-round commuter service.

[3] https://onthemap.ces.census.gov/

Methodology and Assumptions

The methodology for estimating ridership demand for the Bellingham to Friday Harbor route comprised the following steps which are consistent with the 2021 PSRC study:

- Estimate total baseline demand for foot-passenger travel to San Juan Island.
- Develop market capture assumptions for proposed Bellingham-Friday Harbor POF service.

Baseline Demand

Friday Harbor is currently served by a WSF route from Anacortes. The proposed POF service from Bellingham would provide an additional option for travel between the mainland and Friday Harbor. For this study, BERK focused specifically on the WSF route from Anacortes as the most comparable service with which the Bellingham route would compete. While there are other modes currently serving Friday Harbor (e.g., cruise ships, Kenmore Air flights), they appear to primarily focus on different traveler market segments.

BERK analyzed foot passenger travel between Anacortes and Friday Harbor using Washington State Ferry ridership data. The route has seen a decline in foot passenger ridership by roughly 58% from 221,334 in 2018 to 92,056 in 2020, due to the COVID-19 pandemic. While foot ridership started recovering in 2021, it remains below pre-pandemic levels with 185,506 total foot passengers travelling from Anacortes to Friday Harbor in 2024. BERK selected average daily foot passenger ridership between April 15 and October 15, 2024, as an estimate of total baseline demand for foot passenger travel from the mainland to Friday Harbor which is 790 riders.

To estimate how many of these foot passengers travel for recreational purposes (including shopping or visiting friends and family), BERK used data from the 2023 WSF Passenger Demographic Survey Report which provides information on trip purposes.

Market Capture

BERK used 2024 visitation data provided by the San Juan Islands Visitor Bureau for the home location of all visitors to San Juan Island to estimate average daily walk-on riders by home location. The Bureau gets data from Datafy - a mobile geolocation data provider that tracks visitors based on cell phone data received from partner apps - and only includes information on domestic visitors. For international visitors, BERK used the 2018 San Juan Islands Visitor Study conducted by San Juan County Parks, Recreation, and Fair Land Bank and San Juan Island National Historical Park National Park Service which was also used in the 2021 PSRC study.

BERK then considered travel time competitiveness as well as ease of access by Amtrak, inter-city bus service, and local airports to inform assumptions about the share of travelers from each home location that may select the Bellingham to Friday Harbor POF service over the WSF route from Anacortes. Using these market capture assumptions, BERK calculated average daily ridership demand for the Bellingham to Friday Harbor POF service.

Some of the considerations that informed our capture rate assumptions include:

- The proposed Bellingham route would provide more convenient service to Friday Harbor for residents of Whatcom County and Canada (since most Canadian visitors are from British Columbia and Vancouver Island).

- Assuming a traveler drives a personal vehicle to park at the ferry landing, total drive time between most locations in the Puget Sound region and the Anacortes Ferry Terminal is almost the same as the drive time to the Bellingham terminal. The main differences are the travel time, which is faster with the Bellingham POF service (50 minutes compared to around 70 minutes for the WSF service) and the frequency, which is higher for the WSF service (8 roundtrips per day compared to 4 for the POF service).
- Bellingham is also served by direct flights from several cities across the western U.S., while the Anacortes airport has much more limited local service. This results in the potential for Bellingham capturing some out-of-state vacationers if a convenient airport shuttle were available.
- Travelers from the Seattle area that are not traveling by car would have better options accessing the proposed ferry service in Bellingham, as the landing is located right next to an Amtrak station that also receives direct inter-city bus service via Greyhound. Transit options between the Seattle area and the Anacortes Ferry terminal are more limited. A private shuttle service runs between SeaTac airport and Anacortes Ferry terminal (with transfer in Mount Vernon). Making the trip with public transit requires additional transfers and is relatively inconvenient.

Estimated Ridership

Exhibit 5 shows assumed average daily travel demand to/from Friday Harbor by home location. The calculations are based on the 2024 visitation data from the San Juan Islands Visitor Bureau applied to the Anacortes to Friday Harbor average daily foot passenger ridership of 630 riders in 2024 that is assumed to travel for recreational purposes. Then market capture rate assumptions are used to develop the ridership demand estimate of roughly 180 foot passengers per day on average for the Bellingham POF service.

The ridership is slightly lower than the estimated ridership in the 2021 PSRC study for this route (160 foot passengers) mostly due to a lower Anacortes to Friday Harbor average daily foot passenger ridership in 2024 than in 2018 and adjusting to account only for those riders traveling for recreational purposes.

This route is assumed to run 7 days a week from April through September for a total of 183 days. Annual ridership demand is estimated at 26,500.

Exhibit 5. Proposed Bellingham to Friday Harbor POF Estimated Ridership by Rider Home Location

Home Location	% of Total Visitors to SJI	Assumed Average Daily Foot Passenger Travel Demand	Assumed Market Capture Rate (Bellingham POF)	Ridership Demand Estimate (Bellingham POF)
Whatcom County	8%	48	100%	48
Seattle MSA and Skagit County	33%	207	20%	41
Other Washington counties	15%	92	10%	9
Other Western states	16%	103	15%	15
Remainder of U.S.	22%	138	10%	14
Canada	2%	15	95%	14
International (other than Canada)	4%	26	10%	3
Total		~630		~145

Sources: Washington State Ferries, 2024; San Juan Island Visitor Bureau, 2024; Confluence Research and Consulting San Juan Islands Visitor Study, 2018; BERK, 2025.

Appendix D:
Vessel Characteristics

Washington State Department of Transportation

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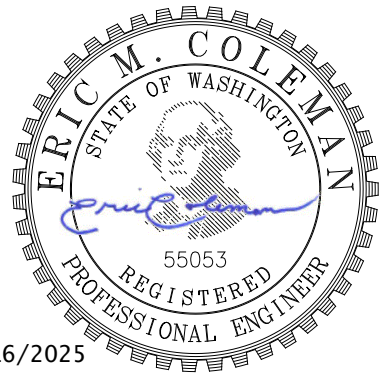
WSF Passenger-Only Ferry Vessel Characteristics

Prepared for: KPFF Consulting Engineers

Prepared by: Eric Coleman, PE and Juliette Lehman

Reference: 24095-100-051-1

Rev. - Date: 5/16/2025



5/16/2025

1. Purpose

Building on the work completed for the Puget Sound Regional Council (PSRC) Passenger-Only Ferry (POF) Study [1], Washington State Ferries (WSF) is evaluating the feasibility of providing POF service in the Puget Sound. Of the routes evaluated in the PSRC POF study, only the Whidbey – Everett and Bellingham – Friday Harbor routes are evaluated in this analysis. Additionally, interisland service provided to the San Juan Islands (SJI) is evaluated.

To support this POF feasibility study, Elliott Bay Design Group (EBDG) has identified principal characteristics for four representative vessel types to be assigned to the various evaluated routes. This report documents the assumptions and procedures used to identify characteristics for these representative vessel types. The findings of this analysis provide a high-level assessment of feasibility for each vessel type. Additional limitations, including the viability of hybrid and battery-electric systems—may arise based on the specific routes vessels serve. Since marine electrification is a rapidly evolving field, future technological advances could change these conclusions. Actual electrification potential for specific vessels and routes may differ as more detailed, route-specific engineering analyses are performed.

2. Procedure

2.1 Representative Vessel Types

Four representative vessel types are identified for this evaluation. Subchapter T and K boats were selected for this analysis based on the preliminary findings of the PSRC POF study [1]. One Subchapter K boat is included in the analysis, along with three Subchapter T boats. The Subchapter T boats consist of two representative vessels of the same size, one assumed to be a new-construction vessel and the other an existing vessel acquisition, and one smaller existing vessel acquisition. The Subchapter K boat is assumed to be new construction.

All representative vessel types are assumed to be high-speed catamarans, based on the vessel speeds outlined in Reference [1] and reference vessels currently operating on the Puget Sound. Foiling ferry technology is growing in popularity and may be appropriate for longer routes at high speeds. However, this technology is still under development and has not yet been thoroughly tested for passenger service in the Puget Sound. Therefore, foiling vessels are not included in this analysis.

2.2 Reference Vessels

Data was collected from a series of high-speed catamarans currently operating primarily in the Puget Sound, as well as in other locations. These vessels served as references to establish key characteristics for each representative vessel type. The vessels used in this analysis are listed below by name and U.S. Coast Guard official number:

1. EXPEDITIONS FIVE (1192624) – Subchapter T
2. POSEIDON (1330631) – Subchapter T
3. LADY SWIFT (1285241)/RELIANCE (1285140) – Subchapter T
4. SARATOGA (1278347) – Subchapter T
5. SWIFTSURE (1320002) – Subchapter T
6. PYXIS (1286883) – Subchapter K
7. ENETAI (1298861)/COMMANDER (1298862) – Subchapter K
8. DORADO (1324772) – Subchapter K
9. HYRDUS (1275311) – Subchapter K
10. GEMINI (1213097) – Subchapter K

2.3 Vessel Characteristics

2.3.1 Length, Beam

The vessels' length and beam were determined based on a review of high-speed catamarans currently operating in Puget Sound and other regions, with a focus on vessels that have similar performance characteristics and passenger capacities to those being targeted for the routes evaluated in this study.

2.3.2 Passenger Capacity

Passenger capacities for each of the vessel types are determined primarily by the limitations of the vessel subchapter as outlined by Title 46 of the Code of Federal Regulations (CFR), [2]. A review of reference vessels of similar length and beam was used to more precisely estimate passenger capacity. The smallest Subchapter T vessel was selected by balancing projected ridership on the San Juan Interisland route with vessel seakeeping capabilities and reliability in adverse weather, which influence vessel length and passenger capacity.

2.3.3 Max Speed, Cruising Speed

Top speeds for each of the vessel types were determined by review of the collected reference vessels. Cruising speed was calculated as approximately 85% of the determined top speed for each vessel type.

2.3.4 Crew Size

Crew size was determined from a review of guidelines in the Marine Safety Manual [3] and an evaluation of crew sizes on references vessels. Identified crew sizes are estimates based on the review of these sources, but final crewing requirements are ultimately at the discretion of the local Office in Charge, Marine Inspection (OCMI). Factors such as the number of passengers, voyage length, exposure to weather and sea conditions, and vessel layout influence the required and recommended crew levels. Additionally, operator policies and standards of best practice often result in crew sizes that exceed the

regulatory minimum to ensure a high standard of safety and customer service. Crew sizes were therefore estimated conservatively.

2.3.5 Capital Cost Range

Cost ranges were calculated from a series of reference vessels with known construction costs. Costs were inflated to 2025 dollars using the U.S. Shipbuilding Producer Price Index (PPI) [4]. Due to current price volatility, producing accurate cost estimates is challenging. Cost ranges provided are conservative estimates to account for this uncertainty. All reference vessels used for the cost range estimates have diesel-mechanical propulsion to align with the assumption that all cost ranges identified are diesel-mechanical as a baseline. For vessels that were identified as suitable for electrification, an additional cost range is identified, reflecting roughly 30% of total vessel cost, due to increased equipment costs and the potential for increased vessel size to accommodate larger equipment. This figure is notional and will vary significantly based on route, operating profile, and the resultant energy storage requirements.

Costs for new vessels reflect the assumption that these vessels are constructed in the Puget Sound. Shipyard pricing is subject to considerable uncertainty in an environment of significant and fluctuating U.S. tariff policies. Tariff policy and corresponding uncertainty, particularly related to steel, aluminum, and other vessel components, can drive-up material and equipment costs and therefore shipyard bid prices. This, in turn, may also impact procurement costs for existing vessels. Given the notional nature of the vessels evaluated in this study and the difficulty in predicting the extent to which these factors will influence shipyard costs, the estimates provided are conservative and expressed as ranges rather than fixed values.

For existing vessels, the purchase cost listed is determined by depreciating the original construction cost, assuming a vessel age of 10 years [5].

2.3.6 Fuel Consumption

Fuel consumption was calculated using engine performance curves for engines installed on reference vessels. Fuel consumption for cruising speeds was calculated at approximately 90% of installed power. Fuel consumption for maneuvering speeds was calculated at 55% of installed power.

2.4 Operational Considerations

A set of operational considerations were developed that support the evaluation of the cost, feasibility, lead time, and practicality of a vessel from priorities outlined in Reference [1] and client discussions. For the operational considerations, representative vessels that meet the identified criteria are designated with a "+" and those that do not are designated with a "-".

2.4.1 Compatibility with non-WSF SJI Docks

A series of local docks were identified as potential landing sites for POF service in the SJIs. Compatibility with non-WSF SJI ports was determined primarily by the representative vessel length. Vessels longer than the shortest assumed SJI docks were determined to be incompatible with this set of ports. It is assumed that bathymetry and vessel draft will not be a limiting factor for any of the representative vessel types evaluated. Some docks may require improvements for overall compatibility with passenger ferry service, including for considerations such as ADA accessibility.

2.4.2 Limited Crew Size

Vessels with no more than three estimated crew members are designated as meeting a limited crew size. Review of Reference [3] suggests that a crew of two may be permissible for the smaller T-boat, but again, the local OCMI has significant discretion in defining crew requirements.

2.4.3 Hybrid/Electric Capability

New-build representative vessel types are understood to be capable of hybridization and battery-electrification. For existing vessel acquisitions, it is assumed that hybridization and electrification are not feasible. This is due to the limited market for these propulsion solutions amongst existing vessels. Additionally, electrification of smaller vessels may be difficult due to increased equipment size. Again, the results of this analysis reflect general feasibility of these propulsion solutions for the representative vessel types. Additional limitations may exist on a route-by-route basis for these solutions, such as feasibility of terminal charging infrastructure or route duration.

High-level electrification feasibility was determined for routes in the 2021 PSRC POF study [1]. For the routes carried forward into this analysis (Whidbey – Everett and Bellingham – Friday Harbor), electrification feasibility is assumed to be unchanged since the release of that study. For the SJI route, it is assumed that the potential for shoreside charging infrastructure is low and that the route duration is incompatible with current electrification technology.

2.5 Suitability

A general description of the suitability of each representative vessel type outlines the situations in which each of the vessel types are most appropriate for service. These descriptions include information on route length, projected ridership, time to vessel deployment, and hybrid- or electric-capability.

2.6 Additional Considerations

2.6.1 Reliability

In addition to the comparative attributes identified in the matrix, an estimated weather reliability was calculated to understand the relative potential for trip cancellations. It is assumed that the vessel recommendations from the 2021 PSRC POF study [1], and calculated reliabilities, have not changed. Therefore, this reliability analysis is focused on the SJI route.

Operator outreach was conducted to understand weather conditions most likely to incur a trip cancellation on the Puget Sound. From discussions with operators of high-speed catamarans on the Puget Sound, primarily providing service to whale-watching tours, a 20-knot sustained wind is a typical threshold for trip cancellations, regardless of vessel size (the companies interviewed operate vessels between 34' and 85' in length).

Sustained wind speed data was collected for various points surrounding the SJIs from NOAA's National Data Buoy Center [6] and a European Centre for Medium-Range Weather Forecasts (ECMWF) hourly hindcast dataset [7]. In addition to operator outreach, published studies were reviewed to determine a correlation between vessel length over wavelength and vessel motions. From this review, it is assumed that weather conditions resulting in a wavelength exceeding the length of the vessel will result in a cancellation due to increased motions. The transit legs which provide for the greatest fetch and depth

were identified and measured. Using an assumption of a fully developed wave, and measured fetch and depth information, sustained wind speeds necessary to create trip cancellation conditions were calculated. These "cancellation wind speeds" were calculated for each of the representative vessel lengths.

A baseline cancellation rate was established using operator input from the San Juan Islands and historical hourly wind data, focusing on instances when wind speeds exceeded 20 knots. For comparison purposes, this baseline was uniformly applied across all vessel sizes. To assess how vessel size and seakeeping performance might influence cancellation rates, the frequency of wave lengths equal to or greater than the length of each vessel was determined. The analysis indicates that a 50-foot vessel could experience up to 3% more cancellations due to wave conditions compared to a 70- or 140-foot vessel operating on the San Juans Inter-Island route. It is important to note that trip cancellations are ultimately at the discretion of the operation and may differ from the estimates calculated for this analysis.

It is also important to note the tradeoff of vessel size in regard to reliability, ridership, and cost. While a smaller vessel may be more appropriate for a route with limited ridership, and may be more affordable to operate and maintain, the reduced size may result in a decreased service reliability.

Service reliability is also likely affected by seasonality, with the most significant impacts expected to occur in winter months.

3. Conclusions

Table 1 summarizes the results of this analysis by representative vessel type. Again, the characteristics developed for this analysis reflect a high-level feasibility for each of the vessel types. Factors may be affected by route limitations, terminal infrastructure and capabilities, or the discretion of the local OCMI.

Characteristics outlined assume a desire for a standardized WSF fleet, but there may be opportunities to reduce operating and capital costs through vessel customization on a route-by-route basis, particularly of propulsion machinery and equipment.

Table 1: Vessel Characteristics Matrix

		Vessel Type			
		Subchapter T (Existing Vessel, Small)	**Subchapter T (Existing Vessel, Large)**	**Subchapter T (New-Build)**	**Subchapter K (New-Build)**
Vessel Characteristics	Length (feet)	50	70	70	140
	Beam (feet)	17	26.8	26.8	36.8
	Pax Capacity	49	150	150	250
	Max Speed (knots)	30	30	30	37
	Cruising Speed (knots)	26	26	26	32
	Crew Size	3	3	3	3
	Cost Range	$5-$9 million	$7-$11 million	$9-$13 million	$26-$32 million
	Additional Elect. Cost	-	-	$3-$4 million	$8-$10 million
	Fuel Consumption (GPH) Cruising/Maneuvering	70/40	135/80	135/80	250/175
Considerations	Fits non-WSF SJI Docks	+	+	+	-
	Limited Crew Size	+	+	+	+
	Hybrid Capability	-	-	+	+
	Electric Capability	-	-	+	+
	Suitability	Shorter routes with minimal ridership. The acquisition of an existing vessel is ideal for an intermediate, stop-gap solution.	Shorter routes with moderate ridership. Acquisition of an existing vessel is ideal for intermediate, stop-gap solution.	Shorter routes with moderate ridership. New-build configuration allows for greater customization of vessel to route and hybrid- or battery-electric capability.	Longer routes with higher potential sea states or higher ridership. New-build configuration allows for greater customization of vessel to route and hybrid- or battery-electric capability.

4. References

[1] Puget Sound Regional Council, "Puget Sound Passenger-Only Ferry Study," Seattle, WA, January 2021.

[2] Department of Homeland Security, *Title 46 of the Code of Federal Regulations.*

[3] The United States Coast Guard, "Marine Safety Manual, Volume III: Marine Industry Personnel".

[4] U.S. Bureau of Labor Statistics, "Producer Price Index by Industry: Ship Building and Repairing, Nonmilitary," [Online]. Available: https://fred.stlouisfed.org/series/PCU336611336611A.

[5] John A. Volpe National Transportation Systems Center, "Ferry Lifecycle Cost Model for Federal Land Management Agencies," 2011.

[6] National Oceanic and Atmospheric Administration, "National Data Buoy Center," [Online]. Available: https://www.ndbc.noaa.gov/.

[7] ECWMF, "ERA5 hourly data on single levels from 1940 to present," [Online]. Available: https://cds.climate.copernicus.eu/datasets/reanalysis-era5-single-levels?tab=overview.

Appendix E:
Financial Plan

Washington State Department of Transportation

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MEMO

Date:	May 29, 2025
To:	Washington State Ferries
From:	KPFF Consulting Engineers
Subject:	WSF Passenger Only Ferry Study Financial Plan Memorandum

Introduction and Approach

This memo focuses on the operating and capital expenditures needed for the four routes identified for further analysis, two potential San Juan Interisland route alternatives, and the two 2021 Puget Sound Regional Council Passenger-Only Ferry Study (PSRC Study) routes selected for reassessment.

The operating profiles of each route were expanded or revisited to establish or confirm assumptions about operating conditions that are key cost drivers, such as hours of operation, distances and speeds traveled, and crewing requirements. Research was conducted to document current operator and industry cost and fuel consumption rates for proposed vessel types that would inform annual expenditure projections using route-specific operating and capital cost assumptions.

However, expenditures tell only part of the story; while outside the scope of this analysis, a complete financial analysis should also include a revenue forecast. Ultimately, route feasibility will be determined by the level of cost recovery that can be realized through fares, other operating revenue, grants, and local funding sources. To provide some insight into revenue requirements for the San Juan Islands Interisland routes, regional fare box recovery levels were applied to projected costs to establish revenue targets. To inform fare policy discussion, revenue targets and approximate ridership were used to calculate average passenger revenue realization rates (AR). AR can be used as a proxy to help understand potentially viable fare levels.

Assumptions and Analysis

Assumptions made during the study regarding fleet size and infrastructure requirements were used to identify capital needs. Research was conducted to establish current marine industry vessel and terminal construction costs. With this information, start-up capital investment estimates were prepared for each route. Generally, capital costs are higher for Washington State Ferries (WSF) terminal use within the San Juan Islands because larger vessels would be needed to fit with the existing terminal infrastructure.

Start-Up Capital Costs

Vessels

Vessel construction costs vary depending on vessel size and operating speed. As explored more fully in the Vessel Characteristics appendix and in the Service Type and Operating section below, profiles for representative vessel types were developed based on the operating requirements of each of the four routes.

Current marine industry trends and operator experiences were drawn upon to establish capital cost estimates for new construction of three vessel sizes (49-, 150-, and 250-passenger capacities). In addition, an estimated cost for procurement of an existing vessel was developed for the smaller "T Boat" vessel type, as this type of vessel is most likely to be available for sale and fits well with the operating and size requirements of the San Juan Island Interisland route, providing an opportunity for potential faster service start-up. All cost estimates are expressed in 2025 dollars and include estimated design, construction, and construction management costs. As noted in Table 1 below, the largest "K-Boat" vessel type is the most expensive, with costs decreasing as the vessel size decreases.[1]

Table 1 – Estimated Vessel Acquisition Cost by Vessel Type

Characteristic	T Boat 49 Pax, 30 knots Existing Vessel	T Boat 49 Pax, 30 knots New Build	T Boat 150 Pax, 30 knots New Build	K Boat 250 Pax, 37 knots New Build
Vessel Acquisition Cost	$8,422,000	$10,227,000	$16,412,000	$34,893,000

Note: K-Boat outfitted for approximately 150 passengers

Landing Site Improvements

Estimated landing site improvement costs were developed using differing approaches for the PSRC and the San Juan Island Interisland routes. For all routes, acquisition costs for both landing sites are not included in capital cost estimates.

PSRC Study Routes

The 2021 PSRC Study analysis included a preliminary assessment of identified POF landing sites to determine the minimum level of work required for docking infrastructure for landing one POF. Though site-specific cost estimates were beyond the scope of the 2021 PSRC Study, rough order of magnitude (ROM) categories were established and are displayed in Table 2 below. The categories include the retrofit of existing infrastructure or the replacement costs typical of any landing site proposed in the study. The estimated costs from the PSRC Study are escalated to 2025 dollars in Table 2. The costs do not include acquisition or lease costs for the landing site.

Table 2 – Landing Site Improvements Capital Cost Categories

Category	Category Description	Estimated ROM Capital Cost
RETROFIT	Existing dock is available and is serviceable with minor changes	$1.3M–$6.5M
REPLACEMENT OR NEW BUILD	*Either* 1) Docking infrastructure currently exists but would need replacing to support service, *or* 2) No docking infrastructure currently exists, and all new docking infrastructures would need to be constructed	$6.5M–$43.3M

[1] Vessels carrying 150 or fewer passengers are regulated under 46 CFR Subchapter T, and those carrying more than 150 passengers are covered by Subchapter K, which gives rise to the common terms "T-Boat" and "K-boat."

San Juan Island Interisland Routes

ROM costs for identified San Juan Islands landing site improvements, presented in more detail in the *Potential San Juan Islands Landing Site Inventory and Analysis Memo*, were developed based on estimated unit costs. Using best practice assumptions, ROM construction costs were escalated to include estimated costs for design and permitting, construction mobilization and demobilization, construction management and administration, taxes, and general contingency.

Operating Expenditures

Annual operating costs were projected to reflect the operating characteristics of each route. Route-specific operating characteristics include vessel type, fleet size, service and vessel operating hours, vessel crewing and terminal staffing requirements, and fuel consumption rates. Annual operating costs include the direct costs associated with operating and maintaining the service, such as labor, fuel, and materials, as well as fixed costs such as insurance, management, and overhead. It is important to consider potential profit margins that would be needed if a private operator provides service. All cost estimates are expressed in 2025 level dollars. When appropriate, assumptions are grouped by San Juan Islands Interisland or PSRC Study routes.

Service Type and Operating Hours

Service Profile

San Juan Islands Interisland Routes
Two service profiles have been evaluated for the San Juan Island Interisland service: commute and commute plus seasonal extended service.

- Commute focuses on weekday travel demand between business/employment centers and residential communities with morning and evening commute service.
- Commute plus extended service operates seven days a week, retains the commute service schedule in the winter season, and adds additional midday service from May through September.

PSRC Study Routes

- Whidbey Island – Everett is classified as a commute route targeting the weekday commute period travel.
- Bellingham – Friday Harbor operates seasonal daily service focusing on less frequent service throughout the day, seven days a week. Low ridership potential for daily commute travel and adverse sea and weather conditions during part of the year make this route unsuitable for the more traditional commute-level service.

Fleet

San Juan Islands Interisland
Two possible landing location scenarios are evaluated for interisland service: landing in existing WSF vehicle ferry slips at the current WSF terminal or landing at other POF accessible locations. Although crossing times are virtually the same, landing in WSF vehicle ferry slips requires a larger profile vessel with notably higher operating costs, as discussed in subsequent sections of this memo. Additionally, developing a schedule that aligns with WSF vehicle ferry landings and accounting for the travel time to

and from off-site moorage at the beginning and end of each service period extends crew hours for the WSF terminal scenario.

All of the routes can support three round trips in each commute period and, for the San Juan Islands Interisland routes, additional mid-day service for the commute, plus an extended seasonal service scenario with one vessel in service.

Table 3 – Route Service Levels and Crew Hours

	Whidbey Island-Everett Commute	Bellingham-Friday Harbor Seasonal	San Juan Interisland Commute Service: WSF Slip	San Juan Interisland Commute Service: POF Landing	San Juan Interisland Commute + Seasonal Extended: WSF Slip	San Juan Interisland Commute + Seasonal Extended: POF Landing
Hours of Service Daily	6	8	8	8	16	14
Weekly Crew Hours	50	80	57	53	130	117
Daily Roundtrips	6	8	6	6	12	12

Notes:
Hours are rounded to the nearest whole hour.
Commute + Extended Seasonal includes weekdays only October-April, and seven days a week May-September.

Operating and Maintenance Labor

Two categories of labor are included in these financial projections for all routes evaluated: deck crews and vessel maintenance. Shoreside passenger management and information labor is included for the PSRC Study routes.

As discussed in the Vessel Characteristics appendix, it is assumed that all proposed vessels will be a single deck, and United States Coast Guard (USCG) approved crewing levels will likely include a master and two deckhands. For vessels with a capacity of 49 passengers or fewer, the USCG may require one master and only one deckhand. If approved, the potential use of a two-person crew would reduce annual operating costs on the San Juan Island Inter-island POF Landings route. The labor rates on all routes are set at the average rate of the two current Puget Sound passenger ferry operators: King County Metro (KC) and Kitsap Transit Fast Ferries (KT), because these operations most closely match the routes evaluated. The composite rates are in line with similar positions within WSF. Crew schedules were developed by taking into account each proposed route's operating hours, fueling and moorage arrangements, and maritime labor rules.

Table 4 – Annual Vessel Deck Labor Expenditures

	Whidbey Island-Everett Commute	Bellingham-Friday Harbor Seasonal	San Juan Interisland Commute Service: WSF Slip	San Juan Interisland Commute Service: POF Landing	San Juan Interisland Commute + Seasonal Extended: WSF Slip	San Juan Interisland Commute + Seasonal Extended: POF Landing
Annual Deck Crew Hours	2,550	2,080	2,930	2,680	4,560	4,140
Weighted Crew Hourly Rate	$261	$261	$261	$261	$261	$261
Annual Deck Labor Cost	$664,000	$542,000	$764,000	$698,000	$1,341,000	$1,079,000

Note: Commute + Extended Seasonal includes weekdays only October-April, and seven days a week May-September.

Maintenance labor requirements were set at levels commensurate with KC and KT staffing. A marine engineer or marine mechanic is assumed for each route, plus an oiler/helper for each route, as shown in Table 6 in the Maintenance section below.

Eight hours of shoreside labor is assumed for the Whidbey Island – Everett route, evenly distributed between the morning and evening commute periods. Twelve hours of shoreside labor is assumed to cover the longer service period on the Bellingham – Friday Harbor route. With smaller passenger loads, the Study assumption that no fares will be collected, and a high percentage of community-based riders, it is assumed that shoreside labor will not be required at any of the San Juan Islands existing POF docks. For the route landing in the WSF vehicle ferry slips, shoreside labor will be required to manage the placement of the ramp. Estimates of staff time at each island terminal have been made reflecting the vessel time at the dock between arrival and departure, the number of sailings, and the number of days of service.

Fuel

For this analysis, it is assumed that all vessels will be diesel-propelled. Fuel consumption is a function of vessel operating speeds, travel times, and dwell times. Daily fuel consumption rates were calculated for each route, reflecting the route's operating characteristics. Annual fuel expenditures for all routes were estimated using an average of the prices paid by both KC and KT in 2024.

Table 5 – Annual Fuel Expenditures

	Whidbey Island-Everett	Bellingham-Friday Harbor	San Juan Interisland Commute Service: WSF Slip	San Juan Interisland Commute Service: POF Landing	San Juan Interisland Commute + Seasonal Extended : WSF Slip	San Juan Interisland Commute + Seasonal Extended : POF Landing
Annual Gallons Consumed	121,500	284,300	256,200	81,100	454,700	145,500
Average Price per Gallon	$3.49	$3.49	$3.49	$3.49	$3.49	$3.49
Annual Fuel Expenditure	$424,000	$893,000	893,000	$283,000	$1,585,000	$507,000

Note: Annual expenditure amounts may vary due to rounding to the nearest thousand.

Maintenance

In addition to maintenance labor, the cost for maintenance materials, contract maintenance, annual maintenance, inspection, and unplanned or corrective work was estimated by applying hourly rates to hours of operation. These hourly maintenance rates reflect vessel characteristics, current maritime industry trends, and operator experience.

Table 6 – Annual Maintenance Expenditures

	Whidbey Island-Everett	Bellingham-Friday Harbor	San Juan Interisland Commute Service: WSF Slip	San Juan Interisland Commute Service: POF Landing	San Juan Interisland Commute + Seasonal Extended : WSF Slip	San Juan Interisland Commute + Seasonal Extended : POF Landing
Routine, Annual, and Corrective	286,000	458,000	378,000	200,000	650,000	346,000
Total Annual Maintenance	**653,000**	**722,000**	**745,000**	**567,000**	**1,017,000**	**713,000**

Note: Numbers are rounded to the nearest thousand

Insurance and Other Operating Costs

Allowances were included for miscellaneous operating expenditures such as consumables, communications, and uniforms. Recent regional (KT and KC) POF operator insurance expenditures informed the estimate of insurance costs.

Management and Support

Management and support expenditures include indirect costs required to support the operations and maintenance of the service, such as program and financial management, administrative staff salaries and benefits, payroll and financial system costs, and other overhead costs, including office space, office supplies and equipment, and professional services. Using KT and KC actual experience, management and support as a percentage of direct operating costs was calculated and applied to direct operating costs for each route. If the new POF routes made use of a private, third-party operator, a profit margin for the operator would need to be considered and could increase management and support costs.

Fare Box Recovery Context

As noted in the Ridership Demand Findings appendix and in the Approach section of this appendix, the financial plan assumes that no fares are collected. Many publicly operated POF services charge passengers a fare, and for most, fare revenue only covers a portion. However, to understand how fare revenue might contribute to overall funding, regional POF fare box recovery (FBR) rates were evaluated to establish a target FBR rate for the San Juan Islands Interisland routes. For this analysis, KT's combined 2024 FBR rate of 14.4% for all routes, except Bremerton-Seattle, was used. Bremerton-Seattle was excluded from the calculation because the FBR rate for this route is skewed by the substantial subsidy from the State to mitigate the reduction in vehicle ferry service. The adjusted KT FBR rate is in line with KC's 2023 FBR level.

The selected FBR rate was applied to projected operating expenses for each San Juan Islands Interisland route to establish a revenue recovery target. The revenue recovery target was divided by estimated ridership to determine an average round-trip revenue realization (AR) per passenger. AR was used as a proxy for fare level because it was beyond the scope of this project to estimate ridership by passenger type or develop a proposed fare structure. AR will be lower than posted full fare rates because it will incorporate all fare discounts such as senior, disabled, youth and frequent rider discounts.

While useful as a first step in evaluating possible AR per rider, the method described above will result in an artificially low estimate of AR because the ridership estimate was premised on the demand for a free service. Ridership when fares are charged will be lower, but how much lower is unknown. To estimate ridership levels when fares in the range of the initially calculated AR are charged, it was simply assumed that ridership would be 25% lower, and the AR calculation was run again.

Table 7 – Example Fare Box Recovery and Average Realizations – SJI Interisland Existing POF Landing Sites Route

Service Type	Example Revenue Target Based on 14.4% FBR[1]	**Average Revenue Realization Roundtrip per Passenger** *Projected Ridership with No Fare* [2]	**Average Revenue Realization Roundtrip per Passenger** *Projected Ridership with Fare* [2]
Commuter Service	$303,000	$15.00	$20.00
Commuter + Extended	$440,000	$10.00	$14.00

Notes:
1 Rounded to the nearest thousand
2 Rounded to the nearest quarter

Route Financial Projections

A "snapshot" annual financial projection was prepared for each route. These annual operating expenditure forecasts reflect a mature service, typically between 5 to 10 years after start-up.

Table 8 – Route Financial Projections

Route Description	Bellingham - Friday Harbor	Whidbey - Everett	San Juan Interisland WSF Slips	San Juan Interisland POF Docks	San Juan Interisland WSF Slips	San Juan Interisland POF Docks
Service Levels	Seasonal	Commute	Commute	Commute	Commute+	Commute +
Annual Expenditures [1]						
Operating Labor	665,000	781,000	850,000	698,000	1,341,000	1,079,000
Fuel	991,000	424,000	893,000	283,000	1,585,000	507,000
Maintenance (labor, materials & contracts	794,000	719,000	745,000	568,000	1,017,000	713,000
Insurance & Other	433,000	345,000	278,000	205,000	348,000	242,000
Management & Support	578,000	455,000	555,000	352,000	861,000	510,000
Total Operating Expenditures	**$3,461,000**	**$2,724,000**	**$3,321,000**	**$2,106,000**	**$5,152,000**	**$3,051,000**
Capital Investments [1]						
Vessels	69,786,000	32,824,000	69,786,000	$14M - $19M	69,786,000	$14M - $19M
Landing Site Improvements[2]	$2.6M to $13M	$1.3M to $2.6 M		2,100,000		2,100,000
Total Capital Investments	**$72.4M - $82.8M**	**$34.1M - $39.3M**	**$69.8M**	**$16.1M - $21.1M**	**$69.8M**	**$16.1M - $21.1M**

Notes:
1 Rounded to the nearest thousand, expressed in 2025 level dollars
2 Terminal capital investment estimates could vary widely depending on the locations and design solution.
See Capital Costs – Landing Sites in the Analysis Results section of the report for a discussion of potential terminal investment costs.

Financial Analysis Summary of Findings

Financial considerations vary by route. Key findings include:

Whidbey / Everett: Operating expenditures are relatively low for this route due primarily to the short crossing distance and lower fuel consumption. Capital expenditures are also relatively low due to the use of a smaller, 150-passenger vessel for the short crossing distance.

Bellingham / Friday Harbor: Operating expenditures are the highest for this route due to the longer crossing distance and higher fuel consumption rate for the larger, 250-passenger vessel needed. Capital expenditures are also the highest of the routes studied, due to both the higher cost for the larger vessel and the higher landing site improvement costs.

San Juan Interisland (using POF docks): Operating expenditures are the lowest for this route due primarily to lower fuel and maintenance costs associated with using a smaller, 150-passenger vessel. While landing site improvements would be needed at the sites, capital costs for the smaller vessels are lower.

San Juan Interisland (using WSF slips): The primary driver of higher operating costs on this route, compared to the SJI Interisland route that uses existing POF slips, is higher fuel consumption and maintenance costs. Capital costs are more than three times greater than the SJI (POF docks) route alternative due to the higher cost of the larger, 250-passenger vessel required to land in WSF slips.

Additional financial considerations include the following:

- Funding start-up operations for POF service can be expensive and will depend on the required vessel size and complexity, and the availability and condition of existing landing sites. Capital investments range widely from $16-$21M for the existing POF landing sites on the San Juan Islands Interisland route to $72M for the Bellingham to Friday Harbor route. Recent years have seen very high rates of cost escalation in the shipbuilding industry and for some elements of shoreside facilities.
- Analysis of capital financing alternatives is beyond the scope of this study, but the scale of investment may require assembly of a funding portfolio that draws on a variety of grant and direct appropriations, local revenue sources, and debt financing. Capital equipment leasing may also be appropriate for some vessel types.
- Annual operating expenditures vary from as low as $2.1M for the commute level service using existing POF landing sites route in the San Juan Islands to nearly $5M for the commute plus extended service using the WSF terminal slips.
- For the two PSRC Study routes, the seasonal route between Bellingham and Friday Harbor is more expensive than the year-round commute level service route between Whidbey Island and Everett, in large part due to greater fuel consumption for the larger vessel traveling a further distance between Bellingham and Friday Harbor.
- Fuel prices can fluctuate greatly and rapidly. In 2021, when the PSRC study was completed, the average annual fuel price was hovering at $1.40. For 2024, the average price was near $3.50.
- Particularly with longer routes and/or larger vessels, fuel consumption and price have a notable impact on overall expenditures, and fuel is more than one-third of overall operating costs for several of the routes evaluated in this study.
- The cost of operation for the same level of service on the San Juan Islands Interisland routes is over 50% higher for the larger vessel operating from WSF vehicle ferry slips than for the smaller vessel at POF landing sites, due largely to higher fuel consumption
- For this analysis, each of the routes is treated as a stand-alone service. In practice, most successful POF services spread the cost and risk of operations across more than a single route, thus recognizing economies of scale for costs and leveraging larger labor pools and skill sets. Greater efficiencies and reduced operating risk may be accomplished through a single agency with multiple routes or through contracting for service from an existing public or private operator. Lower capital costs may also be possible through shared use of relief vessels.
- As noted earlier, expenditures tell only part of the story. While outside the scope of this analysis, a complete financial analysis should include a revenue forecast. Ultimately, route feasibility will be dependent upon assembling a revenue plan that will fully fund start-up capital investment and cover the total cost of operations.
- If, as part of the overall funding strategy, the San Juan Islands Interisland route landing at existing POF sites were to collect fares to offset a portion of operating costs at levels similar to other regional public passenger ferry services, at the commuter service level the average revenue realization per passenger might be in the range of $15 to $20 and $10-$14 for the commute plus extended service level.