Kitsap County Intracounty Passenger-Only Ferry (POF) Study

PRELIMINARY BUSINESS PLAN AND LONG-RANGE STRATEGY

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Prepared by:

KPFF Consulting Engineers

With:

Progressions Consulting

BERK

Glosten

Blue Coast Engineering

TABLE OF CONTENTS

Executive Summary **1**
Introduction **6**
Approach 6
Background **7**
Historical Kitsap County POF Service 7
Past Studies and Plans 8
Current KT POF Service 12
Foot Ferries 12
Fast Ferries 13
Route Options Assessment and Screening **14**
Route Opportunities 14
Preliminary Assessment of Route Options 17
Screening Results 19
Highlighted Route Opportunities 20
Summary of Public and Advisory Group Feedback 21
Travel Time Comparison 21
Summary of Public and Advisory Group Feedback 22
Travel Time Comparison 22
Route Analysis **23**
Conceptual Vessel Types 23
Landing Site Requirements 24
Operating Profiles 30
Estimated Demand 31
Route Summaries **33**
BREMERTON – BAINBRIDGE ISLAND 34
BREMERTON – SILVERDALE 35
Financial Analysis **36**
Estimated Capital Costs 37
Estimated Annual Operating Costs 38
Financial Analysis Key Findings 39
Implementation Needs and Considerations **40**
Financial Planning and Funding 41
Engagement 43
Environmental Review 44
KT Ferry Program Expansion Needs 44
Implementation Timeline and Next Steps 46
Conclusion **48**

Appendices

Appendix A – Passenger-Only Ferry Service History and Background
Appendix B – Wake Research Summary
Appendix C – Public Survey Results
Appendix D – Vessel Analysis
Appendix E – Ridership Analysis
Appendix F – Financial Analysis and Funding Considerations

EXECUTIVE SUMMARY

Introduction

As Kitsap County communities continue to grow, residents and visitors see opportunities for expanded and more convenient connections between communities. The Kitsap Transit Intracounty Passenger-Only Ferry (POF) Study explored alternatives for adding new POF ferry routes within Kitsap County to expand the current system. The study created this Preliminary POF Business Plan and Long-Range Strategy, which documents estimated costs for implementing and operating two potential intracounty POF routes and identifies next steps, opportunities, and challenges for implementation of new POF service.

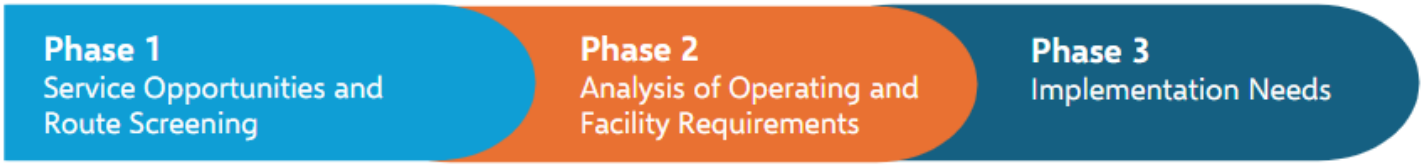
Approach

The study was conducted in three phases, highlighted below:

Phase 1 - The first phase focused on compiling a list of intracounty POF route opportunities, and screening potential routes based on preliminary assessment for service opportunities.

Phase 2 - Next, the team analyzed two routes in more detail, with analyses of potential ridership, environmental considerations, potential landing sites and needed improvements, a fleet and operating requirements.

Phase 3 – Finally, costs were estimated for the requirements identified in the previous phase including annual operating costs, along with a roadmap of steps and anticipated timeline for potential service implementation.



Public engagement was key in shaping the direction and goals of the study. Following the public launch of the study in May 2025, an online Community Survey was distributed in July 2025. This early engagement helped to gauge interest in potential POF service and identify additional routes to be considered as a part of the site screening and evaluation process.

Additional engagement involved an Advisory Group that met three times at key project stages. This group included representatives from local Chambers of Commerce, state and local officials, workforce development organizations, and economic development organizations. These group meetings provided space for sharing findings and progress of the study and for group members to share input and local insight.

Service Opportunities and Route Screening Results

A list of preliminary route opportunities was compiled from public and stakeholder feedback and review of Kitsap County travel patterns. Preliminary route assessment and screening reviewed factors including intracounty commute travel levels, travel time competitiveness of POF routes, and potential navigational and environmental considerations. As a result, two routes were moved forward for detailed route assessment, **Bremerton – Bainbridge Island** and **Bremerton – Silverdale**, with two additional routes being highlighted as potential future opportunities: Bremerton – Manchester and Bremerton – Poulsbo.

Route Analysis

Route analysis focused on several key elements, including vessel and terminal needs, operating requirements, estimated ridership levels, and estimated capital and operating costs. Two vessel types were assessed for each route, reflecting both diesel and electric propulsion options. Route characteristics and analysis findings are profiled below.

Bremerton – Bainbridge Island

Route Profile

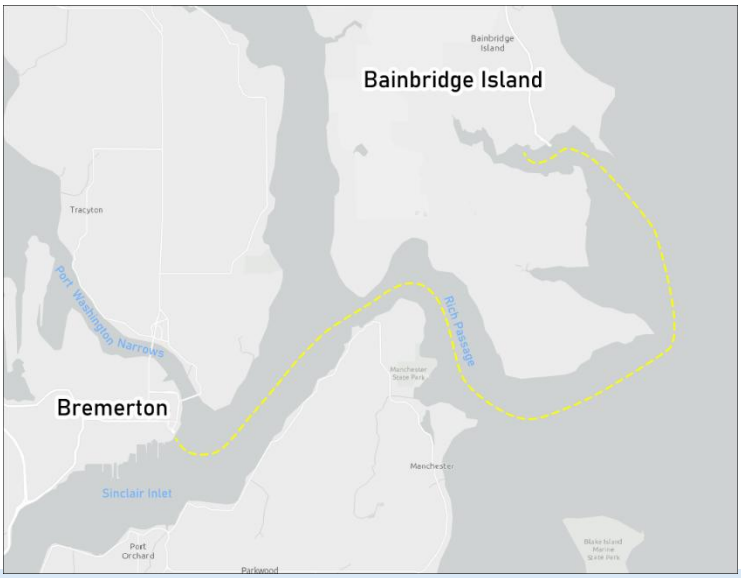
- Crossing time: 23 minutes
- Service schedule: 5:30AM-7:30PM (weekdays, year-round), 9:00AM-8:40PM (Saturdays, May-Sept.)
- Estimated total weekday demand: 670

Environmental Considerations

- Constrained waterway (Rich Passage)
- Tribal resources and activities
- Marine mammals

Fleet Requirements

- Vessel type options: Two 118-passenger diesel (RP Class), or two 75-passenger all-electric foiling ferries



Landing Sites & Improvements

Bainbridge Island – WSF Auto Ferry Terminal

- Development of a new POF terminal will involve major capital projects to install a pedestrian bridge connection to the existing overhead walkway and construct a POF float and gangway connection

Bremerton – KT Terminal

- Assumed landing site improvements include replacement of Float B
- Installation of shoreside charging infrastructure (for electric vessel options only)

BREMERTON – SILVERDALE

ROUTE PROFILE

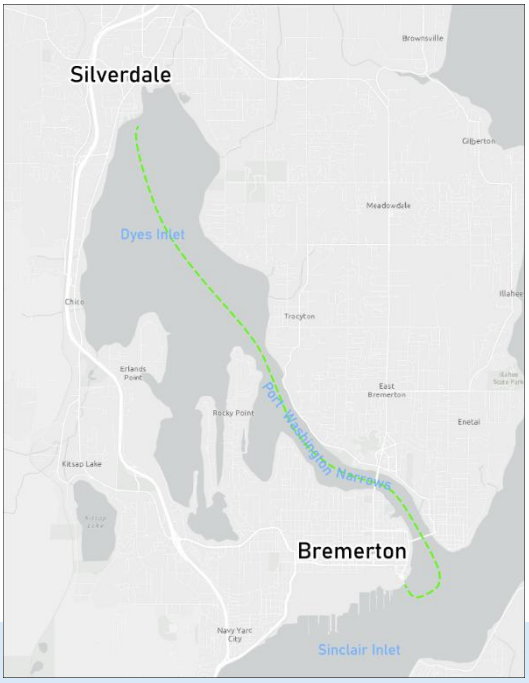
- Crossing time: 23 minutes
- Service schedule: 6:00AM-8:00PM (weekdays, year-round), 9:00AM-8:00PM (Saturdays, May-Sept.)
- Estimated total weekday demand: 390

ENVIRONMENTAL CONSIDERATIONS

- Constrained waterway (Port Washington Narrows)
- Tribal resources and activities, notably in Dyes Inlet
- Wetlands and eel grass

FLEET REQUIREMENTS

- Vessel type options: Two 75-passenger diesel, or two 75-pax all-electric foiling ferries



LANDING SITES & IMPROVEMENTS

SILVERDALE – WATERFRONT PARK DOCK

- Adaptation of the current Silverdale Waterfront Park Dock for POF service includes float and gangway improvements.
- Inadequate landside connections. Operating costs includes shuttle between Silverdale Transit Center and the park dock.

BREMERTON – KT TERMINAL

- Assumed landing site improvements include replacement of Float B
- Installation of shoreside charging infrastructure (for electric vessel options only)

Implementation Considerations

Costs for each route, assuming two vessel types (conventional diesel and electric hydrofoil), were estimated based on planning-level vessel and landing site design. Start-up capital costs range from $39.8M to up to $82.1M, depending on the type of vessel deployed and shoreside improvements needed. Operating costs range from $3.8M to $4.8M. Estimated costs are summarized in table below.

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Capital Investments *(costs in 2025 level dollars)*				
Vessels	$22.6 M	$25.7 M	$14.5 M	$25.7 M
Shoreside	$37.6 M	$41.4 M – $56.4 M	$25.3 M	$30.3 M – $45.3 M
Total Capital	**$60.2 M**	**$67.1 M - $82.1 M**	**$39.8 M**	**$56.0 M – $71.0 M**
Annual Operating Expense *(costs in 2025 level dollars)*	$4.8	$3.8 M	$3.8 M	$4.2 M

Before additional vessels are constructed and service is initiated on the proposed Bremerton – Bainbridge route, in-situ testing should be conducted to determine if the cumulative effect of the additional trips will adversely impact the beaches of Rich Passage. Similarly, for the Silverdale route, KT would likely want to work with property owners along the Port Washington Narrows to understand and address potential concerns.

Outside of the capital projects reflected in the estimated costs above, additional investment will be required to expand the capacity of KT's ferry program to support new service, including vessel maintenance program, overnight moorage space, marine services administrative staff and vessel crew..

Implementation Timeline and Next Steps

Due to the landing site improvement needs, potential environmental and community concerns along both routes, and funding requirements, it is anticipated that launch of a long-term intracounty POF expansion service would require a minimum of seven years.

Before moving forward with implementation, a high-level capital and operations funding plan should be prepared. If funding is identified for new routes, the next step would be development of a detailed business and implementation plan. While this study estimated costs for a service scenario based on planning-level vessel characteristics and landing site improvements, future phases would advance vessels and landing sites to a preliminary design level to support refined operating and capital costs. That level of planning will require coordination with landing site owners, and engagement to understand potential environmental concerns and regulatory requirements.

Key Study Findings

Potential new intracounty POF routes provide attractive alternative connections between Kitsap County communities supported by public and stakeholder interest. Notably, a POF connection between Bremerton and Bainbridge Island could provide significant travel time savings and a needed alternative to constrained roadways. Other communities, such as Poulsbo, represent additional potential opportunities for future assessment. While this analysis was limited to assessment of existing travel data which is focused on commute trips, there is also likely recreational/discretionary trip demand. Additional public engagement and analysis is needed to develop a detailed ridership forecast.

KT is not well positioned for short-term pilot service with fast start-up. All vessels in the current fleet are assigned to an existing route, leaving no vessels available for new service. In addition, landing site options that could support POF service without improvements are limited and not well served by uplands connections.

POF expansion routes require significant start-up and ongoing investment. Silverdale and Bainbridge Island landing sites would require significant improvements, with associated site owner coordination, environmental review and permitting, and new capital funding sources. Additionally, added service will involve upgrades to the Bremerton terminal and expansion of various elements of KT's ferry program.

Specialized vessels will be needed to meet the operating requirements of both routes, including environmental constraints and speed requirements. Environmental, tribal, and community concerns along both routes will necessitate outreach and coordination.

Ongoing operations, estimated to cost between $3.8 to $4.8 million per year (2025 level dollars), will require a stable, dedicated funding source. Implementation of the intra county POF infrastructure and operations presented in this study would likely require a legislative increase of voter authorized sales tax cap greater than 4/10 percent coupled with substantial federal and state assistance for infrastructure.

INTRODUCTION

Kitsap Transit (KT) has provided transportation connections for Kitsap residents since 1983. KT currently operates five passenger-only ferry (POF) routes: two intracounty routes connecting Bremerton to Port Orchard and Annapolis, and three intercounty routes from Bremerton, Kingston, and Southworth to downtown Seattle. As a peninsula with a coastline shaped by numerous bays and straits, the Kitsap area has a long history of waterborne transit, with many opportunities for ferries to provide a direct connection between communities.

KT is exploring the viability of expanding passenger-only ferry (POF) service in Kitsap County by adding additional intracounty POF services to accommodate a growing population and workforce. Kitsap County's population is expected to see steady growth over the coming decades, alongside employment growth and continued demand for both skilled and unskilled labor.[1] With this anticipated population and employment growth, it is important for the county to consider expanding or adding new travel options to accommodate these added residents and their travel needs.

Kitsap Transit developed the Intracounty POF Preliminary Business Plan and Long-Range Strategy to explore alternatives for adding new POF ferry routes within Kitsap County and identify potential options and next steps toward the implementation of local intracounty POF services.

Approach

The project started with a review of historical and current POF service, along with past studies of potential POF service and implementation plans. Early phases of the study also involved a review and screening of potential new POF route opportunities. Next, the team analyzed two routes in more detail, with analyses of potential ridership, environmental considerations, potential landing sites and needed improvements, and fleet requirements. Finally, the study considered requirements for implementation of a POF service, including estimated costs for start-up and ongoing operations, funding needs, and potential implementation timeline and next steps. These findings are all formalized in a business plan document.

[1] Kitsap Economic Development Alliance. "Housing and Income," accessed Dec. 10, 2025. https://www.kitsapeda.org/lifestyle/housing-and-income

Public engagement was key in shaping the direction and goals of the study. The study was launched publicly in May 2025, with project information distributed through email and social media, published on a project webpage, and through presentation at the Mosquito Fleet Fest held May 24-25, 2025. Following the study kick-off, an online Community Survey was distributed in June 2025. This early engagement helped to gauge interest in a potential POF service and identify additional routes to be considered as a part of the site screening and evaluation process.

Later stages of engagement involved an Advisory Group that met three times at key project stages. This Group included representatives from local Chambers of Commerce, state and local officials, workforce development organizations, and economic development organizations. The group was formed to promote an open dialogue for the study team to share findings and progress and for group members to share input and local insight that would inform the study.

BACKGROUND

The study reviewed the history and background of POF services in the County was undertaken. Evaluation of existing local and cross-sound ferry services focused on providing background and context for this study, including identification of previous successes and shortfalls in implementation of new services. This review covered three key areas:

- Historical and current POF service within Kitsap County
- Past POF studies and planning efforts relevant for Kitsap County
- Overview of Rich Passage wake research studies completed to date

The following sections provide a summary overview of the history and background of Kitsap ferry service, with additional detail provided in Appendix A – POF Service History and Background.

Historical Kitsap County POF Service

Current ferry service in the Puget Sound has evolved from the region's long history of water transportation. Beginning with Native American tribes, waterborne transportation has been an integral mode for the region due to the numerous navigable waterways and island early 1900s with the bustling operations of the Mosquito Fleet, with approximately 25 routes

operating throughout the Sound with 195 ports of call.[2] [3] Since that time, various ferry services, from both private operators and public agencies, have connected coastal Kitsap County communities at different times. Ferry service has been and remains an essential part of life for many Kitsap residents.

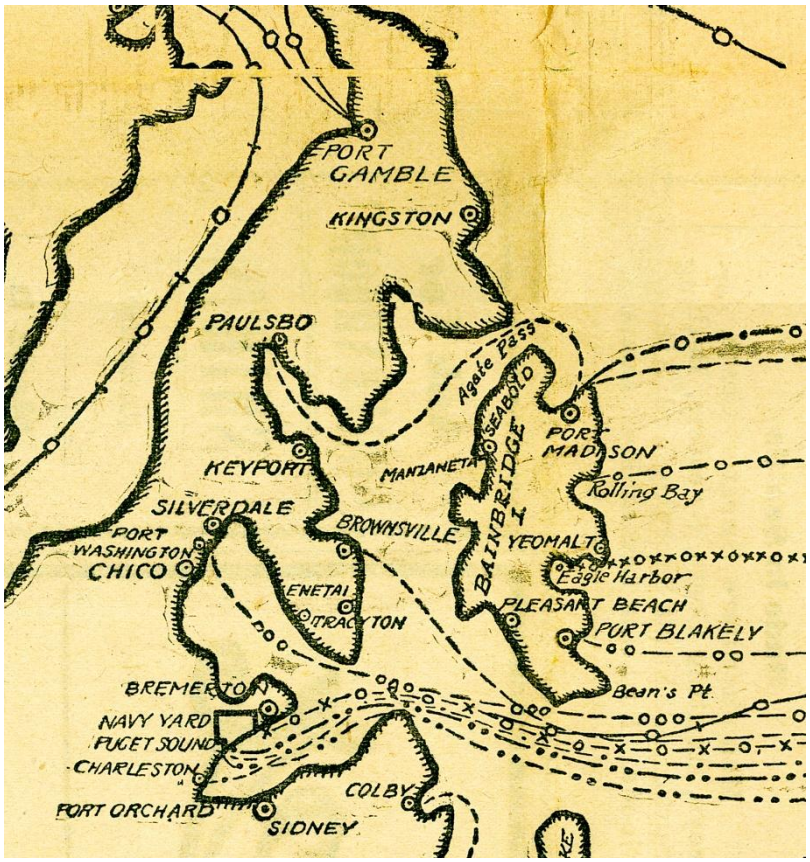


Figure 1: Kitsap Mosquito Fleet Routes
(Seattle Post-Intelligencer, 1908. Courtesy of Kitsap History Museum)

Past Studies and Plans

Multiple studies were reviewed to identify Kitsap County landing site and route opportunities, as well as key considerations for the start-up of POF services in the Puget Sound region.

[2] Kitsap History Museum, "*Kitsap Mosquito Fleet – History*," accessed May 14, 2025, https://kitsapmuseum.org/kitsap-mosquito-fleet-history/.
[3] Puget Sound Regional Council, *Briefing on Puget Sound Region Passenger-Only Ferry Study*, July 16, 2019, https://static1.squarespace.com/static/5660ba88e4b0e83ffe8032fc/t/5d2e6917c2daf700010e6857/1563322652013/2019+Puget+Sound+POF+Study_TransPOL.pdf.

During the review of previous POF studies, several common themes emerged related to considerations for POF service planning and start-up which would be applicable for any intracounty services. These include:

- **Public Funding and Financial Sustainability:** Public funding is required for sustainable POF service operations. As with most public transit services, any new intracounty routes would likely need ongoing subsidy.
- **Time Competitiveness:** To ensure success and sufficient ridership, POF routes should save riders time compared to other current travel modes.
- **Environmental Considerations:** The marine operating environment has unique environmental considerations compared to land-based transportation modes. For instance, wake impacts are particularly important to monitor, especially for sensitive shorelines and confined waterways such as Rich Passage. For example, the Rich Passage I and the other two vessels in this class, operated by KT, were specifically designed to perform as a high-speed, low-wake vessel through Rich Passage that would not cause discernible harm to the shorelines. The research teams have been consistently monitoring the beaches since the service began. In the fall of 2019, KT trialed a two-boat service for a four-week period. The research team concluded that this service had no measurable effect on the beaches, leading KT to launch a two-boat service in 2020.[4]

PAST PLANS REVIEWED:

King County POF Policy Study (2005)

Joint Transportation Committee Task Force Report (2006)

Kingston Business Plan (2006)

KT POF Business Plan and Long-Range Strategy (2014)

PSRC Regional Passenger-Only Ferry Study (2021)

King County Metro Long Range Plan (2021)

Kitsap Transit 2022-2024 Long Range Transportation Plan (2022)

Kitsap Transit, Transit Development Plan

Comprehensive plans from Kitsap County communities

[4] **Kitsap Transit**, "Rich Passage Wake Research," accessed May 14, 2025, https://www.kitsaptransit.com/agency-information/rich-passage-wake-research.

- **Fuel:** KT currently operates primarily using diesel fuel and has one hybrid-electric vessel in its fleet. Other operators in the region are also considering a shift to alternative propulsion sources such as fully electric. This conversion to fully electric operation has challenges, such as:
  - Excessive weight from batteries
  - Limited battery storage capacity
  - Lack of onshore infrastructure
  - Availability of needed power from the electrical grid system

  Fuel and propulsion choice can be impacted by cost and price volatility, fuel availability, route energy usage, travel speeds, and available vessel technology.
- **Regional Connectivity:** The reviewed studies identified the role of POF services as part of an interconnected regional transportation system, noting that they should be utilized strategically and that multimodal connections are attractive to POF riders.
- **Level of Existing Infrastructure:** When implementing POF services, the lengthy timeframes and high capital costs associated with infrastructure influence phasing strategy and route planning. Use of existing vessels or terminals is often the most financially efficient option and can speed up service start-up.

Wake Research Study Summary

The Rich Passage Wake Research Study began in 2004 to evaluate the feasibility of providing environmentally-sound POF service through Rich Passage and to design, construct and rigorously test a suitable low wake performance vessel. The Wake Research Study included understanding the response of Rich Passage shorelines to wake wash from high-speed vessels, other vessels, and natural processes and establishing new performance criteria for evaluating potential future high speed POF operations. The study reviewed the program history, data, and conclusions of the Wake Research Study to understand considerations related to POF wake impacts and additional trips through the Rich Passage corridor.

Key findings from previous wake research efforts include the following:

- Monitoring to date has not indicated a correlation between POF vessel operation and beach response in Rich Passage. However, the research team believes there will be a threshold point above which adverse impacts to the beach will be experienced. Introduction of new service would require use of vessels meeting the current wake performance criteria, observance of established operating protocols and in situ service testing to measure the cumulative beach impact of additional POF trips through Rich Passage prior to service start-up.

- Any expansion of sailings through sensitive passages will require further study and consideration, with potential requirements including:
  - Use of low-wake vessels meeting prescribed wake performance criteria
  - In-situ test operations of new vessels prior to service initiation
  - Beach response monitoring, including the initial gathering of data on baseline conditions, and ongoing periodic monitoring to measure beach response to vessel operations.
- Consider potential combined vessel wake events at harbors, where wake impacts may occur when two or more vessels arrive/depart simultaneously, depending on vessel types and harbor conditions.

Appendix B – Wake Research Study Summary provides a summary of the program history, data, and provides a discussion of the conclusions of the Wake Research Study as it pertains to wake impacts and additional trips through the Rich Passage corridor.

Fast Ferry Business Plan and Implementation

The 2014 *Kitsap Transit POF Business Plan and Long-Range Strategy,* was developed to serve as a blueprint for implementing POF service in Kitsap County. The Plan analyzed three routes to Seattle from various points within Kitsap County, including Bremerton, Kingston, and Southworth. Potential ridership, infrastructure needs, governance structure, and service delivery methods were discussed, and a comprehensive financial plan was developed to support implementation. The Plan was heavily informed by lessons learned from previous POF services. It was identified early on that a more sustainable financial plan would be needed. Additionally, wake wash was noted as a key concern that has been extensively studied and was being addressed through the use of a specially designed vessel such as the Rich Passage 1.

The Plan recommended a phased implementation strategy, starting with the implementation of the Bremerton route, with the goal of operations starting in 2015, followed by Kingston in 2018, and then Southworth in 2023. The phased route launch was selected due to the varying levels of infrastructure and capital investment needed for each route. KT started with the Bremerton route due to the robust level of existing infrastructure in place and higher estimated demand, and subsequently expanded to routes with higher costs and greater infrastructure needs. The Southworth route required design a new specialized vessel capable of docking at Washington State Ferries' (WSF) auto-ferry landing facilities.

A second phase of the Plan was developed in 2016 to provide updated information on route implementation conditions and an updated financial plan. The service proposed in the 2016 plan was placed on the November 2016 ballot for public approval of a county-wide sales tax to fund the new service.

Current KT POF Service

Today, Kitsap Transit (KT) has a fleet of 11 vessels and operates 5 POF routes, including three cross-sound Fast Ferry routes and two local intracounty Foot Ferry routes.

Foot Ferries

The short **Foot Ferry** routes both cross Sinclair Inlet, helping riders avoid the heavy traffic that can occur in Gorst. KT began operating these routes in the early 2000s, assuming control from a previous private operator. A vital commute connection for Puget Sound Naval Shipyard employees, the foot ferries also provide a connection to Seattle via the Fast Ferry and Washington State Ferries service from Bremerton.

Schedule

Service for the Port Orchard route is provided seven days a week, while the Annapolis route runs Monday through Friday.

Ridership

- 386,378 total boardings in 2025; up 3% from 2024
- Average of 1,330 boardings per weekday in 2025

Vessels

Port Orchard – Bremerton: One hybrid-electric ferry with 150-passenger capacity (*Waterman*); one 140-passenger vessel (*Carlisle II*); one 120-passenger capacity vessel (*Admiral Pete*)

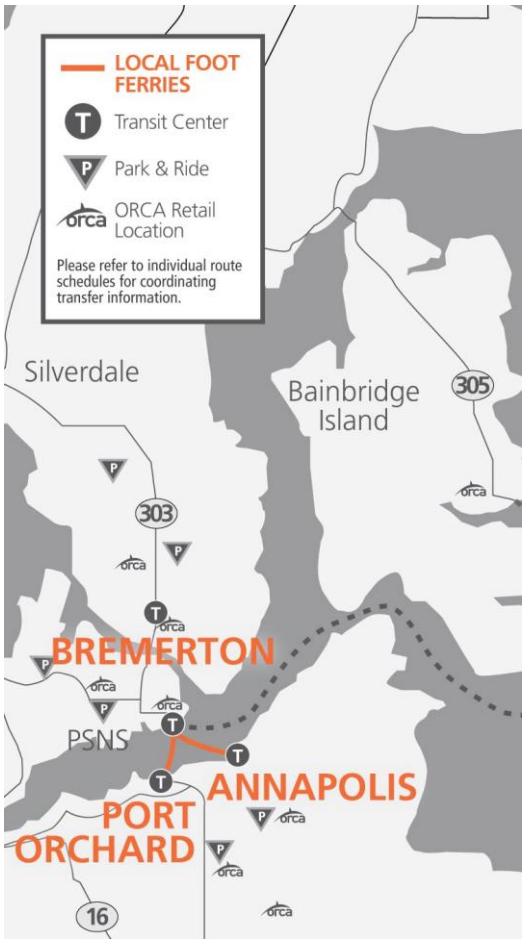


Figure 2- Kitsap Transit Foot Ferry Routes

Fast Ferry Routes

Traveling longer distances at higher speeds and with larger vessels, KT's **Fast Ferry** program connects Kitsap County residents to Seattle, the region's primary urban hub. KT began operating Fast Ferries in 2017 with the launch of the Bremerton – Seattle route. This was followed by the launch of service from Kingston in 2018 and from Southworth in 2021.

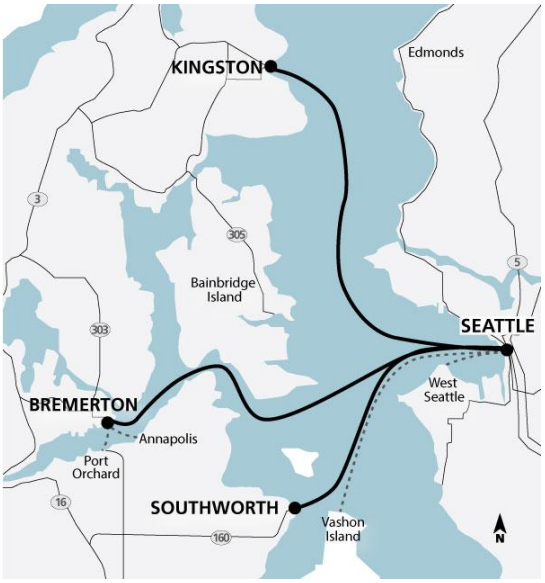


Figure 1- Kitsap Transit Fast Ferry Routes

Schedule

All three routes offer weekday commute-focused service year-round. From May to September, KT also provides service on Saturdays. The Bremerton-Seattle route utilizes a two-vessel schedule, while the Kingston-Seattle and Southworth-Seattle routes each operate on a one-vessel schedule.

Ridership

- 896,984 total boardings in 2025; up 5% since 2024
- Average of 3,172 boardings per weekday in 2025

Vessels

Bremerton – Seattle: Three ultra-low-wake vessels with 118 pax capacity, with two in service and one backup (*Rich Passage 1*, *Reliance*, *Lady Swift*)

Kingston – Seattle: One vessel in service— 250-passenger (*Commander)* or 349-passenger (*Finest*)

Southworth – Seattle: One 250-passenger vessel (*Enetai or Solano)*

ROUTE OPTIONS ASSESSMENT AND SCREENING

Route Opportunities

This Intracounty POF Study was tasked with analyzing, at a minimum, the following POF routes:

- Bainbridge Island – Bremerton
- Silverdale – Bremerton
- Bremerton – Manchester

Building upon this preliminary list, the study assessed potential additional opportunities to confirm that the routes moved forward for detailed analysis included those with high public interest and the opportunities for implementation. Assessment of route opportunities included the steps below:

1. Previous planning documents were reviewed for a) previously identified potential routes, and b) assessment of current commute travel data
2. Engagement with the public and stakeholders

Findings from each of these steps are detailed in the following sections.

Previous Local and Regional Transportation Plans

Within the previous plans that were reviewed, the most suggested communities for intracounty POF services included Bainbridge Island, Manchester, Silverdale, and Suquamish. However, of the potential Kitsap ferry connections identified in past plans, the most frequently mentioned opportunities for POF service were cross-sound connections, rather than intracounty.

Public and Stakeholder Engagement

An online public survey was conducted between June 2 and June 25, 2025, collecting 1,914 total responses. The survey was promoted through rider alerts, social media, project webpage, targeted emails to chambers, and news outlets. The study aimed to achieve the following:

- Measure the level of importance of the three study routes.
- Gauge typical purpose/frequency of trip between origin/destination of suggested routes.
- Suggest additional routes for consideration.
- Share additional feedback on routes to be studied and priorities for potential intracounty POF service.

The survey invited respondents to suggest additional routes within Kitsap County that should be considered in the study. Survey results were used to ensure that the study considered all route opportunities of interest to the public. Over 1,300 responses were received for suggested routes, a connection between Bremerton and Poulsbo was the top write-in suggestion receiving 220 responses, more than two times as many mentions as the second-ranking route. Figure 4 shows the landing sites identified for assessment of route combinations.

Survey results are included in Appendix C.

Figure 4: Suggested Landing Sites

Estimated Commute Demand Levels

Potential commute demand levels were assessed based on where people live and work within the main centers of economic activity in Kitsap County to provide a baseline understanding of current intracounty travel patterns. The goal of assessing commute travel patterns was to understand where residents travel on a daily basis to help identify and assess potential POF routes. Current commuting pattern assessment used Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) data from the U.S. Census. The data showed a high number of bi-directional commuters between Bremerton and several communities in Kitsap, including Silverdale, Poulsbo, and Suquamish/Indianola and between Bainbridge and Poulsbo, Bremerton, and Silverdale.

Table 1 summarizes the total daily bi-directional commuters for each route opportunity identified in the study. It should be noted that bi-directional commutes do not necessary reflect potential ferry users, nor do these totals do not reflect all potential commuters; for example, the Bremerton – Silverdale route commuters total does not reflect commuters that live in another city but travel through Silverdale on their commute to Bremerton that could be potential ferry users. However, these totals provide an understanding of the relative levels of potential commute demand.

Table 1: Total Daily Bi-Directional Commuters by Route Combination

Place A	Place B	Total bi-directional commuters (daily)		
Bremerton	**Silverdale**	**2,016**	*	Routes moved forward for further screening
Silverdale	Poulsbo	674		
Bremerton	Poulsbo	662		
Bainbridge Island	Poulsbo	629		
Bainbridge Island	**Bremerton**	**392**	*	
Silverdale	Port Orchard	371		
Bainbridge Island	Suquamish/Indianola	311		
Bainbridge Island	Silverdale	294		
Bremerton	Suquamish/Indianola	279		
Bremerton	**Manchester**	**165**	*	
Bainbridge Island	Port Orchard	88		Routes eliminated due to lack of demand opportunity
Poulsbo	Port Orchard	88		
Bainbridge Island	Kingston	77		
Poulsbo	Kingston	77		
Silverdale	Manchester	66		
Bremerton	Kingston	62		
Bremerton	Keyport	40		
Bainbridge Island	Manchester	22		
Poulsbo	Manchester	22		
Bainbridge Island	Keyport	9		
Bainbridge Island	Southworth	7		

**Originally scoped routes*

Routes with over 100 commuters in either direction (highlighted in green) were moved forward for preliminary assessment. Within those route combinations, additional options were considered, such as:

- Alternate route paths including longer travel around Bainbridge Island to avoid Rich Passage
- Alternate landing site locations including Point White on Bainbridge Island

Preliminary Assessment of Route Options

As a preliminary step in route assessment, the list of potential routes was screened to identify the routes to be moved forward for detailed evaluation in the business plan. Route screening focused on identifying implementation opportunities and constraints in several key areas, including navigation and operational considerations, travel time competitiveness, and public interest.

The study focused on implementation of long-term service, rather than short-term pilot service. While pilot service may provide an opportunity to provide proof of concept of a potential service and develop public and stakeholder support, KT is not positioned to operate pilot service at this time. The KT fleet does not include vessels that could be deployed on a new route without potential impacts to existing services. Additionally, any new service, even short-term, is anticipated to require some level of environmental review.

The sections below provide an introduction into the areas of screening assessment, followed by findings and results.

Figure 5: Kitsap Ferry Commuters [5]

[5] Photo by Kitsap Transit. https://www.kitsaptransit.com/rider-resources/smart-commuter

Potential Route Constraints

The feasibility and operational characteristics of potential POF service through Kitsap County waterways is impacted by several considerations. Figure 6 maps known Kitsap waterway conditions which could have an impact on potential POF routes or vessel operations, including the following considerations:

- Sensitive shorelines
- Tribal fishing areas
- Naval/military areas
- Areas of higher vessel traffic
- Bridge crossings

While options may be available to mitigate concerns, such as use of low-wake vessel technologies and operating protocols including slow speeds through narrow/constrained waterways and acceleration zones, implementation of routes with travel through constrained waterways is anticipated to require additional environmental review and operating agreements.

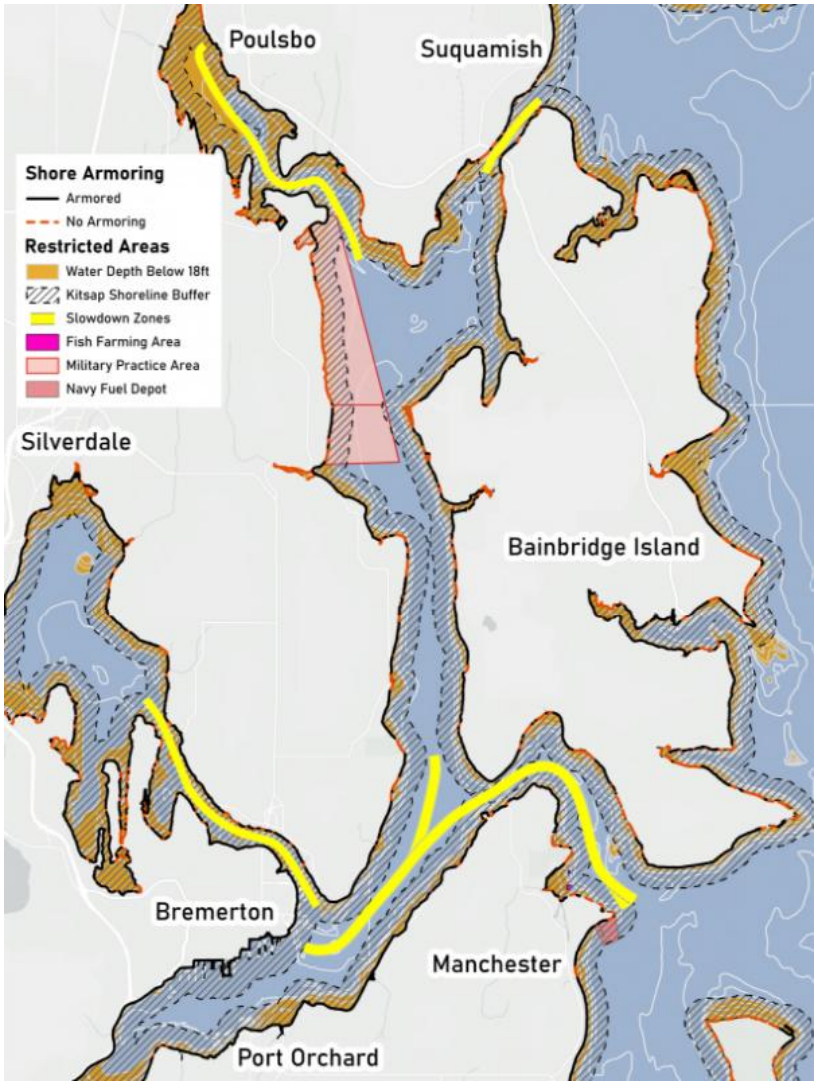


Figure 6: Known Waterway Conditions

Travel Time Comparison

POF routes that offer substantial travel time savings compared to alternative modes, like the cross-sound Fast Ferry routes, are more likely to attract riders, particularly during the commute period. To assess travel time competitiveness, potential intracounty routes were compared to existing travel options, including transit and car, to understand how attractive

the service may be for riders. For purposes of the high-level travel time assessment, POF crossing times assumed a 30-knot sailing speed in areas without anticipated speed restrictions, and a 5-knot sailing speed in anticipated slow-down zones.

Review of drive times considered travel times between the two routes ends from Google Maps from the evening commute period, in the direction with the longer travel time. While screening assessment considered the higher end of the range of estimated travel times from Google Maps, it should be noted that many of the roadway alternatives are constrained to single roadway or bridge options, such as the Agate Pass Bridge that connects Bainbridge Island to the Kitsap Peninsula. Because of these constraints, times of heavy traffic or incidents can significantly increase vehicle travel times.

Current transit options were reviewed for each route to understand if a direct bus route exists between the two route ends, or if one or more transfers are required.

Online Public Survey Results

In addition to asking respondents to provide suggested routes, as discussed above, the survey asked respondents to provide feedback on their preferred route of the three initially included in the study (Bainbridge Island – Bremerton, Silverdale – Bremerton, Bremerton – Manchester)

Of the three study routes, the Bremerton – Bainbridge route ranked highest across the county, with Bremerton – Silverdale second. The most common purpose of weekly typical trips for all three of the study routes were reported to be commuting, followed by shopping and appointments.

Screening Results

Table 2 below summarizes the results of screening, displaying the relative opportunities(shown as low=one dot, medium=two dots, high=three dots) of each route within the following categories.

- **Bi-directional commuters:** Relative comparison of total bi-directional commuters living and working on either end of the route (see Table 1 for detail)
- **Survey Interest:** Relative number of survey responses supporting the routes, either as a study route or a write-in route
- **Travel Times savings:** Ranked from High (savings of over 5 minutes), Medium (POF time within 5 minutes of drive time), or Low (POF over 5 minutes slower)
- **Constrained waterways distance:** compares the relative length of travel through narrow waterways

Table 2: Preliminary Route Screening Results

	Bi-directional Commuters	Survey Interest	Travel time savings	Constrained waterways avoidance	Route Moved Forward
Bremerton - Silverdale	●●●	●●	●●	●●	**YES**
Silverdale - Poulsbo	●●	●	●	●	
Bremerton - Poulsbo	●●	●●	●	●	
Bainbridge Island - Poulsbo	●●	●	●	●●	
Bremerton – Bainbridge Island	●●	●●●	●●●	●●	**YES**
Silverdale – Port Orchard	●●	●	●●	●●	
Bainbridge Island - Suquamish/Indianola	●	●	●	●●●	
Bainbridge Island - Silverdale	●	●	●●	●	
Bremerton - Suquamish/Indianola	●	●	●●	●●	
Bremerton - Manchester	●	●	●●	●●	

Based on the results of screening, two routes were selected to move forward to detailed analysis: Bremerton – Silverdale and Bremerton – Bainbridge Island.

Highlighted Route Opportunities

In addition to the two routes selected for analysis, two routes were identified as potential future opportunities. Those two routes are profiled on the following pages.

- Bremerton – Manchester is profiled because it was initially identified in the study scope as a route to be studied. However, preliminary route screening assessment indicated the at the route had relatively low demand and public interest.
- Bremerton – Poulsbo provides a relatively higher level of potential commute demand and public and stakeholder interest when compared to other suggested route combinations. Potential challenges include travel through multiple stretches of constrained waterways and long sailing time.

Bremerton – Manchester

A route connecting the KT Bremerton Ferry terminal to Manchester was among the three route opportunities originally identified in the scope of the study. Findings from preliminary assessment found that the route would provide a time-competitive alternative to often congested roadways. However, potential commute demand and public and stakeholder interest were low relative to other routes. Additionally, service would require travel through Rich Passage, requiring a low-wake vessel and additional monitoring and testing.

Summary of Public and Advisory Group Feedback

- Low survey interest

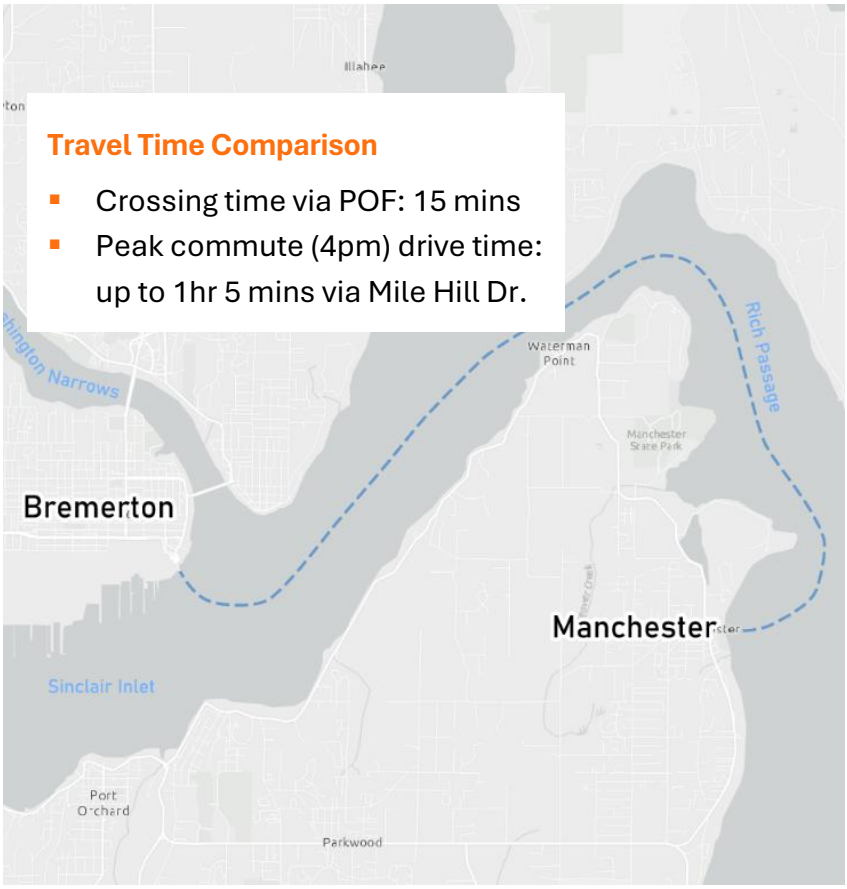


Figure 7: Bremerton – Manchester Route Map

POTENTIAL MANCHESTER LANDING SITE: POMEROY PARK BOAT RAMP

OPPORTUNITIES

- Parking availability
- Connections to Downtown Manchester
- Sufficient water depth for POF operations

CHALLENGES

- Requires construction of a dock
- Insufficient in-water space within site zone without full removal of in-water structures

Figure 8: Manchester Landing Site

Bremerton – Poulsbo

A POF connection between KT's Bremerton Ferry Terminal and Poulsbo represents a time competitive alternative to roadway and transit. The route was the most-suggested write-in route from the public online survey. The route travels through several constrained waterways including Liberty Bay near Poulsbo and a portion of Rich Passage near Bremerton. Additionally, shallow water depths approaching Poulsbo posing navigational challenges and requiring landing site improvement requirements.

Summary of Public and Advisory Group Feedback

- Most suggested route option from online survey
- POF would relieve existing roadway traffic

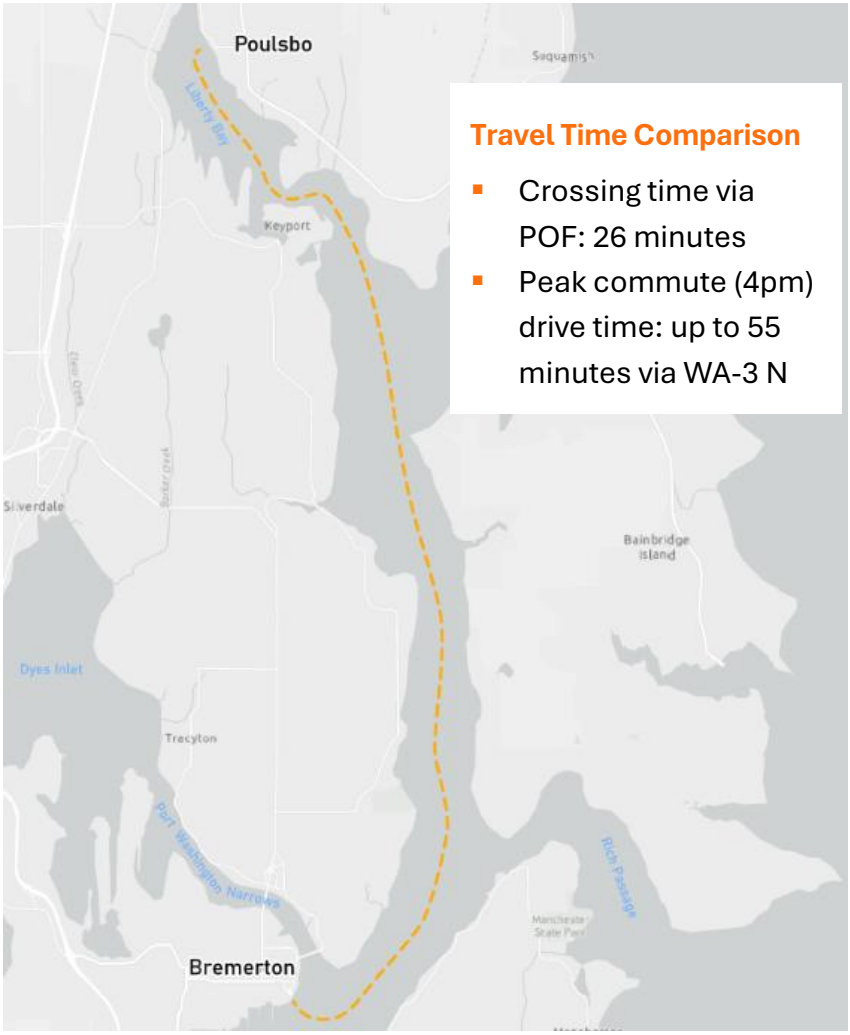


Figure 9: Bremerton – Poulsbo Route Map

Potential Poulsbo Landing Site: Port of Poulsbo

Opportunities

- Close to Poulsbo city core
- Existing marina

Challenges

- Insufficient water depth
- POF development would require partial or full demolition of one of the existing slips

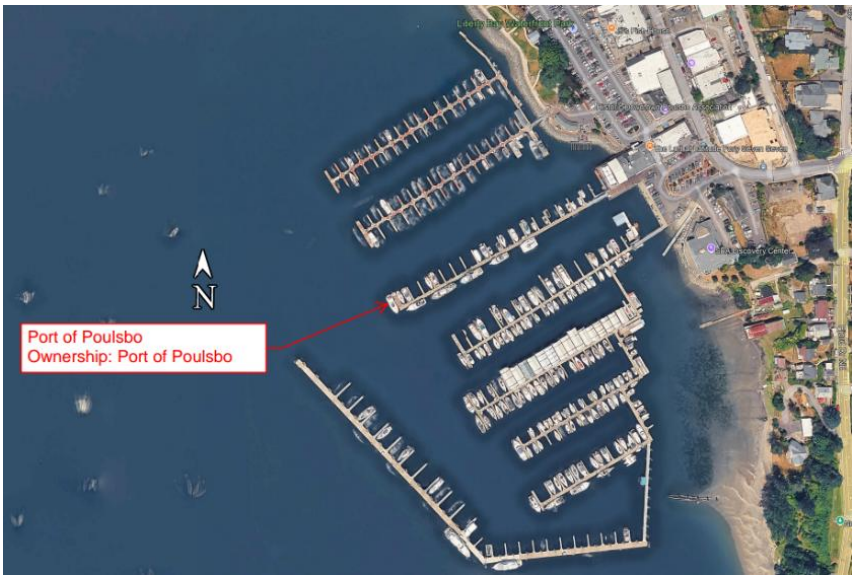


Figure 10: Poulsbo Landing Site

ROUTE ANALYSIS

Building on the preliminary assessment completed in the route screening step, the two top routes were moved forward for detailed analysis, with the goal of understanding feasibility and implementation considerations.

Analysis focused on several key elements, including vessel and terminal needs, operating requirements, estimated ridership levels, and estimated capital and operating costs. While analysis considered the potential operating and capital requirements of each route individually, some economies of scale can be realized if both routes are implemented although with greater overall startup and ongoing funding requirements. The sections below provide a summary of analysis approach and findings by element, with a summary of findings by route presented in the *Route Profiles* section.

Conceptual Vessel Types

Because all vessels in KT's current fleet are assigned to existing routes or are essential backup to existing routes, this study assumes that new vessels will be required to support service expansion. A preliminary desktop review of vessels on the market in June 2025 found that the availability of used vessels suitable to intracounty POF service is very limited, and that it is unlikely that an existing vessel could be found for lease or purchase that would meet the speed, capacity, and wake requirements of potential intracounty routes. For this reason, the study assessed procurement of new vessels designed for the specific routes.

Based on route characteristics and speed requirements, appropriate vessel types were developed to meet the needs of each route. Vessel analysis included planning-level design of vessel characteristics used to inform route profiles and cost estimates.

Two vessel types were assessed for each route: a conventional diesel vessel and an electric vessel which would require installation of electric charging on one side of the route, at the Bremerton terminal. Both vessel types were reviewed to provide comparison of operating costs. All vessel types are assumed to be low-wake designs to meet the anticipated speed and environmental criteria for the routes. For the Bainbridge Island Route, the diesel vessel option is assumed to be a Rich Passage (RP) Class vessel, which was designed to meet the wake requirements for travel through Rich Passage.

Table 3 provides a summary of key features for each vessel type, including energy type, operating speed, passenger capacity, and crewing requirements. Vessel analysis is detailed in Appendix D.

Table 3: Estimated Capital Costs by Route and Vessel Type

	Bremerton-Bainbridge		Bremerton-Silverdale	
Vessel Type	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Energy Storage	Diesel	All-electric	Diesel	All-electric
Cruising Speed	35 knots	30 knots	24 knots	24 knots
Passenger Capacity	118	75	75	75
Crew Complement	3	3	2	3

Each route assumes a fleet of two vessels to meet maintenance and redundancy needs.

Landing Site Requirements

Assumed landing site locations were selected based on level of existing infrastructure, uplands connections, compatibility with POF service, and public and stakeholder feedback. For the Bainbridge Island and Silverdale landing sites, the following elements were evaluated:

- Accessibility and connectivity: existing uplands parking, multi-modal connections, and ground transportation services were reviewed to identify potential needs.
- Navigational considerations: Water depths and navigational obstacles.
- Infrastructure: Overwater and uplands infrastructure currently at the sites, and overwater and uplands infrastructure required to support POF service. Requirements for POF service were assumed to be the minimal in-water infrastructure needed to support safe vessel landings and passenger movement including a float, gangway, and ramp sized for the proposed vessel types. Specific environmental concerns for each landing site were not evaluated as part of this study.

A concept design was developed for improvements, along with a rough order of magnitude (ROM) cost estimate. Conceptual layouts for the Bainbridge Island and Silverdale landing sites are presented in the *Route Summaries* section.

Bainbridge Island

Based on public and stakeholder feedback, WSF's auto ferry terminal was selected as the assumed Bainbridge Island landing site. The existing terminal includes two operating slips used by vessels providing vehicle and passenger service on WSF's Bremerton – Seattle Route and one tie-up slip, along with an overhead pedestrian walkway. The site provides convenient access to downtown Winslow and existing upland infrastructure including parking, passenger pick-up/drop-off area, and transit service.

Development of a POF landing site at the WSF terminal includes the following elements:

- Retrofit of the existing pedestrian bridge support or constructing a new support to provide connection to the new POF float.
- POF float including side fenders and cleats to support mooring and berthing of the ferry vessel. The float would be connected to the pedestrian bridges via a gangway.
- Construction of pedestrian bridge and in-water structures would require associated installation of bridge supports and piles.

A conceptual layout of POF landing site improvements is shown in Figure 11, identifying improvements in red outlines.

Figure 11: Bainbridge Island Landing Site Improvements Conceptual Layout

To advance to preliminary design, close coordination would be required with WSF to understand the f design feasibility, including the integration of POF improvements with existing structures and compatibility with the required vertical clearance over vehicle lanes.

Additionally, careful operational coordination would be needed to ensure that POF service could operate safely alongside WSF vessels, and that all vessels maintain minimum security clearances while at the dock and underway. Additionally, POF sailings would need to be coordinated with the WSF service schedule to ensure that the service could operate without impacting WSF on-time performance. Currently, if WSF vessels are running off schedule, vessels must wait before entering the channel outside of the harbor while the slip clears out. If multiple boats are forced to wait outside of the channel, this backup would impact on-time performance for both services.

While the existing multimodal connections provide an opportunity for POF service, they currently face capacity constraints and operational challenges. The terminal currently sees parking at full capacity during peak periods. With some WSF sailings carrying well over 1,000 people, shoreside staff are required to maintain the separation between queuing and unloading passengers. The addition of new POF service would require further design and management of passenger movement.

Silverdale

The Silverdale Waterfront Park Dock, owned by the Port of Silverdale, was identified as the most suitable landing site option because of its public ownership and existing in-water infrastructure. Coordination with the landing site owner and City of Silverdale are critical next steps to understanding potential interest in POF service and compatibility of POF service with existing uses including recreational access and transient moorage.

Existing in-water structures at the site consist of a timber dock and platform connected by an approximately 50-foot-long gangway to a float that serves small boats. To support POF service, the current facility will require dock and gangway upgrades to improve safety and accessibility for passengers and float improvements for the POF vessel. Specific improvements are listed below and shown in Figure 12.

1. Retrofit or replacement of the existing timber dock.
2. Replacement of the existing timber platform to support a new, longer gangway to reduce ramp slopes at lower tides.
4. Elevated platform with a side-loading ramp to accommodate the KT IC ferry vessel's freeboard, including fenders and cleats and installed with added guide piles.
5. A ramp connecting the elevated platform on the new float to the existing float.

Figure 12: Silverdale Landing Site Improvements Conceptual Layout

The conceptual design of improvements identified above were developed based on desktop review. To advance to a preliminary design level, further evaluation of the structural condition of the timber dock and float is needed to determine their capacity to support the additional loads associated with the proposed POF vessels.

Because the landing site lacks adequate existing upland connections such as long-term parking and transit connections, route analysis assumed that KT would provide coordinated shuttle service to connect the POF landing to the Silverdale Transit Center.

Bremerton

Potential improvement needs at KT's existing Bremerton terminal were developed based on desktop review and discussion with KT staff regarding capacity for vessel landings and passenger throughput. For potential electric vessels, capital cost estimates for shoreside charging improvements are presented as a range to reflect current unknowns in projects being planned by both WSF and KT to bring vessel charging level electrical infrastructure to the BTC While some additional POF landings could be accommodated at the existing KT facility without major improvements, added landings would have to slot into existing landing times to not impact service on existing routes. Although KT fully controls service schedules for their existing Foot Ferry routes, the cross-sound Fast Ferry routes must fit their arrivals at the Seattle Pier 50 Passenger-only Ferry Facility into windows in the schedules of King County Water Taxi's two routes. As the facility owner, King County Metro Marine Division scheduling is the priority user and must approve KT's landing schedules. . Additionally, sailings on the Southworth KT route must also fit into openings in the WSF schedule at the Southworth terminal. Because of these constraints, any changes to the Bremerton-Seattle Fast Ferry landing times at Bremerton could have cascading effects on all KT cross-sound routes. Therefore, additional landings at the Bremerton terminal will likely require expansion of landing site capacity.

As shown in Figure 13, KT currently operates two Foot Ferry routes from Slip 1, and two-vessel Fast Ferry service to Seattle from Float A. Float B is currently used for vessel tie-up and light maintenance only—the existing float is not suitable for passenger service without replacement and installation of new piles.

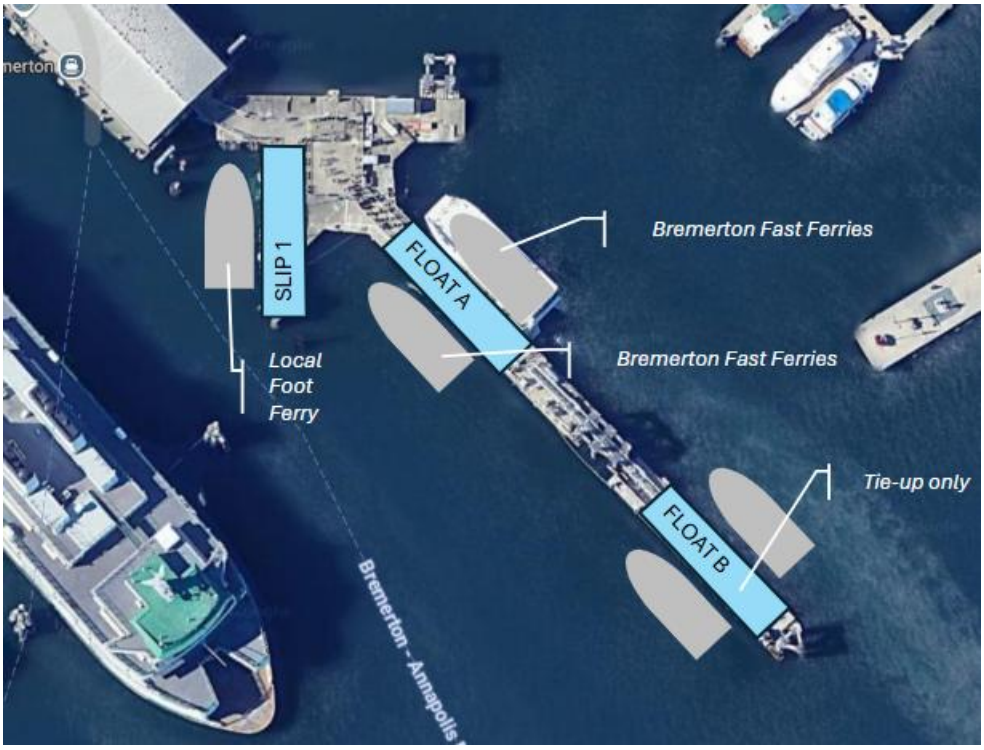


Figure 13: Current KT Bremerton Terminal Configuration

As identified in KT planning documents and in discussion with KT staff, Float B requires replacement of the existing float and installation of new passenger ramps to safely and efficiently provide passenger service. Estimated costs for Float B improvements are identified in KT's current long-range plans. Additionally, any added service will require additional moorage space for vessels. The study assumes that additional moorage space would need to be leased from private marinas for new vessels.

Operating Profiles

Operating profiles were established to inform ridership demand assessment and to estimate the capital/start-up costs and ongoing operating costs for each route. Profiles considered implementation of each route as a stand-alone expansion route.

Routes were mapped to calculate sailing distances and crossing times, and to identify environmental and navigational considerations. Potential environmental concerns such as narrow/constrained waterways, sensitive shorelines, and Tribal fishing areas were identified to understand likely capital requirements such as low-wake vessel technologies and/or operating protocols such as slow speeds. Additionally, assessment of these areas informed implementation needs such as environmental study and/or operating agreements. POF trip times were profiled and compared to existing travel options to understand vessel speed requirements and estimated demand levels.

Preliminary Service Schedules

Preliminary service schedules were developed to understand potential service levels and operating costs based on the planning-level vessel designs. Service levels were determined based on the number of trips that a single vessel could complete within targeted service hours, including required dwell time at each end of the route to load and unload passengers and charge vessels (if electric). Feedback gathered from the public survey and Advisory Group demonstrated interest in discretionary trips in addition to commute travel; therefore, analysis assumed a year-round, all-day weekday service with service on Saturday during May through September. Table 14 below provides a summary of the assumptions underlying service levels for the two vessel types for each route, identifying service days and hours for year-round weekday and seasonal Saturday service.

Table 14: Service Level Assumptions by Route

	Conventional Diesel				Electric Hydrofoil			
	Bainbridge		Silverdale		Bainbridge		Silverdale	
	Weekday	*Saturday*	*Weekday*	*Saturday*	*Weekday*	*Saturday*	*Weekday*	*Saturday*
Service days per year	260	13	260	13	260	13	260	13
One-way trip time	31 min		27 min		35 min		27 min	
Trips per day	22	18	26	20	24	20	28	22
First departure	5:30 am	9:00 am	6:00 am	9:00 am	5:30 am	9:00 am	6:00 am	9:00 am
Last arrival	7:30 pm	8:40 pm	8:00 pm	8:00 pm	7:30 pm	8:40 pm	8:00 pm	8:00 pm

Future planning phases might refine schedules by targeting preferred travel times to maximize ridership, effectively use financial resources and ensure that scheduled landing times are compatible with existing vessel arrivals and departures for KT vessels at Bremerton and WSF vessels at Bainbridge Island.

Estimated Demand

Analysis of potential demand reviewed current regional travel demand data and compared potential ferry trips to existing travel modes to estimate potential ferry demand. Steps to the overall approach are outlined as follows:

1. **Define Market Areas:** Employment and activity centers within a 20-minute walk of proposed ferry terminals were identified to establish destination markets.
2. **Estimate Shifted Demand:** Shifted demand refers to trips that currently occur by other modes, such as car or bus, but could switch to ferry service if it offers a time advantage. Current trips were estimated Puget Sound Regional Council's (PSRC) SoundCast travel demand model based on typical weekday patterns, and using the time competitiveness of potential POF trips, a market capture rate was estimated.
3. **Estimate Induced Demand:** Induced demand refers to potential new trips generated by the availability of a new ferry service. These trips were modeled by:
    - Using ridership data from comparable ferry routes currently in service.
    - Calculating per capita ridership rates and applying them to the service area population.
    - Comparing these estimates to modeled demand and attributing any excess as induced demand.

Hourly demand was estimated based on current travel patterns and was not modeled for a specific POF service schedule. Demand Analysis approach and assumptions are detailed in Appendix E.

Through this methodology, estimated daily ridership figures for the proposed routes were generated, including both shifted and induced demand. Key findings and results of the analysis for each route are described below:

Bremerton to Bainbridge Island

- **Estimated daily demand:** 670 trips per day (including existing trips plus estimated induced trips).
- **Anticipated induced demand:** Because the new POF service would significantly improve travel options where little existing transit is currently available, people would be more likely to make trips they would not have made if the POF service were not available.
- **Peak demand periods:** The hours with the highest estimated demand align with peak commute hours (6am-9am and 3pm-6pm), accounting for more than 68% of total modeled demand. Compared to the Bremerton to Silverdale route, the Bremerton to Bainbridge Island was estimated to have more mid-day demand.

Bremerton to Silverdale

- **Estimated daily demand:** Approximately 390 trips per day (assuming a shuttle connection is provided between the landing site and Silverdale Transit Center).

- **Primary trip purpose:** Based on existing travel data, this route is expected to primarily serve as a Seattle connector, with about 90% of riders using the service as part of a journey to and from Seattle.
- **Lack of potential induced demand:** No induced demand was indicated for the Silverdale to Bremerton route, likely because travel needs are currently met by the frequent bus service already provided along the corridor.
- **Peak demand periods:** Hourly estimates indicate peak demand periods aligned with commute patterns, with an earlier morning peak period (5am-8am) compared to the Bremerton-Bainbridge route, likely due to the longer travel time for commute trips to Seattle.

ROUTE SUMMARIES

The following pages summarize the operating profiles and analysis findings for each route.

BREMERTON – BAINBRIDGE ISLAND

Route Profile

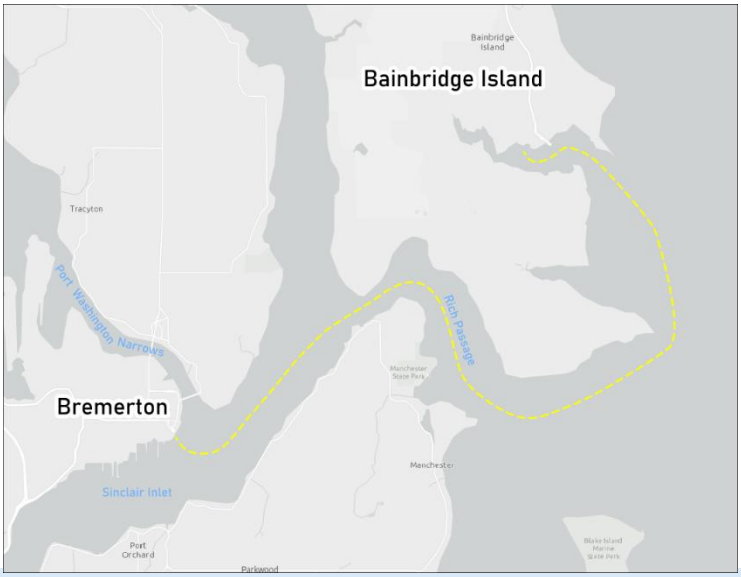
- Crossing time: 23 minutes
- Service schedule: 5:30AM-7:30PM (weekdays, year-round), 9:00AM-8:40PM (Saturdays, May-Sept.)

Environmental Considerations

- Constrained waterway (Rich Passage)
- Tribal resources
- Marine mammals

Fleet Requirements

- Vessel type options: 1) 118-passenger diesel (RP Class), 2) 75-passenger all-electric foiling ferry



Landing Sites & Improvements

Bainbridge Island – WSF Auto Ferry Terminal

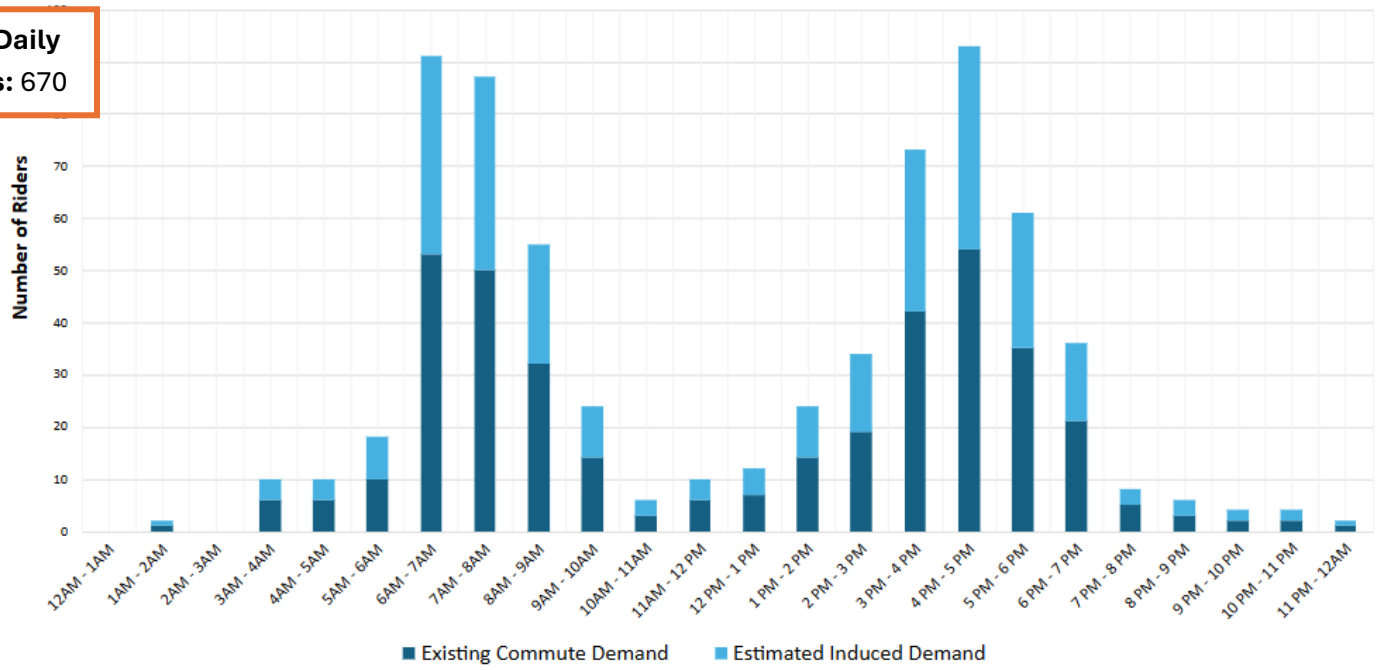
- Development of a new POF terminal requires major capital project to install a pedestrian bridge connection to the existing overhead walkway and construct a POF float and gangway connection

Bremerton – KT Terminal

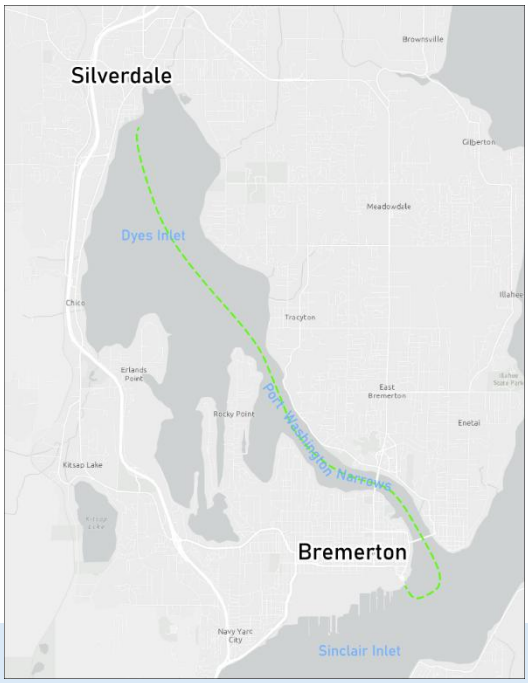
- Assumed landing site improvements include replacement of Float B
- Installation of shoreside charging infrastructure (for electric vessel options only)

Estimated Weekday Demand

Total Daily Riders: 670



BREMERTON – SILVERDALE



ROUTE PROFILE

- Crossing time: 23 minutes
- Service schedule: 6:00AM-8:00PM (weekdays, year-round), 9:00AM-8:00PM (Saturdays, May-Sept.)

ENVIRONMENTAL CONSIDERATIONS

- Constrained waterway (Port Washington Narrows)
- Tribal resources and activities, notably in Dyes Inlet
- Wetlands and eel grass

FLEET REQUIREMENTS

- Vessel type options: 1) 75-passenger diesel, 2) 75-pax all-electric foiling ferry

LANDING SITES & IMPROVEMENTS

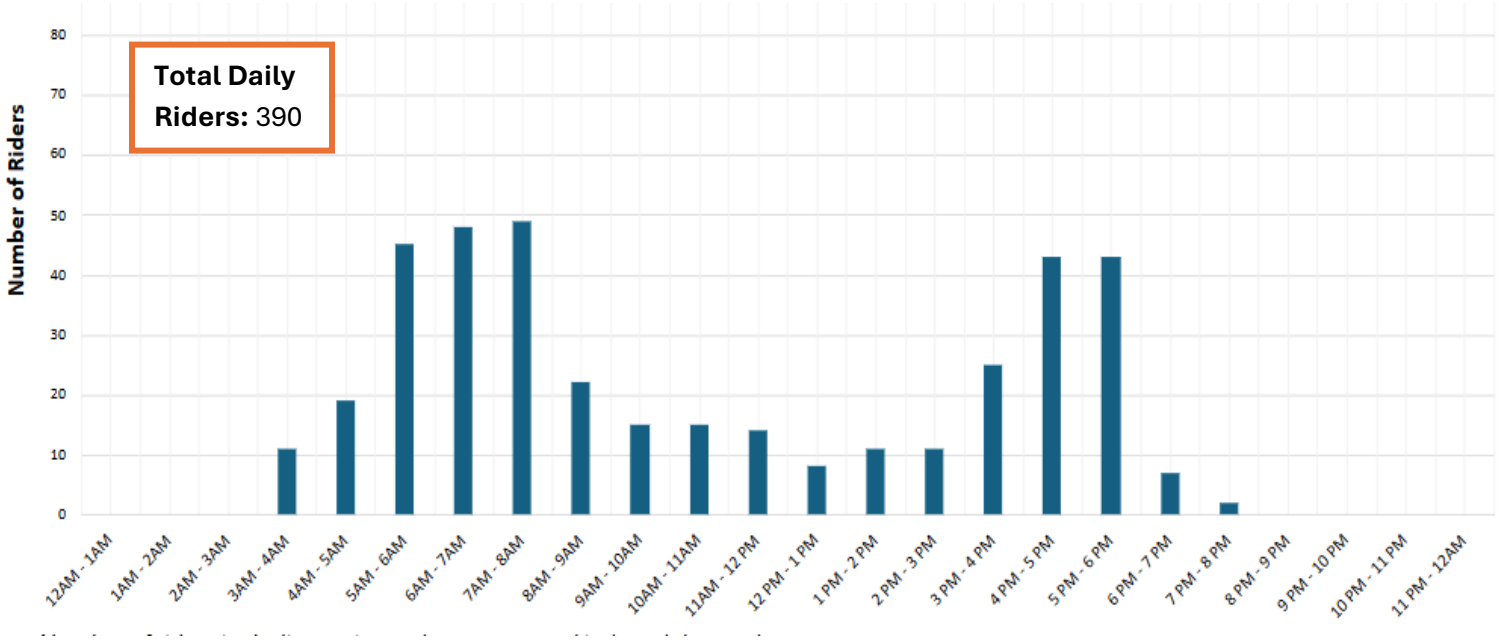
SILVERDALE – WATERFRONT PARK DOCK

- Adaptation of the current Silverdale Waterfront Park Dock for POF service includes float and gangway improvements
- Currently lacks landside connections; operating costs includes shuttle between Silverdale Transit Center and the park dock

BREMERTON – KT TERMINAL

- Assumed landing site improvements include replacement of Float B
- Installation of shoreside charging infrastructure (for electric vessel options only)

ESTIMATED WEEKDAY DEMAND



FINANCIAL ANALYSIS

Financial analysis of the two study routes was conducted to understand the financial implications of service start-up and ongoing operations. The sections below present the estimated capital costs of landing sites and vessel improvements needed to start-up intracounty POF service, as well as the estimated annual cost of operations. The assumptions and approach used for cost estimate development are presented in Appendix F.

As discussed in the *Route Analysis* section, two vessel types were evaluated: diesel and electric propulsion. As noted in Table 4, the diesel option deploys the existing, low-wake Rich Passage class vessels for Bremerton – Bainbridge and a conventional diesel vessel for Bremerton – Silverdale. The electric option deploys the same electric propelled hydrofoil vessel for both routes.

Table 5 summarizes the key route operating characteristics that were used to inform financial analysis, as discussed in the next section. For each route, operating costs were estimated for both the conventional diesel and the electric hydrofoil vessel types.

Table 5: Route Analysis Assumptions

	Conventional Diesel				**Electric Hydrofoil**			
	Bainbridge		Silverdale		Bainbridge		Silverdale	
	Weekday	*Saturday*	*Weekday*	*Saturday*	*Weekday*	*Saturday*	*Weekday*	*Saturday*
Vessel Passenger Capacity	118		75		75			
Service days per year	260	13	260	13	260	13	260	13
Cruising Speed (knots)	35/31 kts		24 kts		30 kts		24 kts	
One-way trip time (minutes)	31 min		27 min		35 min		27 min	
Trips per day	22	18	26	20	24	20	28	22
First departure	5:30 am	9:00 am	6:00 am	9:00 am	5:30 am	9:00 am	6:00 am	9:00 am
Last arrival	7:30 pm	8:40 pm	8:00 pm	8:00 pm	7:30 pm	8:40 pm	8:00 pm	8:00 pm

Estimated Capital Costs

Estimated costs were developed for the capital improvements and acquisitions required to implement each route based on the planning level information presented in the *Route Analysis* section.

Estimated vessel costs are provided for vessel design and construction. Each route is priced as stand alone, with two vessels for service reliability (one in service and one on standby). For the electric vessel scenario, where the same vessel class operates on both routes, if both routes were implemented, it is likely that a total of three vessels would be built with one spare being available for both routes. Vessel capital costs do not include an allowance for in-situ wake performance testing.

Each route estimate includes the cost of improvements at the non-Bremerton terminal as well as the costs of terminal improvements and charging facilities in Bremerton. If both routes were implemented, the cost of Bremerton improvements would be shared across both routes. Estimated costs for the shoreside charging equipment and infrastructure needed to support electric propelled vessels are presented as a range, reflecting estimated costs from preliminary KT planning efforts and recent project costs experienced by other operators. Further engineering studies and coordination with other planned electrification projects will help refine shoreside electric charging infrastructure costs. Table 6 presents estimated costs by route and vessel type, expressed in 2025 level dollars.

Table 6: Estimated Capital Costs by Route and Vessel Type

	Bremerton-Bainbridge		**Bremerton-Silverdale**	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Vessels				
First Vessel	$11.3 M	$13.7 M	$7.6 M	$13.7 M
Second Vessel	$11.3 M	$12.0 M	$6.9 M	$12.0 M
Total Route - Vessel	**$22.6 M**	**$25.7 M**	**$14.5 M**	**$25.7 M**
Shoreside				
Shoreside and In-Water Structures	$37.5 M	$36.4 M	$25.3 M	$25.3 M
Charging Infrastructure	---	$5.0 M – $20.0 M	---	$5.0 M – $20.0 M
Fare Collection & Other Equipment	$34,000	$34,000	$34,000	$34,000
Total Route - Shoreside	**$37.6 M**	**$41.4 M – $56.4 M**	**$25.3 M**	**$30.3 M – $45.3 M**
Total Capital Investments	**$60.2 M**	**$67.1 M - $82.1 M**	**$39.8 M**	**$56.0 M – $71.0 M**

Estimated Annual Operating Costs

To estimate annual operating costs, conceptual service schedules and crewing levels were developed based on the operating profiles previously identified. Due to the notable difference in energy costs, each route was evaluated with both conventional diesel propulsion and electric hydrofoil propulsion vessels. Additional detail on operating cost assumptions is provided in Appendix F.

Table 7 below displays the estimated annual operating costs for both routes in both the diesel and electric propulsion scenarios. All expenditures are estimated in 2025 level dollars.

Table 7: Estimated Operating Costs by Route and Vessel Type

	Bremerton-Bainbridge		Bremerton-Silverdale Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Vessel Operations				
Labor	$1,249,000	$1,301,000	$921,000	$1,299,000
Fuel/Energy	$1,009,000	$234,000	$245,000	$161,000
Maintenance	$1,311,000	$931,000	$987,000	$930,000
Other	$437,000	$452,000	$433,000	$451,000
Total Vessel Operations	**$4,006,000**	**$2,918,000**	**$2,586,000**	**$2,841,000**
Terminal Operations				
Labor	$299,000	$320,000	$299,000	$320,000
Other	$49,000	$51,000	$53,000	$57,000
Shuttle Service	$-	$	$385,000	$411,000
Total Terminal Operations	**$348,000**	**$371,000**	**$737,000**	**$788,000**
Total Operating Expense	**$4,354,000**	**$3,289,000**	**$3,323,000**	**$3,629,000**
Administration, Management, and Support	$499,000	$544,000	$507,000	$544,000
Total Annual Expense	**$4,853,000**	**$3,833,000**	**$3,830,000**	**$4,173,000**

Financial Analysis Key Findings

Estimated costs by route and vessel option are summarized in Table 8 below.

Table 8: Consolidated Route Costs

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Capital Investments				
Vessels	$22.6 M	$25.7 M	$14.5 M	$25.7 M
Shoreside	$37.6 M	$41.4 M – $56.4 M	$25.3 M	$30.3 M – $45.3 M
Total Capital	**$60.2 M**	**$67.1 M - $82.1 M**	**$39.8 M**	**$56.0 M – $71.0 M**
Annual Operating Expense	$4.8	$3.8 M	$3.8 M	$4.2 M

The key findings from the financial analysis are discussed below. Additional background and details are available in Appendix F.

- Significant capital Investments are required to implement the study routes in both the diesel and electric propulsion scenarios; from a low of nearly $40M for diesel propulsion on the Bremerton Silverdale route to a high of over $82M for the electric propulsion scenario on the Bremerton Bainbridge route.
- Operating costs vary some, but hover near $4M annually (with the exception of the Bremerton Bainbridge route in the diesel propulsion scenario at $4.9M).
- In all scenarios, labor, energy (less so with electric), and vessel maintenance are the primary drivers of annual operating costs.
- Crewing costs are higher for the Bremerton Silverdale route in the electric scenario to reflect addition of a second deckhand typically required for vessels equipped to operate at higher speeds.
- Energy costs are notably less for both routes in the electric propulsion option. This reduction in operating costs is offset by the higher construction costs of electric vessels and the cost of charging infrastructure. The payback period on charging infrastructure based on energy cost savings is between 7 and 26 years, depending on the route and the final cost of the investment.

- Energy savings with electric propulsion are highest, 75% on the Bremerton Bainbridge route where the Rich Passage vessels, powered with four diesel engines and operating near top speed for an extended period of time, consume high levels of diesel fuel.
- Unlike the proposed Bainbridge landing site at the WSF terminal, the Silverdale landing has limited transit connections and parking. To improve intermodal connectivity for ferry riders, Bremerton Silverdale route includes the cost of a shuttle to connect the landing site to the nearby park and ride facility.
- Using actual 2024 expenditures and riders on the fast ferry and local routes, the cost per rider was calculated to be $18. For comparison, using projected annual operating costs and estimated demand,[6] the cost per rider on the study routes was calculated for the electric propulsion scenario to be on average for diesel $46 and $42 for electric.
- Using actual 2024 expenditures and total trips on the fast ferry and local routes, the cost per trip was calculated to be $440. For comparison, using projected annual operating costs and projected trips, the cost per trip on the study routes was calculated to be on average $669[7] for diesel and $569 for electric.
- Startup capital investments and annual operating expenditures exceed currently available revenues. A funding portfolio would require a combination of federal and state grants or appropriations, new local tax revenues, and fares.

IMPLEMENTATION NEEDS AND CONSIDERATIONS

Implementation of any new routes must be planned so that KT's existing Foot Ferry and Fast Ferry services are not impacted. This will require strategic development of funding sources and scaling of the workforce and maintenance program used to support service.

A comprehensive implementation plan should be developed for successful introduction of new routes while maintaining the reliability of existing routes. Such a plan should address tasks such as:

- Identification of funding requirements and development of a funding portfolio designed to address start-up and ongoing cash flow requirements

[6] Estimated potential demand has not been adjusted for trip costs and the need for a car at the destination. With these adjustments potential demand will be lower and cost per rider higher.
[7] The range of cost per trip in the diesel scenario was $815 for Bremerton Bainbridge and $546 for Bremerton Silverdale. In the electric scenario the range is much narrower at $590 and $551.

- Identification of workforce requirements and development of a plan to expand the current workforce to preserve existing service and support new service
- Identification of new and expanded infrastructure needs including vessels, terminals, moorage, maintenance facilities, and potential charging infrastructure for the electric propulsion
- Identification of real property sites and development of use or acquisition agreements with existing property owners
- Coordination with Tribes and federal, state and state agencies
- Appropriate environmental review and supporting research and studies

Specific considerations and assumptions guiding the next steps and timeline information presented in this study are outlined below.

Financial Planning and Funding

Financial Pro Forma

Development of a balanced financial pro forma, including capital investments, operating expenditures, and revenue, is needed to inform implementation and identification of funding needs. Any expansion of KT POF service must be planned with consideration of existing services and needs.

Estimated Ridership

Estimated fare revenue, a key component of the financial pro forma, would require a detailed ridership estimate. While the estimated demand levels provided in this study provide information on potential hourly demand based on current travel patterns, further ridership analysis is needed to develop more detailed ridership estimates for a proposed service schedule and incorporate other factors such as public survey data.

Additionally, experience from other ferry operations indicates that it takes approximately three to five years for new routes to meet a reliable ridership level, as it can take time for individuals to switch their travel behavior. The level of ridership at route maturity can be hard to judge as predicting induced demand for service has historically been challenging for POF services.

Funding

Implementation of new POF service requires both upfront capital investment and long-term sustainable funding for operations. Recognizing KT's current program and funding

needs, new route funding is a potential constraint that must be planned for and addressed for implementation of new services.

Capital

A capital funding portfolio will likely rely heavily upon a combination of Federal funding and other financing programs which may require repayment. Many federal grant programs require some level of local match that would need to be provided by KT or other local funding sources. While funding from grants can be a key source of dollars to build capital assets, such as vessels and terminals, grants are subject to uncertainty, appropriations, and changing priorities from granting agencies. The current federal transportation funding act is set to expire at the end of the current federal fiscal year in September 2026. The type and level of funding programs in the next federal transportation act are unknown and uncertain. The list below provides an overview of current potential federal funding opportunities for POF services.

Federal

- **Better Utilizing Investments to Leverage Development (BUILD) Grant Program** (previously known as the Rebuilding American Infrastructure with Sustainability and Equity [RAISE]). The USDOT BUILD grant program provides funding for construction and planning of surface transportation projects with significant local or regional impact, including ferry vessels and terminals. The grant is funded in a five-year cycle with annual grant submissions.
- **Surface Transportation Block Grant Program (STBG).** While not typically used for ferry projects, FHWA's STBG program can be used to fund a wide range of programs including transit capital projects.
- **Construction of Ferry Boat and Ferry Terminal Facilities Program (FHWA).** This program was established to fund the design and construction of ferry boats and ferry terminal facilities based on a statutory formula, with funding available to existing ferry services.
- **Passenger Ferry Grant Program – Section 5307(h).** FTA's Passenger Ferry Grant Program provides competitive funding for projects that support passenger ferry systems in urbanized areas.

State

- **Congressionally Directed Spending.** Congressional earmarks may be available for high impact projects, with coordination needed with WA State elected officials.

Local

- **Taxes & Voter Approval:** Funding measures that KT has access to for generating additional revenues for operating and capital costs include additional sales tax measures and excise tax measures. Both of these require voter approval and are more likely to be approved when voters have a strong interest in the future services to be supported by new taxes. In addition to funding ongoing operations, local tax revenue can be used for local match for federal grants, for outright purchase of capital assets, or to retire debt incurred for capital investments. It is likely that any tax would need to be collected for several years to build a reserve to meet capital funding needs.
- **Fare revenue**: A fare policy for new intracounty service would be needed to establish appropriate fare levels. As of January 2026, fares for KT's local Foot Ferry routes are set at the same cost as routed buses, while Fast Ferry routes charge a higher fare more aligned with (slightly higher than) WSF ferry service. Detailed ridership assessment is needed to further understand potential revenue levels, fare elasticity, and equity considerations.

Engagement

Continued engagement is a key component of all KT planning projects. Recommended engagement activities to be included in next steps are outlined below.

Stakeholder Partnerships and Coordination

- **Landing site coordination:** Future planning phases will require coordination with the landing site jurisdictions to understand the appetite for ferry service to their communities and identify opportunities and considerations for uplands connections. Additionally, to move forward with design and environmental review of the landing site improvements required for operation of new POF service, KT must first secure agreements with landing site owners.
- **Potential partnerships:** Coordination with employers, tourism groups, economic development groups, chambers of commerce, and others who may inform detailed demand analysis and generate support for potential services.
- **Early outreach to regulatory agencies**: Coordination with USCG regarding new routes and vessels.

Public Engagement

Additional engagement would provide opportunities to further assess potential POF users and demand levels through surveys, workshops, and other means of gathering feedback.

This data and understanding of potential POF users could help fill a gap where travel data does not currently exist. In addition, public interest and support is critical to gaining support for new services and identifying potential concerns.

Tribal

Coordination with Tribes, including the Suquamish, is critical to understanding concerns such as potential POF impacts to the environment, resources such as fisheries, and Usual and Accustomed Tribal Fishing Rights. For a new service to be implemented, it is anticipated that tribal agreements will be required.

Environmental Review

Prior to starting service, an environmental analysis would need to be conducted to ensure that landing site improvements and new ferry services meet federal, state, and local environmental regulations.

Both routes require landing site improvements including in-water infrastructure and would therefore need to complete environmental review and permitting processes. In addition to compliance with the State Environmental Policy Act (SEPA), compliance with the National Environmental Policy Act (NEPA) would be required for this project if federal funds are used for project implementation. Early coordination with the lead agency is needed to determine the anticipated level of review required to assess project impacts. Based on this determination, KT would proceed with an Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

In addition to NEPA and SEPA reviews, landing site development will also require other federal and state environmental approvals as well as local shoreline and building permits.

KT Ferry Program Expansion Needs

Implementation of new POF services will require expansion of KT's current ferry program, including staffing levels, fleet assets, and maintenance facilities. Specific considerations are detailed in the following sections.

Workforce: KT operates their current ferry program with a staff of around 80, including vessel crew, marine maintenance staff, and administrative personnel.[8] To support any new intracounty services, KT will need to increase staffing levels within each category.

Fleet size and composition: KT's operation of multiple vessel types allows vessels to meet the specific needs of routes and function most efficiently on those routes. In

[8] https://www.kitsaptransit.com/uploads/pdf/planning/2025-2030-tdp.pdf

planning a new service, KT will need to explore to what extent new vessels will be interoperable with any of the current foot or fast ferry routes, or whether they are tailored for new services to meet specific route requirements. In addition to the vessels in service on a route, ensuring sufficient backup vessels helps support service and reduce the number of cancelled sailings.

Vessel Maintenance and Repair: Any new vessels and equipment needed to support additional intracounty POF services will need to be maintained and repaired. KT's current maintenance program, facilities, and staff will need to be reviewed to evaluate capacity, capability, and workload to ensure sufficiency of facilities and parts inventory, and appropriate levels of trained staff.

As discussed in the 2024 Kitsap Transit Ferry Maintenance Facility Siting Study, KT Marine Services Department maintenance staff currently meet the vessel maintenance and repair needs of the fleet using makeshift facilities without a dedicated and fully capable ferry maintenance facility. KT staff perform limited maintenance and repair activities at the various passenger terminals or moorage docks when the vessels are not in service, with any vessel maintenance activities, repairs, or inspections that require specialized equipment or supporting infrastructure performed at local area shipyards. Completion of KT's planned Ferry Maintenance Facility Project will support future fleet expansion and is anticipated to reduce future operating costs by reducing reliance on shipyards for periodic maintenance and repair activities.

Overnight Moorage

Currently, KT facilities only have capacity to moor eight vessels, with moorage space for the remaining two vessels leased from private marinas near the Port Orchard and Bremerton terminals. POF service expansion requires additional moorage space be constructed by KT or leased from private marinas to support new vessels.

Phasing: By rolling out expansion of ferry service in stages similarly to the roll out of Fast Ferry service (instead of launching all planned routes at once), KT would allow KT more time to accumulate required capital funding and ensure more effective project and program management. Prioritizing any potential new intracounty POF routes would need to consider multiple criteria, including but not limited to capital asset availability, potential ridership and public interest, costs, and crewing availability.

Implementation Timeline and Next Steps

To move forward with implementation, KT's next step will be to build upon this analysis by completing a detailed business plan for the selected routes. While this study estimated costs for a service scenario based and planning-level vessel characteristics and landing site improvements, future phases would advance vessels and landing sites to a conceptual design level to support refined operating and capital costs. That level of planning would require preliminary design of landing sites and vessels, which is also the level of design needed to move forward with environmental review and permitting for landing sites, as well as environmental study of potential route impacts.

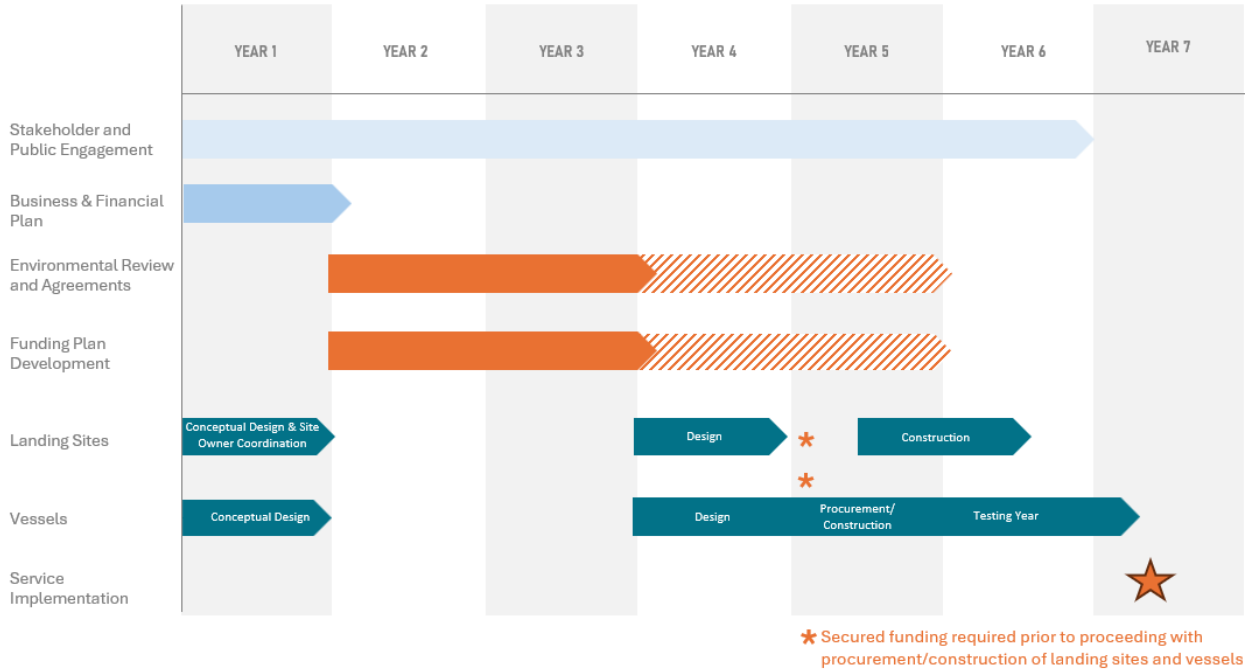
In addition to understanding and assessing potential environmental impacts, identifying and securing funding for implementation and ongoing operations represents a critical next step. Currently, KT's budget does not have capacity for expanded POF services, and funding is a constraint that could potentially extend the timeline of launching new routes. The studied intra-county ferry infrastructure and operations are not financially viable without a legislative increase of voter authorized sales tax cap greater than 4/10 percent coupled with substantial federal and state assistance for infrastructure.

A high-level schedule of steps for start-up of a potential intracounty POF service is shown in Figure 15. The timeline is representative of implementation of either the Bremerton – Bainbridge Island or Bremerton – Silverdale route individually. Considerations for phasing start-up of both routes are discussed in the following section.

As shown in the timeline, several of the implementation steps include potential challenges and may require longer to complete, including environmental reviews, vessel performance and wake impact testing , agreements and a balanced funding plan. KT would not be able to move forward with procurement and construction of vessels or landing sites without secured capital funding. For example, if a tax measure were pursued, it is anticipated that at least a year would be needed to prepare and secure permission to put the request on a November ballot.

Additionally, coordination with WSF for construction of a POF float at the Bainbridge Island Terminal, or coordination and design of shoreside charging infrastructure in Bremerton could require more time than is shown below.

Figure 15: Single Route Implementation Timeline



Based on the timeline of required steps, it is anticipated that launch of a long-term intracounty POF expansion service would require seven years or more.

Implementation Scenarios

Although the launch of KT's three Fast Ferry route was phased over four years, implementation of those routes was completed in less time than would likely be required for the two routes evaluated in this study for several reasons. Two of the Fast Ferry routes had been previously in service. Shoreside infrastructure was in place for these two routes requiring only minor improvements. Additionally, a new, wake performance proven vessel was available for the Bremerton Seattle route.

A phased implementation plan is recommended for new POF routes. Launching multiple routes simultaneously includes significant challenges, such as the increased financial impacts on the system, high levels of capital funds needed at one time for vessel wake performance testing and construction, landing site construction, and strain on the existing operating and maintenance program that must expand to support new service.

Specific considerations related to phasing start-up of the two study routes are noted below.

- **Fleet size and vessel interoperability.** The two study routes have specific operating and environmental requirements; however, if both routes were to be operated, there would be opportunities to pursue a vessel design that could work

on both routes. This vessel interoperability would optimize the fleet by allowing both routes to share a spare vessel, allowing two routes to be operated with three vessels (two in service and one spare). If it is determined in future planning efforts that the two routes require different vessels for energy, wake, or capacity reasons, then each route would require two vessels (one in service and one spare).

- **Bremerton landing site and homeport needs.** Landing slip capacity, tie-up locations, and vessel maintenance capacity must all be considered when increasing POF service to Bremerton. of. These needs can be better understood through refined assessment of service schedules, forecast ridership, and conceptual-level vessel design.
- **Route Prioritization.** The Study Advisory Group provided feedback that communities without existing ferry service, such as Silverdale, should be prioritized.

CONCLUSION

Expansion of POF service within Kitsap County aligns with multiple regional goals, including the need for transportation alternatives to crowded roadways, and recent movement toward establishing a modern-day Mosquito Fleet to once again connect communities throughout Puget Sound utilizing POF connections.

However, implementation of new ferry services faces several major hurdles, including permitting and construction of landing site requirements; design, testing and construction of new vessels with low-wake technology; environmental review; and significant funding requirements. In addition, operation of new POF services will require dedicated, sustainable funding sources. To fully assess and prepare for these needs, recommended next steps for KT include development of a Phase II Business and Implementation Plan for selected routes based on conceptual-level design of vessels and landing sites, along with expanded public and stakeholder engagement to support analysis of demand and support for new potential service. Conceptual design and business plan findings would allow KT to complete required environmental reviews and develop a funding portfolio to support service implementation and long-term operation.

APPENDIX A – POF SERVICE HISTORY AND BACKGROUND

Kitsap Transit Intracounty Passenger-Only Ferry (POF) Study

Appendix A – History and Background

May 2025

Prepared by:

kpff

EXECUTIVE SUMMARY

As part of developing A Kitsap Transit (KT) Intracounty Passenger-Only Ferry (POF) Business Plan and Long-Range Strategy, a review of the history and background of POF services in the County was undertaken. This review covered three key areas:

- Historical and current POF service within Kitsap County
- Past POF studies and planning efforts relevant for Kitsap County
- Overview of Rich Passage wake research studies completed to date

Based on the above reviews, the following key findings and lessons learned were identified, focusing on factors impacting the development and success of potential new POF services.

Sustainable Public Funding

A certain level of **public funding** has historically been required for sustainable POF service operations in the Puget Sound Region, and the recent, sustained operation of the KT ferry program has relied upon dedicated funding for operations generated by sales tax revenue**.**

Expansion of intracounty POF services will also require dedicated operational funding through some form of public subsidy. One-tenth of a cent additional sales tax could be pursued via KT's existing funding authorization.

Potential Service Areas

Past studies and POF services have indicated that the viable routes often have strong **travel time savings** for riders (i.e., Bremerton – Seattle). New POF services should fit strategically into the regional transportation system and should be supported by **new or existing multimodal connections.**

Specific new communities mentioned for intracounty POF service include:

- **Bainbridge Island**
- **Manchester**
- **Suquamish**
- **Silverdale**

Most POF routes mentioned were cross-county, with Bremerton – Bainbridge Island being the most mentioned intracounty route.

Maximizing Use of Existing Assets

Building new POF infrastructure often requires long development timeframes and high capital costs. Utilizing existing capital assets, such as vessels or terminals, is often the most **financially efficient** option and can **speed up service start-up**. In the case of the KT Southworth Fast Ferry route, using existing WSF dock facilities required a specialized vessel but avoided the permitting timeline and cost requirements for design and construction of in-water infrastructure, advancing service by as much as seven years.

Environmental Considerations

Protection of sensitive marine environments is critical to the feasibility of POF services. To support implementation of KT's Bremerton-Seattle Fast Ferry route with travel through Rich Passage, years of wake impact study and monitoring were conducted, leading to development and implementation of an ultra-low-wake vessel design.

Implementation

Implementation of new POF services may be **phased** to allow for more focused project management and build on successes over time. New routes will likely take about three to five years to reach a mature ridership, similar to other POF routes implemented in the region.

TABLE OF CONTENTS

Executive Summary **2**
Introduction **4**
History of POF Service in Puget Sound **4**
Washington State Ferries 7
Public-Private Partnerships 7
Port of Kingston 8
Current KT POF Service **8**
Foot Ferries 9
Fast Ferries 10
Lessons Learned **10**
Funding 11
Capital Asset Planning 11
Route Selection & Start-up Planning 11
Operating Considerations 12
Summaries of Reviewed Studies **13**
King County POF Policy Study (2005) 13
Joint Transportation Committee Task Force Report (2006) 13
Kingston Business Plan (2006) 14
KT POF Business Plan and Long-Range Strategy (2014) 14
PSRC Regional Passenger-Only Ferry Study (2021) 15
King County Metro Long Range Plan (2021) 15
Kitsap Transit 2022-2024 Long Range Transportation Plan (2022) 16
Kitsap Transit, Transit Development Plan 17
Comprehensive Plan Review **19**
Bainbridge Island 19
Bremerton 19
Kingston 20
Manchester 20
Silverdale 20
Southworth 20
Key Findings From Previous Studies **20**
Routes and Landings 21
Conclusion **22**

TABLE OF FIGURES

Figure 1- Timeline of POF Events 6
Figure 2- Kitsap Transit Foot Ferry Routes ..... **Error! Bookmark not defined.**
Figure 3- Kitsap Transit Fast Ferry Routes 10
Figure 4- Potential King County POF Operating Approaches 13
Figure 5- Intracounty Commute Flows 18

INTRODUCTION

Nestled between Puget Sound and Hood Canal, Kitsap County boasts over 200 miles of saltwater coastline. It is well recognized and documented that POF services can increase the resiliency of the transportation system as a whole and reduce reliance on single-occupancy vehicles. Overwater connections can benefit local connectivity and, in some cases, reduce travel times, particularly in areas with high levels of roadway congestion.

Despite these benefits, expanding POF services presents significant challenges, including potential long infrastructure development timeframes, upfront funding requirements for capital costs, and the need to secure one or more dedicated and sustainable funding sources to support ongoing operations. In addition, POF implementation requires consideration of environmental concerns such as sensitive marine species and the impact of vessel wakes on the shorelines.

Today, Kitsap Transit (KT) has a fleet of 11 vessels and operates 5 POF routes, including three cross-sound Fast Ferry routes and two local intracounty Foot Ferry routes. KT is exploring the viability of expanding its POF service offerings and adding additional intracounty services. This memo provides a baseline review of previous POF planning and start-up studies to inform what might be necessary and feasible for such a service expansion. Potential routes to be examined as part of this study include three routes originating from Bremerton and connecting with the communities of Silverdale, Manchester, and Bainbridge Island.

HISTORY OF POF SERVICE IN PUGET SOUND

Current ferry service in the Puget Sound has evolved from the region's long history of water transportation. Beginning with Native American tribes, waterborne transportation has been an integral mode for the region due to the numerous navigable waterways and island communities. Passenger-only ferry (POF) service reached its peak in the late 1800s and early 1900s with the bustling operations of the Mosquito Fleet, with approximately 25 routes operating throughout the Sound with 195 ports of call.[1] [2] The fleet from that era is almost completely gone. The two vessels that remain are the *Carlisle II* (operated by KT on

[1] **Kitsap History Museum**, "*Kitsap Mosquito Fleet – History*," accessed May 14, 2025, https://kitsapmuseum.org/kitsap-mosquito-fleet-history/.
[2] **Puget Sound Regional Council**, *Briefing on Puget Sound Region Passenger-Only Ferry Study*, July 16, 2019, https://static1.squarespace.com/static/5660ba88e4b0e83ffe8032fc/t/5d2e6917c2daf700010e6857/1563322652013/2019+Puget+Sound+POF+Study_TransPOL.pdf.

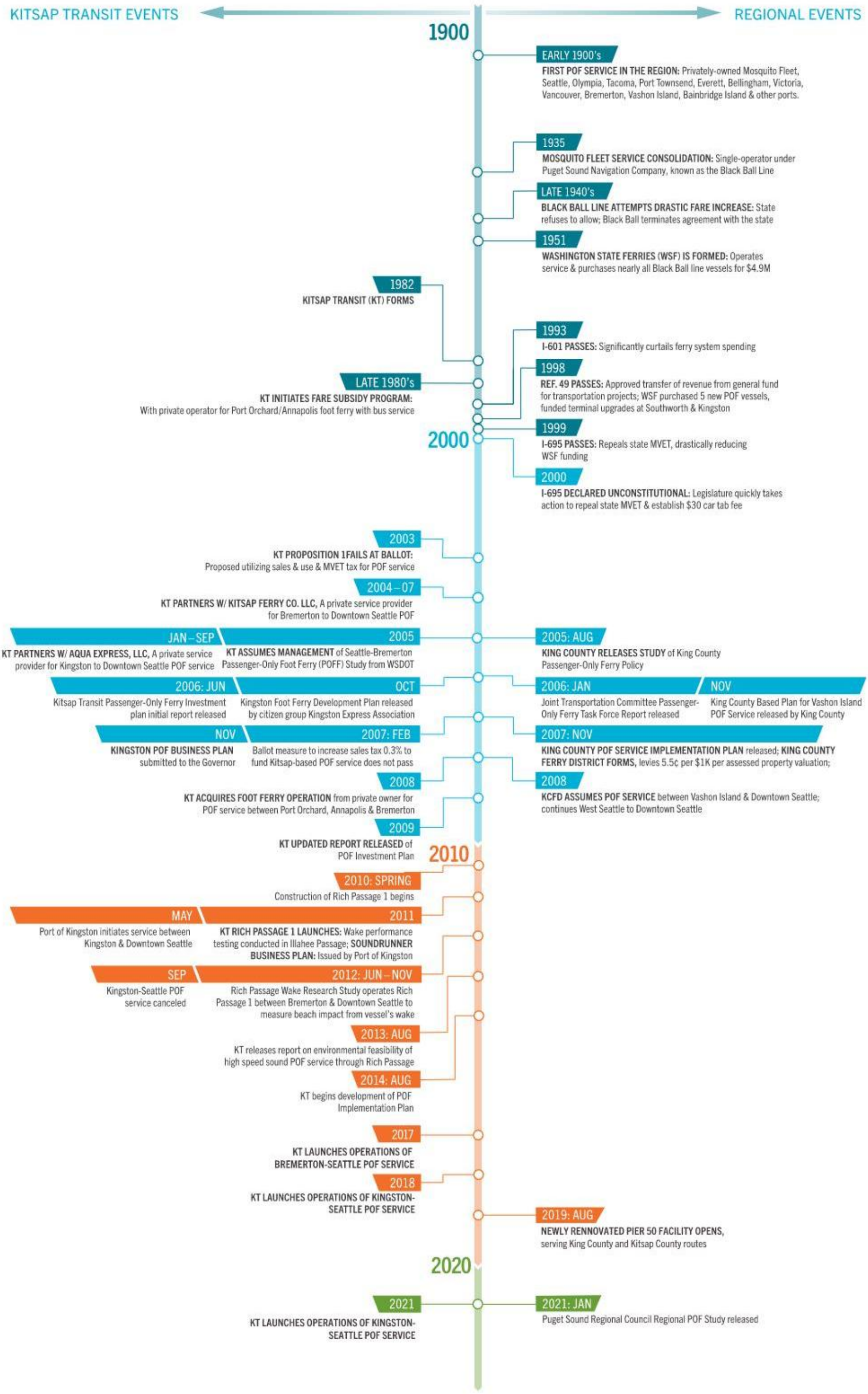
their Bremerton-Port Orchard Foot Ferry route) and the *Virginia V* (now listed on the National Register of Historical Places and docked in South Lake Union, Seattle).[3]

By 1935, POF service was consolidated into a few routes under one company, the Black Ball Line. Shortly after World War II, service began to decline due to extensive road development, an unpopular fare increase (later rolled back by the legislature), and the introduction of ferries that carried both vehicles and walk-on passengers.

Figure 1 - Timeline of POF Events highlights key POF milestones from the early 1900s to today, showcasing the contrast between KT and regional events.

[3] **David B. Williams**, *"Mosquito Fleet,"* HistoryLink.org Essay 869, February 2, 2021, https://historylink.org/File/869.

Figure 1- Timeline of POF Events



Washington State Ferries

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. 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, the Washington State Legislature decided to adopt its primary elements, leaving WSF without the necessary funding to provide POF and auto-ferry services. To combat funding decreases, WSF increased fares and reduced service, which led to the end of its provision of POF service in the region.

Public-Private Partnerships

In the late 1980s, KT initiated a fare subsidy program with the private operator, Horluck, integrating the foot ferry with bus service. In 2002, KT purchased the Port Orchard-Annapolis-Bremerton Foot Ferry service from Horluck Transportation. Initially operated for KT by Kitsap Harbor Tours, KT took over direct operation of the foot ferry in 2008.

Following WSF's exit from POF service in the early 2000s, KT put forth a proposition to publicly fund POF service in 2003 through an increase in sales and use tax, but the proposition failed. For a brief time from 2004 to 2006, KT participated in private-public partnerships with contractors to provide privately funded, high-speed POF service to county residents connecting to King County. These partnerships included one with Kitsap Ferry Company LLC to provide service on the **Bremerton – Seattle** route and with Aqua Express LLC to provide service on the **Kingston – Seattle** route.

Kitsap Ferry Company Partnership

KT entered into a joint development agreement with Kitsap Ferry Company in 2004. KT provided the capital assets (vessels) while Kitsap Ferry Company was responsible for operating the service, which began in the summer of 2004. The schedule provided four round trips each weekday at a one-way fare of $7.00. Riders could also purchase additional amenities such as guaranteed boarding, newspapers, and coffee service. Each one-way trip was approximately 40 minutes, 20 minutes less than the WSF passenger vehicle ferry. The service was discontinued in 2007 due to insufficient funding.

Aqua Express Partnership

In January 2005, Aqua Express began operating as a commercial service. Averaging about 300 daily riders, the service offered five round trips each weekday between Kingston and downtown Seattle. The one-way fare was $5.25 with an additional $3 surcharge for bicycles. Advertising, concession sales, and vessel charters provided additional service revenue. Nevertheless, ten months after its launch, Aqua Express suspended service in the fall of 2005, citing lower ridership than anticipated and rapidly escalating fuel costs.

Port of Kingston

The Port of Kingston launched the SoundRunner service in October 2010, aiming to provide a direct passenger-only ferry route between Kingston and Seattle. The service utilized two vessels, the *Spirit of Kingston* and the *Kingston Express*, both of which were acquired through a $3.5 million federal grant.[4]

Despite initial optimism, the SoundRunner faced challenges:

- **Low Ridership**: Ridership peaked at about 35 in the mornings, when they had the option of boarding a state car ferry for free (fares are only collected on the other side), and 50 in the evenings.[5]
- **Financial Losses**: Operating costs were high, resulting in a monthly loss of approximately $52,000 for the service.

Due to these issues, the Port discontinued the SoundRunner in September 2012. Subsequently, the *Spirit of Kingston* was transferred to the King County Ferry District in 2013 for the West Seattle Water Taxi; it continues to serve this route today as a backup vessel.[6]

CURRENT KT POF SERVICE

Currently, KT operates two types of passenger-only ferry (POF) routes: slower intracounty foot ferries (two routes) and fast ferries connecting Kitsap residents with neighboring King County (three routes). These existing services include the following routes, as shown in **Error! Reference source not found.** and Figure 3 on the following pages**Figure 3**.

Foot Ferries *(intracounty)*

- Port Orchard – Bremerton
- Annapolis – Bremerton

Fast Ferries *(cross-sound)*

- Bremerton - Seattle
- Kingston – Seattle
- Southworth - Seattle

Both services are currently funded by a three-tenths of a cent local sales tax that was approved by Kitsap County voters in 2016. The cap on the allowable tax to support ferry service is four-tenths of a cent under the current measure. In addition to tax revenue, passenger fares provide another source of revenue to help offset systemwide costs.

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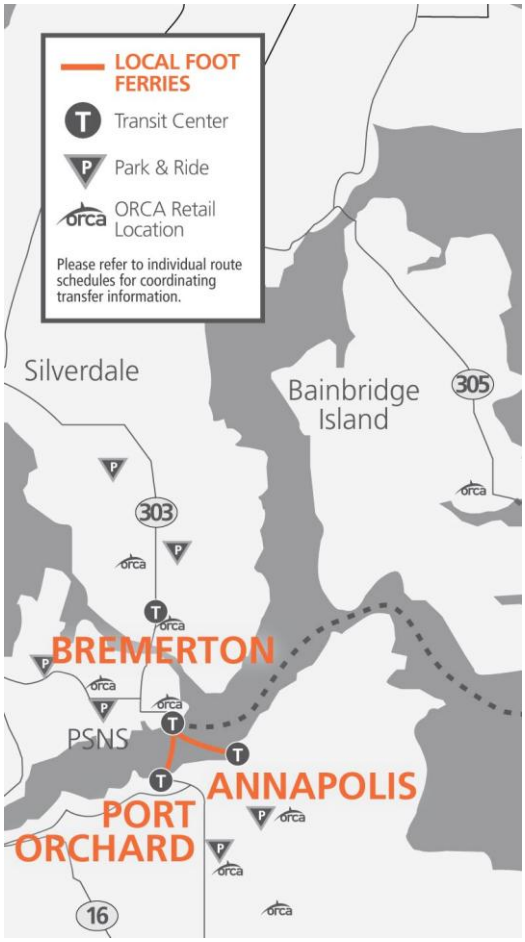
[4] Richard Walker, "Port Lowers Asking Price for Kingston Express," *Kitsap Daily News*, August 9, 2012, https://www.kitsapdailynews.com/news/port-lowers-asking-price-for-kingston-express.
[5] "Kingston Gives Foot Ferry Five More Months," Herald Net, April 24, 2012. https://www.heraldnet.com/news/kingston-gives-foot-ferry-to-seattle-5-more-months
[6] Ty Swenson, "Spirit of Kingston Now Part of Water Taxi Fleet: New Boat Was Acquired at No Cost," *West Seattle Herald*, March 18, 2013, https://www.westsideseattle.com/west-seattle-herald/2013/03/18/spirit-kingston-now-part-water-taxi-fleet-new-boat-was-acquired-no.

Foot Ferries

The short **Foot Ferry** routes both cross Sinclair Inlet, helping riders avoid the heavy traffic that can occur in Gorst. KT began operating these routes in the early 2000s, assuming control from a previous private operator. A vital commute connection for Puget Sound Naval Shipyard employees, the foot ferries also provide a connection to Seattle via the Fast Ferry and Washington State Ferries service from Bremerton.



Schedule

Service for the Port Orchard route is provided seven days a week, while the Annapolis route runs Monday through Friday.

Ridership

- 374,224 total boardings in 2024; up 16% from 2023
- Average of 1,155 boardings per weekday in 2024

Vessels

Port Orchard – Bremerton: One hybrid-electric ferry with 150-passenger capacity (*Waterman*); one 140-passenger vessel (*Carlisle II*); one 120-passenger capacity vessel (*Admiral Pete*)

Fast Ferries

Traveling longer distances at higher speeds and with larger vessels, KT's **Fast Ferry** program connects Kitsap County residents to Seattle, the region's largest urban hub. KT began operating this type of service in 2017 with the launch of the Bremerton – Seattle route. This was followed by the launch of service from Kingston in 2018 and from Southworth in 2021.

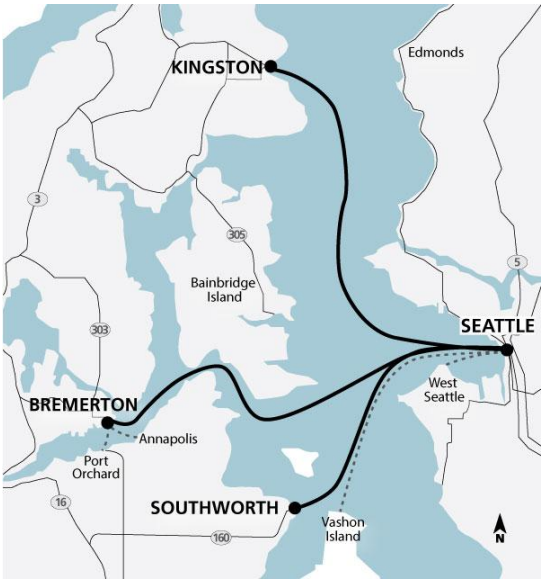


Figure 2- Kitsap Transit Fast Ferry Routes

Schedule

All three routes offer weekday commute-focused service year-round. From May to September, KT also provides service on Saturdays. The Bremerton-Seattle route utilizes a two-vessel schedule, while the Kingston-Seattle and Southworth-Seattle routes each operate on a one-vessel schedule.

Ridership

- 854,529 total boardings in 2024; up 11% since 2023
- Average of 2,677 boardings per weekday in 2024

Vessels

Bremerton – Seattle: Three ultra-low-wake vessels with 118 pax capacity (*Rich Passage 1*, *Reliance*, *Lady Swift*)

Kingston – Seattle: Two 250-passenger vessels (*Solano) and* one 349-passenger vessel (*Finest*)

Southworth – Seattle: One 250-passenger vessel (*Enetai, Commander)*

LESSONS LEARNED

Numerous lessons were learned from the start-up of KT's current ferry routes and from the numerous previous POF studies reviewed.

Funding

- **Dedicated & Sustainable Funding Stream**: The sustained operation of the KT ferry service has relied upon a dedicated funding stream generated by sales tax revenue. Any new intracounty POF services will require dedicated operational funding. One potential source is an additional one-tenth of a cent sales tax, which could be pursued under the existing funding authorization.
- **Taxes & Voter Approval:** Funding measures that KT has access to for generating additional operating revenues include additional sales tax measures and excise tax measures. Both of these require voter approval and are best pursued when voters have a strong interest in the future services to be supported by new taxes.
- **Formation of a Ferry District:** As authorized by RCW 35.54.110, county legislative authorities may adopt an ordinance creating a ferry district in all or a portion of a county following a public hearing before the Council and a finding by the Council that it is in the public interest to create the district.
- **Funding Uncertainty**: While funding from grants can be a key source of dollars to build capital assets, such as vessels and terminals, grants are subject to uncertainty, appropriations, and changing priorities from granting agencies.

Capital Asset Planning

- **Maximizing Use of Existing Capital Assets:** In the case of the Southworth route, the existing WSF dock facilities required a specialized vessel. However, the high cost of in-water construction and the lengthy permitting process required made building a brand new POF-specific facility impractical.
- **Interoperability of assets** vs **tailored to route needs:** KT's operation of multiple vessel types allows vessels to meet the specific needs of routes and function most efficiently on those routes. If exploring a new service, KT will need to consider vessel type and explore to what extent new vessels will be interoperable with any of the current foot or fast ferry routes, or whether they are tailored for new services.
- **Back-up Vessels**: KT has had to cancel sailings due to mechanical reasons, as has every operator. Ensuring sufficient backup vessels helps support service and reduce the number of cancelled sailings. KT has successfully used back-up vessels in the past to help maintain its high reliability.

Route Selection & Start-up Planning

- **Phasing:** By rolling out the Fast Ferry routes in stages (instead of launching all planned routes at once), the program was able to begin implementation of service sooner and reduce initial expenditures. Prioritizing any potential new intracounty

POF routes would need to consider multiple criteria, including but not limited to capital asset availability, potential ridership and public interest, costs, and crewing availability.

- **Travel Time Savings:** Routes that offer substantial travel time savings compared to alternative modes, like the Bremerton – Seattle route, have been shown to attract riders, particularly during the commute period.
- **Route Maturity:** Past experience indicates that it takes approximately three to five years for new routes to meet a reliable ridership level, as it can take time for individuals to switch their travel behavior. The level of ridership at route maturity can be hard to judge as predicting induced demand for service has historically been challenging for POF services.

Operating Considerations

- **Workforce:** KT will likely need to hire new staff to support any new intracounty services. In general, the US maritime workforce has been aging, with some operators facing challenges in attracting sufficient crew, engineering personnel, and maintenance staff. As of yet, KT has not experienced significant workforce shortages and should continue to provide its current competitive pay and benefits packages.
- **Fuel/Energy:** KT currently operates primarily using diesel fuel and has one hybrid-electric vessel in its fleet. Other operators in the region are also considering a shift to alternative propulsion sources such as fully electric. Conversion to fully electric operation requires that various challenges be addressed, such as:
  - Excessive weight from onboard batteries for longer routes
  - Limited battery storage capacity
  - Required onshore infrastructure improvements
  - Availability of needed power from the electrical grid system

  Fuel and propulsion choice can be impacted by cost and price volatility, fuel availability, route energy usage, travel speeds, and available vessel technology.
- **Maintenance and Repair:** Any new vessels and equipment needed to support additional intracounty POF services will need to be maintained and repaired. KT's current maintenance regime, facilities, and staff will need to be reviewed to evaluate capacity, capability, and workload to ensure sufficiency of facilities and parts inventory, and appropriate levels of trained staff.

SUMMARIES OF REVIEWED STUDIES

Multiple studies were reviewed to identify key considerations for the start-up of POF services in the Puget Sound region.

King County POF Policy Study (2005)

In response to the 2004 update to the Six-Year Transit Development Plan for 2002-2007, this study was developed to help policymakers make informed decisions about the details and impacts of potential county investment and participation in POF services.

The study concluded that if King County were to pursue POF service, implementation should be limited and targeted to specific areas with the highest potential for ridership. Several operating and funding approaches were identified. Some level of public funding would be necessary to support passenger-only ferry operations, with potential funding sources including redirection of existing funds or the generation of new revenues, such as sales taxes or regional funding packages. Creating a Ferry District to generate new funding was also identified as an option. Numerous potential operating approaches and their tradeoffs were also explored and are summarized in the figure below.

Figure 3- Potential King County POF Operating Approaches (King County POF Policy Study)

Joint Transportation Committee Task Force Report (2006)

In 2005, the State Legislature created a POF Task Force "to study the most reliable and cost-effective means of providing POF service." Meeting multiple times in 2005 and 2006, the Task Force developed a preliminary and final report with recommendations and findings related to the provision of POF services in Washington State. Ultimately, the Task Force Report recommended POF services to connect Seattle, Bremerton, Kingston, Southworth, and Vashon, all of which have been implemented since the report's publication.

The Report also presented general findings related to the POF service and outlined several policy goals concerning implementation in the short and long term. POF service was found to be an important component of transportation infrastructure. However, it is currently not sustainable without public subsidies. Reliably providing POF service was deemed to be challenging due to two key factors:

1. Inconsistent public funding levels, and
2. Unexpected operating cost increases (i.e., cost increases associated with rising fuel prices)

Funding operating costs is particularly challenging because federal funding is generally more available for capital projects than ongoing operations. It was also noted that while farebox recovery rates were increasing at the time, cost recovery remained a challenge due to tariff changes, rising fuel costs, and shifts in ridership habits.

Kingston Business Plan (2006)

Following the brief POF service from Kingston to Seattle that was operated by Aqua Express in 2005, the Port of Kingston developed a business plan with an alternative plan to provide service. At the time of plan development, no POF or auto ferry service was in operation from Kingston. The Port of Kingston was awarded a $3.5 million federal grant to help fund the purchase of passenger-only vessels and terminal facilities. The business plan addressed the issue of operating funds for the service and had the long-term goal of fully funding operations from ridership revenues. The plan proposed the use of a 100-passenger ferry and projected that the break-even point of the operating costs could be achieved with approximately 200 round-trip passengers per day.

KT POF Business Plan and Long-Range Strategy (2014)

The KT POF Business Plan and Long-Range Strategy (Plan) was developed to serve as a blueprint for implementing POF service in Kitsap County. The Plan analyzed three routes to Seattle from various points within Kitsap County, including Bremerton, Kingston, and Southworth. Potential ridership, infrastructure needs, governance structure, and service delivery methods were discussed, and a comprehensive financial plan was developed to support implementation. The Plan was heavily informed by lessons learned from previous POF services. It was identified early on that a more sustainable financial plan would be needed. Additionally, wake wash was noted as a key concern that has been extensively studied and was addressed through the use of a specially designed vessel such as the Rich Passage 1.

The Plan recommended a phased implementation strategy, starting with the implementation of the Bremerton route, with the goal of operations starting in 2015, followed by Kingston in 2018, and then Southworth in 2023. The phased route launch was selected due to the varying levels of infrastructure and capital investment needed for each route. KT started with the Bremerton route due to the robust level of existing infrastructure in place and higher demand levels and subsequently expanded to routes with higher costs and greater infrastructure needs. Southworth notably required that a new specialized vessel be designed to be able to dock at Washington State Ferries' (WSF) auto-ferry landing facilities.

Ultimately, a second phase of the Plan was developed in 2016 to provide updated information on route implementation conditions and an updated financial plan.

PSRC Regional Passenger-Only Ferry Study (2021)

Commissioned by the Washington State Legislature in Substitute House Bill 1160 during the 2019 regular session, this study evaluated the potential demand for new passenger-only ferry (POF) service to connect communities throughout the Puget Sound area. The study identified and evaluated numerous potential POF route options across 12 counties, ultimately profiling seven routes in detail. Of the evaluated routes, only one was identified that lay exclusively within Kitsap County. This route, connecting Silverdale and Bremerton, was eliminated in Tier 1 of the study analysis due to the necessity of the service running through a constrained waterway. Other potential POF landings within Kitsap County were included in multiple routes, including Suquamish and Gig Harbor.

Beyond developing and analyzing specific routes, the study also identified opportunities, challenges, and implementation considerations related to POF service within the Puget Sound region. These included the importance of time-competitive travel and landside connections, the need to consider unique water-side route components such as sea states and constrained waterways, as well as the importance of both tribal and environmental impacts.

POF service was identified as a means to add resiliency to the regional transportation system, and key cost drivers included the level of needed terminal improvements on the capital side and fuel and labor on the operating side.

King County Metro Long Range Plan (2021)

The long-range service and capital vision for King County Metro encompasses all aspects of Metro's service, including bus, trolley, and marine services. King County identified ferry service as primarily focused on commuter markets, with maritime modes serving as a

complement to bus and rail services. The importance of creating an integrated transit network with marine and land-based solutions is discussed. Potential maritime service expansions in the plan include the following new routes:

- From Kenmore and/or Kirkland to Seattle via Lake Washington, and
- From Ballard to downtown Seattle via Puget Sound.

Overall, the plan emphasizes Metro's values of safety, equity, and sustainability in all planning and expansion decisions.

Kitsap Transit 2022-2024 Long Range Transportation Plan (2022)

Developed over 18 months, the Kitsap Transit Long-Range Transit Plan (LRTP) reflects input from public outreach and aligns with regional transportation goals under Puget Sound Regional Council's Vision 2050. The plan outlines a comprehensive 20-year strategy to enhance transportation services across Kitsap County through infrastructure investment, fleet modernization, and environmental sustainability. Summarized below are some of the projects' specific KT's vision for its ferry services as outlined in the LRTP.[7]

Key Ferry Infrastructure Projects:

- **Seattle Fast Ferry Terminal**: A new terminal estimated at $100 million to relieve congestion at Pier 50 and improve passenger flow for fast ferry services.
- **Bremerton Dock Expansion**: A $7 million project to increase dock capacity and operational efficiency.
- **Kingston Breakwater**: A $20 million initiative to install a breakwater for weather protection, ensuring service reliability.
- **Southworth Mooring Improvements**: Another $20 million allocated for mooring infrastructure to support expanded fast ferry operations.
- **Marine Maintenance Facility**: A $23.5 million project to build a dedicated facility for ferry maintenance, ensuring reliability and longevity of the fleet.
- **Bainbridge Island Terminal**: While not presented in the LRTP report, a $5 million investment is estimated for a Bainbridge Island Fast Ferry Terminal (PSRC 2021 POF Estimate) within the Appendix: Service and Capital Project Summary Table.[8]

[7] **Kitsap Transit**, *Long-Range Transit Plan 2022–2042,* December 2022, https://www.kitsaptransit.com/uploads/pdf/planning/lrtpreport_6dec2022.pdf.
[8] **Kitsap Transit,** *Long-Range Transit Plan 2022–2042: Appendix: Service and Capital Project Summary Tables,* October 2022, https://www.kitsaptransit.com/uploads/pdf/planning/lrtp-appendix_6dec2022.pdf

Fleet Modernization & Sustainability Initiatives

- **Dock Electrification**: A $15 million investment to provide shore power infrastructure enabling the use of electric ferry vessels.
- **Acquisition of New Vessels**: As outlined in the Capital Projects Appendix, approximately $30 million is budgeted for the purchase of new ferry vessels. This investment is expected to align with dock electrification projects, suggesting compatibility with future low-emission or electric propulsion systems.

Survey Findings

The LRTP also presents findings on inter- and intracounty commute flows, which serve as key factors in determining where future transit service should be provided.

Kitsap Transit, Transit Development Plan

On an annual basis, Kitsap Transit publishes an updated Transit Development Plan (a five-year plan that is revised each July). The goals of the **Transit Development Plan**[9] (TDP) are as follows:

[9] **Kitsap Transit,** "Planning." *Kitsap Transit*, Accessed May 16, 2025, https://kitsaptransit.org/agency-information/planning.

- **Preservation:** To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.
- **Safety:** To provide for and improve the safety and security of transportation customers and the transportation system.
- **Mobility:** To improve the predictable movement of goods and people throughout Washington State.
- **Environment:** To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.
- **Stewardship:** To continuously improve the quality, effectiveness, and efficiency of the transportation system.

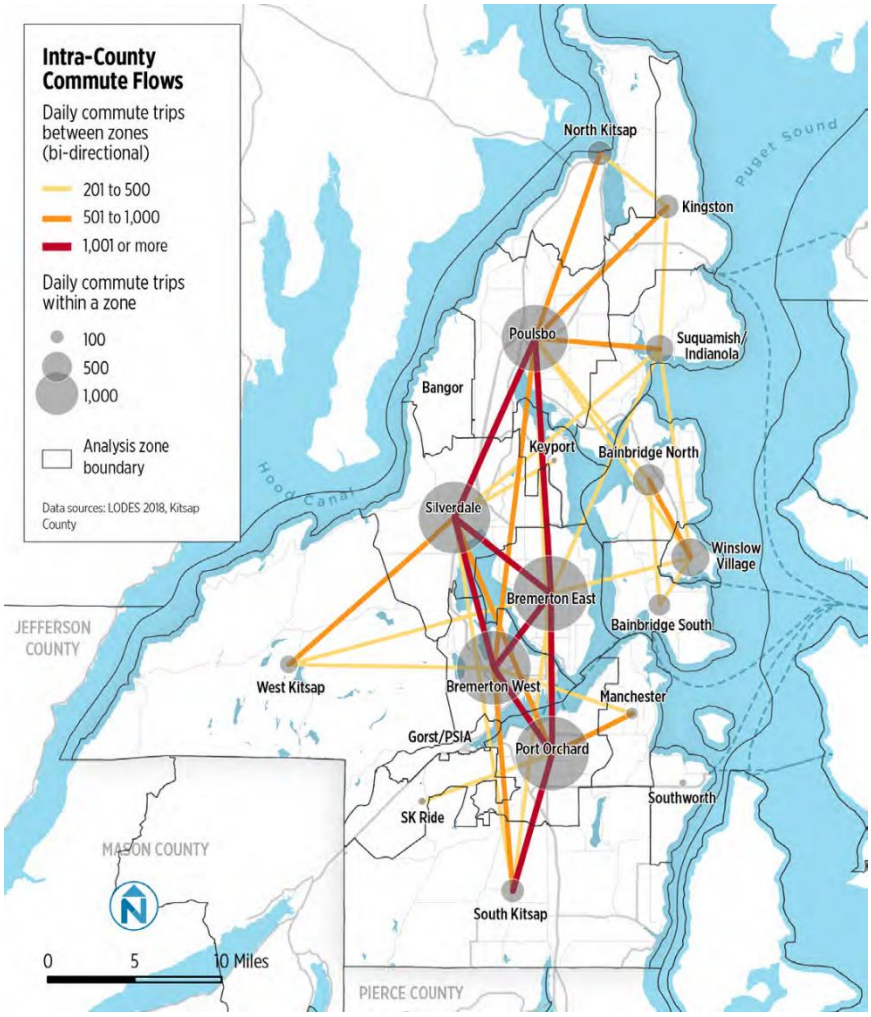


Figure 4- Intracounty Commute Flows[6]

2024-2029 Transit Development Plan (2024)[10]

The most recently published TDP was the 2024–2029 TDP, adopted on July 2, 2024, outlines the agency's strategic direction for enhancing public transportation services in Kitsap County over a six-year period. This comprehensive plan serves as both a progress report and a roadmap for future initiatives, aligning with the agency's LRTP. Key policy highlights for the ferry program include:

[10] **Kitsap Transit**, *2024–2029 Transit Development Plan*, July 2, 2024, https://www.kitsaptransit.com/uploads/pdf/planning/2024-2029drafttdpplan-6657b85bae09c.pdf.

- Goal of secure State funding to develop the study that this memo is a part of (intracounty passenger-only ferry feasibility study/plan)
- Goals of beginning construction on an electric local ferry by 2024 and completing design of an electric battery powered fast ferry within the 2024-2029 period
- Goal of completing environmental review, including NEPA, for new Seattle Passenger-Only Ferry Terminal
- Completion of maintenance and preservation of key ferry assets including midlife refurbishment of the M/V Solano and general preventative maintenance on all vessels in 2023
- Provision of additional Bremerton – Seattle POF service, using State funding, to supplement WSF service. KT aims to continue providing this service into the future.
- KT's completion of an updated origin-destination study for its fixed-route, foot ferries, and fast ferries.

The TDP also included a ridership survey that allowed respondents to mention potential new POF routes they were interested in. The top three routes mentioned were Bainbridge – Seattle, Bremerton – Bainbridge, and Tacoma – Bremerton.

COMPREHENSIVE PLAN REVIEW

In addition to the ferry and transportation studies above, the comprehensive plans were reviewed for each of the existing and initially proposed landings for new POF services to gauge levels of interest and assess the need for potential new routes.

Bainbridge Island

Many commuters from Bainbridge Island are ferry-dependent, resulting in frequent references to ferries in the transportation element of this community's comprehensive plan. The third transportation goal is exclusively focused on ferry service and includes support and advocacy for more passenger ferry services in the region. However, no specific POF routes are mentioned. General support for ferry services is mentioned, with a focus on optimal usage, balancing peak-hour travel times, and providing sufficient ferry capacity in areas near users' origins and destinations.

Bremerton

The plan's Technical Transportation Appendix details the current ferry services in Bremerton, along with the area's transit services, including the bus connections to ferry

terminals. As part of the Comprehensive Plan, a public survey was conducted, and respondents indicated that a key barrier to taking transit was unreliable ferry schedules. Survey respondents also indicated a desire for more frequent ferry services but no interest in specific new routes, POF or otherwise was noted.

Kingston

The Kingston Subarea plan is part of the Kitsap County Comprehensive Plan and includes policies and strategies to help combat traffic at the WSF ferry terminal and to encourage improvements to the Kitsap POF dock to make it more usable during severe weather. Bicycle connections to ferry services are also encouraged.

Manchester

Manchester is also covered by a subarea plan within the 2024 Kitsap County Comprehensive Plan. No ferry service is mentioned in the subarea plan. Transportation goals and policies discussed focus on multimodality, improved safety, and expansion of bicycle and pedestrian paths.

Silverdale

Though Silverdale does not have a comprehensive plan of its own, the Silverdale Regional Center Plan has been developed as part of the 2024 Kitsap County Comprehensive Plan. This subarea plan discusses maintaining collaboration with KT for bus transit and the potential for ferry service to support both workforce and tourism demand. Silverdale Regional Center Policy 5.9 covers studying options for interlocal ferry service from Old Town to other destinations in Kitsap County.

Southworth

Southworth does not have a comprehensive plan of its own and does not have a specific subarea plan within the 2024 Kitsap County Comprehensive Plan. No explicit mention of Southworth is made in the body of the plan.

KEY FINDINGS FROM PREVIOUS STUDIES

During the review of previous POF studies, multiple common themes emerged related to considerations for POF service planning and start-up. These include:

- **Public Funding and Financial Sustainability:** A certain level of public funding is required for sustainable POF service operations. Any new intracounty routes would likely need financial support in the form of a public subsidy.

- **Time Competitiveness:** To ensure success and sufficient ridership, POF routes should save riders time compared to other current travel modes.
- **Environmental Considerations:** The marine operating environment has unique environmental considerations compared to land-based transportation modes. For instance, wake impacts are particularly important to monitor, especially for sensitive shorelines and confined waterways such as Rich Passage. For example, the Rich Passage I, operated by KT, was specifically designed to be a high-speed, low-wake vessel through Rich Passage that wouldn't cause discernible harm to the shorelines. The research teams have been consistently monitoring the beaches since the service began. In the fall of 2019, KT trialed a two-boat service for a four-week period. The research team concluded that this service had no measurable effect on the beaches, leading KT to launch a two-boat service in 2020.[11]
- **Regional Connectivity:** The reviewed studies identified the role of POF services as part of an interconnected regional transportation system, noting that they should be utilized strategically and that multimodal connections are attractive to POF riders.
- **Level of Existing Infrastructure:** When implementing POF services, the lengthy timeframes and high capital costs associated with infrastructure influence phasing strategy and route planning. Utilizing existing capital assets, such as vessels or terminals, is often the most financially efficient option and can speed up service start-up.

Due to current and past work with the Fast Ferries program, KT is familiar with these considerations. Although most of KT's POF service to date has been to connect riders to other counties, the identified considerations would be applicable for any intracounty services.

Routes and Landings

This Intracounty POF Study was tasked with analyzing, at a minimum, the following POF routes:

- Bainbridge Island – Bremerton
- Silverdale – Bremerton
- Bremerton – Manchester

Beyond the general considerations related to POF service implementation above, past POF studies identified some potential routes and landing sites within Kitsap County, including

[11] **Kitsap Transit**, "Rich Passage Wake Research," accessed May 14, 2025, https://www.kitsaptransit.com/agency-information/rich-passage-wake-research.

the current POF landings at Bremerton, Kingston, and Southworth. Other specific POF routes mentioned in studies included:

- Suquamish – Seattle
- Silverdale – Seattle

CONCLUSION

Findings from this analysis will inform route development and analysis efforts to occur later in the Intracounty POF study.

APPENDIX B – WAKE RESEARCH SUMMARY

BLUE COAST
ENGINEERING

To: Kristen Kissinger, KPFF

CC: Kelly Lesoing

From: Greg Curtiss, P.E. and Jessica Côté, P.E.

Date: May 19, 2025

Re: Intra-County Passenger-Only Ferry (POF) Business Plan and Long-Range Strategy for Kitsap County: Summary of Rich Passage Wake Research Study

This memorandum provides a summary of the Rich Passage Wake Research Study for the purpose of intra-county passenger-only ferry (POF) planning in Kitsap County. The memorandum summarizes the program history, data, and provides a discussion of the conclusions of the Wake Research Study as it pertains to wake impacts and additional trips through the Rich Passage corridor.

History

Fast passenger ferry operations that reduce travel time for commuters are often fundamental to the development and economic well-being of water-based communities. However, wake wash from high-speed ferries can potentially cause adverse effects to shorelines in confined waterways such as Rich Passage, a narrow channel between Bainbridge Island and the Kitsap Peninsula. Shoreline changes, including erosion of sand and gravel beaches, were first reported by property owners along Rich Passage, in correlation with the introduction of Issaquah-class car ferry service by Washington State Ferries (WSF) in 1983 and increased with passenger-only fast ferry (POFF) service by WSF beginning in 1986. Investigation of shoreline damage concerns due to WSF POFF vessels in 1990 resulted in a slow down to 12 knots through Rich Passage and the establishment of wake criterion by WSF. New service by 350-passenger Chinook-class vessels (Marine Vessel [MV] *Chinook* and MV *Snohomish)* in 1998 resulted in a 1999 lawsuit filed by Rich Passage property owners over damage to their beaches attributed to wakes. The property owners won an injunction to slow these ferries in 2003 and WSF subsequently ended POFF service through Rich Passage because the required slow speeds increased travel time and created economic challenges in continuing POFF service.

The Rich Passage Wake Research Study began in 2004 to evaluate the feasibility of providing environmentally-sound POFF service through Rich Passage. Blue Coast staff have been a part of this study since 2006. The Wake Research Study included understanding the response of Rich Passage shorelines to wake wash from high-speed vessels, other vessels, and natural processes and to establish new performance criteria for evaluating potential future high speed POFF operations. The study has developed extensive physical and biological baseline data, assembled and validated an integrated system of predictive tools to assess the relative effects of alternative POFF operations, and conducted full-scale testing with candidate vessels on the ferry route in order to monitor shoreline response. The program also included extensive public and property owner outreach to educate the stakeholders about the integration of the science into the design of the new low wake ferry.

A new low-wake vessel prototype was designed, built, and tested in a simulated operation to evaluate whether shoreline effects could be minimized through decreased wake action while regularly completing the transit in approximately 30 minutes. In 2011, the POFF MV *Rich Passage 1* (*RP1*), a new high-speed foil-assisted catamaran optimized for low wakes, was tested and validated against the wake criterion and wake specification developed for Rich Passage (Golder 2013a). Commercial service of *MV*

RP1 began in 2017 followed by subsequent vessels of the same class, the MV *Reliance* and MV *Lady Swift*, on the Bremerton to Seattle route. 2025 will mark the eighth year of Kitsap Transit POFF service through Rich Passage.

Data

As part of the Rich Passage Wake Research Study, baseline studies within Rich Passage were conducted from 2004 to 2012 to document physical and biological conditions of beach morphology and sediment composition prior to commencement of POFF operations. Beach monitoring within Rich Passage continued during the implementation of commercial service in 2017 through 2025 (Blue Coast 2025a) and is planned to continue until 2031.

Physical monitoring data has included measurements of waves, wakes, water levels, wind, current, gravel transport, and beach morphology (beach profile and laser scanning surveys), and beach photos. Blue Coast staff also completed two inventories of shoreline structures throughout Rich Passage in 2006 and 2012 (prior to the beginning of commercial service). Biological monitoring has included towed underwater video surveys for eelgrass and bull kelp, quadrat surveys of fauna, macrophytes, and substrate, cores sampling for benthic organisms and grain size distribution, and eelgrass mapping at select locations.

Long-term physical monitoring consists of beach photos and laser scanning surveys at representative locations in Rich Passage and the adjoining shoreline areas. Since January 2005, and continuing through 2024, geo-referenced and time-stamped photographs were acquired quarterly (and more recently bi-annually) at several reference locations along the five sections of sensitive shorelines (Pleasant Beach, Point White, East Bremerton, Port Orchard, and Point Glover). From 2011 to 2022, laser scanning surveys were completed which documented three-dimensional topographic measurements of beach elevation over 500-foot-long sections on Point Glover, Point White, Pleasant Beach, and East Bremerton shorelines. These surveys were placed on hold in 2023 since no changes related to the commercial service had been measured and no significant changes in service trips were anticipated through Rich Passage for that year.

Conclusions

The monitoring and research have shown that beach response along the Rich Passage shorelines is dominated by the wake climate in the summer and the wind-wave climate in the winter; however, long-term changes are predominantly correlated with the wind-wave climate. Long-term monitoring has shown that beaches within Rich Passage change seasonally and amongst years in response to natural forces. Observations, measurements, and modeling indicate that physical processes responsible for shoreline change along Rich Passage are highly site-specific. Local topography, bathymetry, sediment supply, tidal currents, and exposure to wind-waves are all important factors, while changes from vessel operations were not significant in comparison to seasonal trends, interannual variability, and long-term trends.

Beach response along Rich Passage has not shown a direct correlation with distance from the sailing line along the majority of the route. Beaches along straight portions and on the outside curvature of the sailing line generally receive lower-energy wake wash than beaches along the inside curve of the sailing line, as curved areas tend to focus wake-wash energy. Sections of shoreline exposed to vessel speed-up (acceleration) and slow-down (deceleration) may also be subject to increased energy. However, the magnitude of beach response was within the scale of seasonal changes observed during pre-POFF baseline studies.

In 2024, the most recent year of monitoring, measurements at Port Orchard and Pleasant Beach showed varying patterns of erosion and accretion, which were consistent with years prior to POFF vessel operations (Blue Coast 2025a). Observations at Port Orchard monitoring sites continued to show minimal changes in beach elevation. East Bremerton monitoring sites continued to exhibit long-term depletion of sediment at the beginning of the drift cell (with some recovery) and seasonal cycles of accretion and erosion of sediment along the middle to end of the drift cell. Point White is the most dynamic shoreline reach in the study area because of larger exposure to wind-waves, the lack of sediment supply to replenish sediment transported by wind-waves, and shoreline armoring within the intertidal that increases the erosion caused by wind-waves. Monitoring sites along Point White generally continue to exhibit long-term depletion of sediment and seasonal cycles of downdrift depletion towards Lynwood Bay.

Since the commencement of RP1-class POFF operations in 2017 and through the latest year of monitoring in 2024, long-term measurements of seasonal and interannual cycles of beach response along Rich Passage have not shown a correlation to the POFF operations (Blue Coast 2025a). Natural factors—namely wind-wave events—appear more impactful to shorelines than vessel operations, even when considering number of sailings. In other words, existing levels of POFF service have not had a significant impact on shorelines in comparison to natural phenomena that influence seasonal trends, interannual variability, and long-term trends.

Recommendations for Additional Trips in Rich Passage

Plans to expand Kitsap County's intra-county POF service by adding new routes, additional sailings, or additional vessels should consider the cumulative wake energy relative to background wake and wind-wave energy on a site-specific basis. For any new vessels designed to operate through Rich Passage or other confined waterways for POFF service, Blue Coast recommends thorough evaluation, testing, and monitoring to establish appropriate operating protocols and guidelines. Guidelines for implementation of POFF operations in Rich Passage were outlined by Golder (2013b) and have been augmented based on recent learnings as follows:

- Run test operations with a low wake POFF vessel and monitor the shorelines for at least one month prior to initiated commercial scale operations. If no previous beach monitoring data exists for the waterway, then beach monitoring data should be collected for a minimum of 3 years prior to test operations to establish a baseline condition.
- Limit initial operations with a low wake POFF vessel to previously tested conditions for at least 3 months then increase the frequency of trips. Operations and modifications to operations should be accompanied by a beach observation and monitoring program.
- Begin operations during a month that does not typically correspond to a seasonal shift (i.e. avoid starting in June or October).
- Operate the low wake vessel at optimal speed for low wake generation (e.g. 36 to 40 knots for RP1 class vessels) starting as close to departing dock as possible (rather than waiting until the vessel reaches the confined waterway), and avoid accelerating and decelerating once underway,
- Monitor beach response using laser scanning surveys and beach photo observations monthly for the first 3 months, then quarterly for at least 3 years and biannually thereafter.

Combined Vessel Wake Event Monitoring

Recent observations from 2024 have noted a potential increase in wake energy from POF vessels arriving at Pier 50 in Elliott Bay in Seattle (Blue Coast 2025b). The observations noted particularly large and potentially damaging wakes from combined vessel wake events (more than one vessel passing the shoreline concurrently). Although Kitsap County POF service will not have an impact in Elliott Bay, increased vessel traffic in congested areas of Kitsap County (e.g., Eagle Harbor and Bremerton) could be of concern and should be considered in operations planning.

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APPENDIX C – PUBLIC SURVEY RESULTS

Kitsap Transit Intracounty Passenger-Only Ferry Study Online Survey — Summary of Responses

Background

Kitsap Transit (KT) conducted the Intracounty Passenger-Only Ferry (POF) Study to explore alternatives for adding new POF ferry routes within Kitsap County to grow the current system. To inform the study, KT distributed an online public survey, open between June 2 and June 25, 2025. The survey was promoted through rider alerts, social media, project webpage, targeted emails to chambers, and news outlets. The survey aimed to achieve the following:

- Measure the level of importance of three initial study routes
- Gauge typical purpose/frequency of trip between origin/destination of suggested routes
- Invite respondents to suggest additional routes for consideration
- Request additional feedback on routes to be studied and priorities for potential intracounty POF service

The survey included thirty questions and received 1,914 responses;[1] however, not every respondent answered every question.

Summary of Findings

Survey results informed multiple steps of the study process, including development and screening of the preliminary list of route options, service level and landing site assumptions, and assumptions for demand level estimates. The following pages provide a general summary of survey results.

[1] Total responses exclude duplicate responses received from the same IP address.

Home ZIP Code of Respondents

Residents countywide took the survey, with the most respondents in **Bremerton (40%)**, **Port Orchard (21%)**, and **Bainbridge (18%)**. Silverdale and Poulsbo each accounted for 5% of respondents. The top 10 home ZIP codes reported by respondents are shown in Figure 1 below.

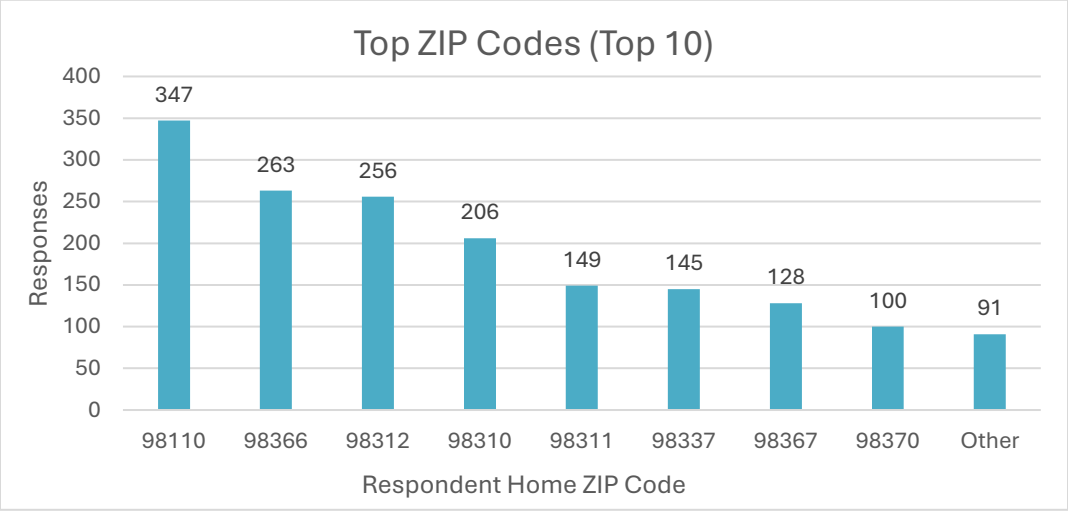

Figure 1: Respondent Home Zip Code (1,881 total responses)

Overall Level of Support for Intracounty POF

As shown in Figure 2, Respondents indicated strong support for new intracounty POF routes, with 64% saying they "strongly agree" with this statement: "New passenger-only ferry routes within Kitsap County would benefit our community."

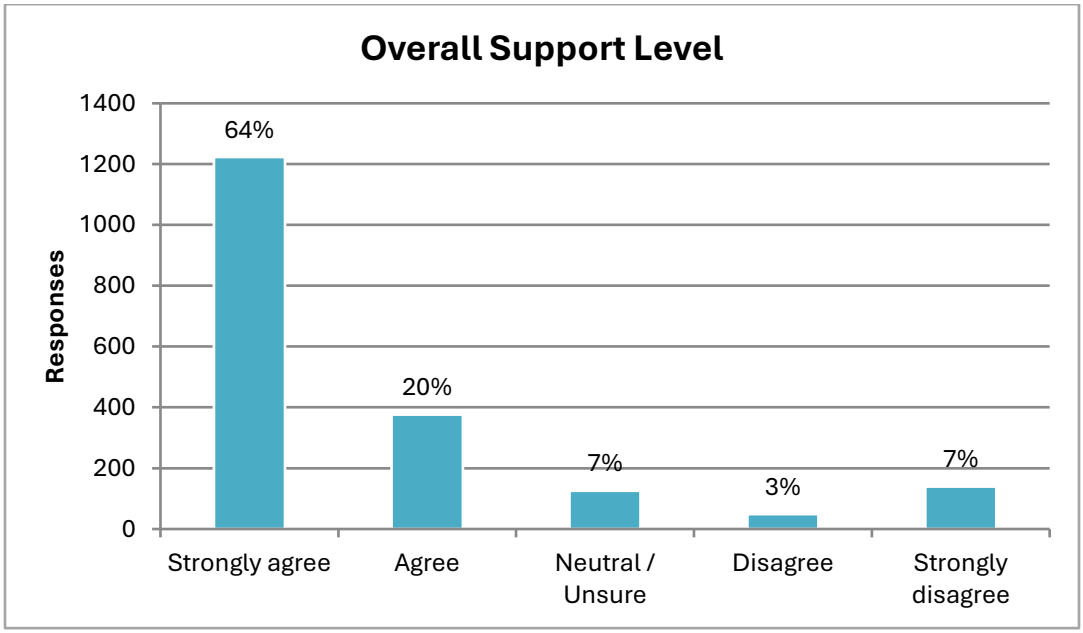

Figure 2: Overall Support Level for New Intracounty POF Service (1,914 total responses)

Level of Importance of the Three Initial Study Routes

Across respondents from all home zip codes except Silverdale and Manchester, the Bainbridge Island - Bremerton route ranked highest among survey respondents in importance. Figure 3 below shows the preferred study route (routes ranked as *Absolutely Essential* or *Very Important*) by home location of respondent.

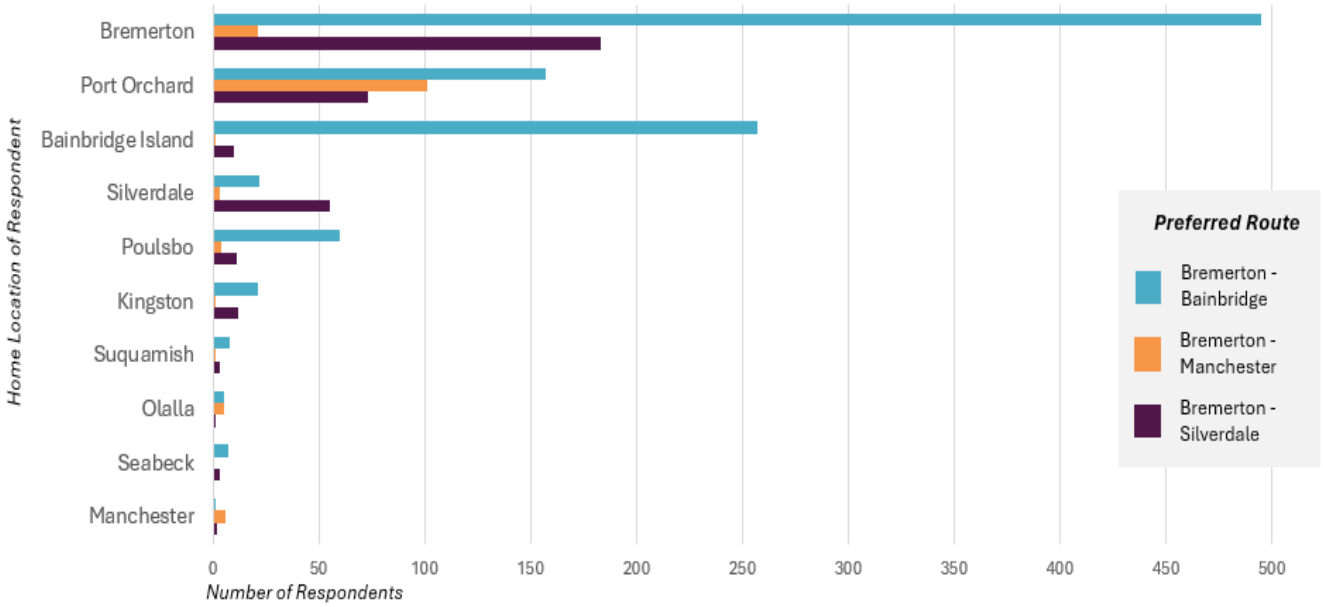

Figure 3: Preferred Study Route by Respondent Home Zip Code (1,914 total responses)

Typical Purpose/Frequency of Trips between Origin/Destination of Preferred Route

Respondents were asked about their typical travel between the origin and destination of their preferred route. Figure 4 shows the typical trip purpose and typical trip frequency for those who indicated each route as Absolutely Essential or Very Important.

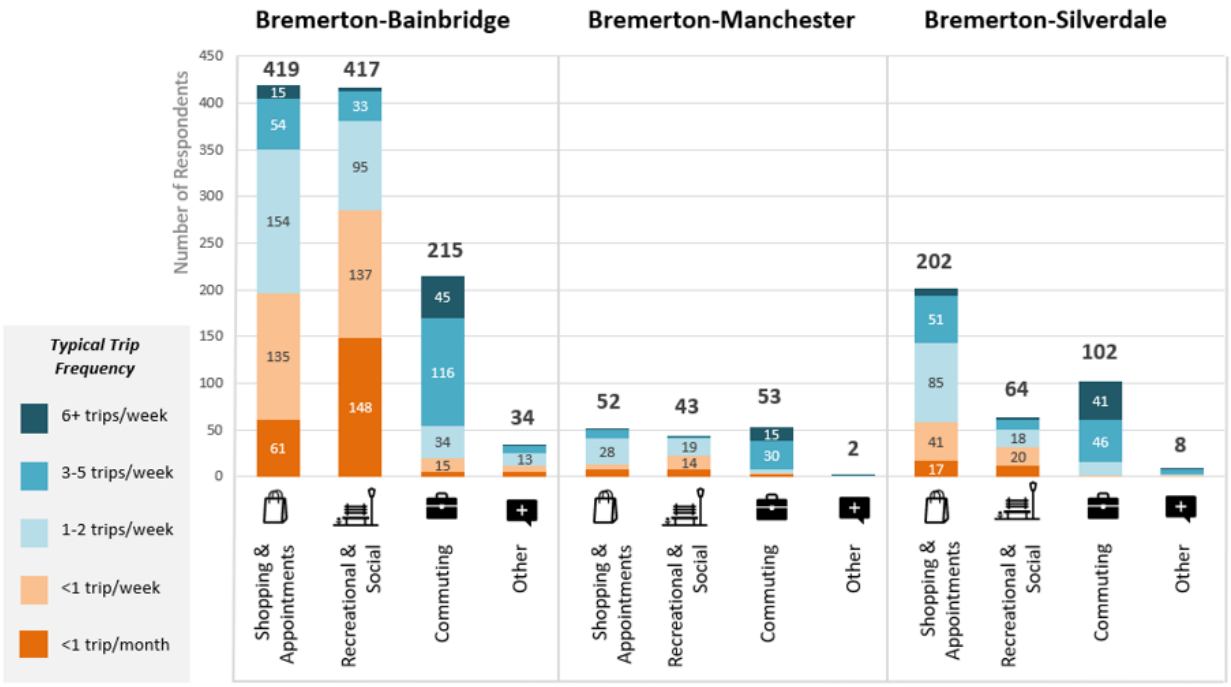

Figure 4: Preferred Study Route and Typical Trip Purpose/Frequency (1,601 total responses)

Likelihood to Use Fast Ferry

Additionally, respondents were asked how likely they would be to use their preferred route to connect with the Bremerton Fast Ferry to Seattle. Slightly more respondents (41%) indicated they were likely to connect to Fast Ferry service to Seattle, compared to 35% responding that they were unlikely to use their preferred route as a connection to Fast Ferry.

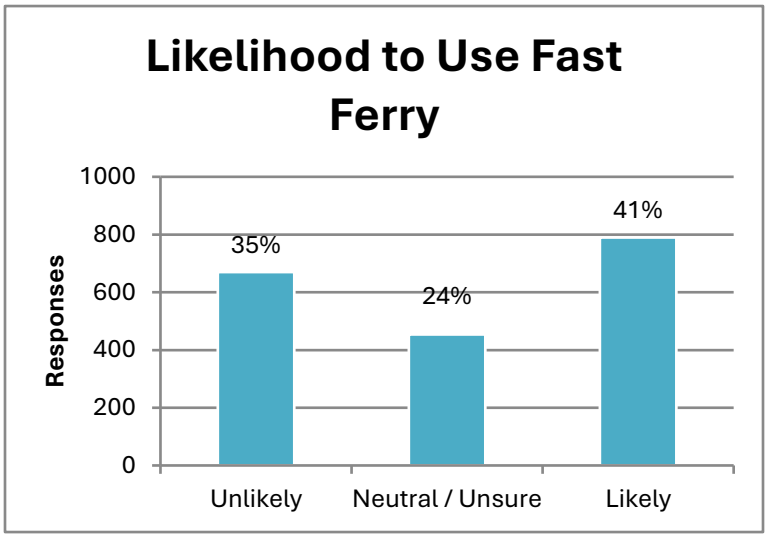

Figure 5: Likelihood to Use Fast Ferry (1,914 total responses)

Suggested Routes for Consideration

Respondents were asked if there was another ferry route that they thought should be considered in the study, with around **45%** responding yes.

The survey provided the opportunity to suggest up to three route combinations. A total of 1,066 entries and 72 unique routes were suggested (counting routes that are within Kitsap County and excluding routes that are already part of the study and duplicate entries from an individual).

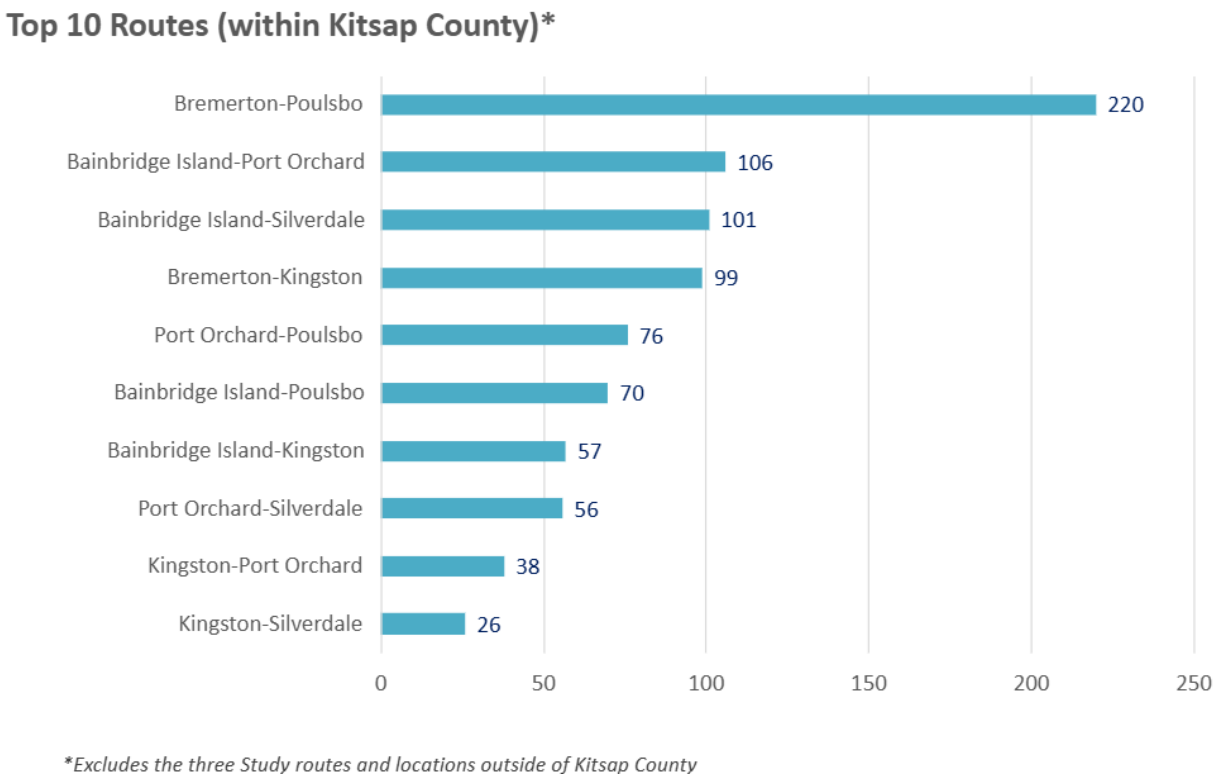

Figure 6: Top 20 Suggested Routes (849 respondents)

Additional feedback on routes to be studied and priorities for potential intracounty POF service – Open-Ended Responses

The survey invited open-ended feedback, asking "Is there any other feedback you'd like to share to help inform this study?" Top themes of responses are summarized below:

- The desire for ferries to serve as faster, more direct connectors between Kitsap communities that today require long detours or congested highway travel. Many respondents framed new ferry routes as a way to reduce roadway traffic and limit car dependency.
- Request to focus on enhancing service reliability and frequency of existing transit options, and suggestions for expanding operating hours and service days of current ferry service.
- Concerns related to the potential cost of new service and how it would be funded.

APPENDIX D – VESSEL ANALYSIS

PREPARED FOR:
KPFF Consulting Engineers
Seattle, Washington

Glosten
1201 WESTERN AVENUE, SUITE 200
SEATTLE, WASHINGTON 98101-2953
T 206.624.7850
GLOSTEN.COM

BY:
Matthew A. Lankowski, PE
SENIOR OCEAN ENGINEER

CHECKED:
Calder J. Hartigan, EIT
NAVAL ARCHITECT

APPROVED:
Justin M. Morgan, PE
PRINCIPAL-IN-CHARGE

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REV: A
DATE: 30 October 2025

Revision History

Section	Rev	Description	Date	Approved
All	-	Initial release.	10/10/25	JMM
ES	A	Updated Table 1 for alignment with KPFF summary report.	10/30/25	JMM

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1. Lankowski, M. (Glosten), memo to Lesoing, K. (KPFF), "KT IC POF Study – Preliminary Vessel Type Assessment," 5 June 2025.
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Executive Summary

Kitsap Transit is evaluating potential new passenger-only ferry (POF) routes and down-selected two routes for final analysis: Bremerton-Silverdale and Bremerton-Eagle Harbor. A study was conducted to recommend diesel and all-electric vessel types for these routes. Table 1 summarizes the results of this study. Estimates are pre-concept level and rough order of magnitude (ROM).

Table 1 Potential vessel types*

	Bremerton - Silverdale	Bremerton - Eagle Harbor
One-way distance	6.4 nm	11.6 nm
Assumed Range Required	20 nm	30 nm
Option A: Conventional Diesel (Assumed Study Vessel Type)		
Energy Storage	Diesel	
Passenger Capacity	75	118
Crew Complement	2	3
Cruising Speed	24 kn	35 kn (restricted waterway) 30.6 kn (unrestricted waterway)
Power @ Cruise	550 kW	2,270 kW 1,800 kW
Capital Cost**	$7.6M	$11.3M
Acquisition Schedule**	24-30 months	15-18 months
Option B: 150-Passenger Hydrofoil – All Electric (Alternative)		
Energy Storage	All-Electric	
Passenger Capacity	150	
Crew Complement	3	
Cruising Speed	24 kn	30 kn
Power @ Cruise	700 bkW	800 bkW
Capital Cost**	$21.4M	
Acquisition Schedule**	24-30 months	
Option C: 75-Passenger Hydrofoil – All Electric (Alternative)		
Energy Storage	All-Electric	
Passenger Capacity	75	
Crew Complement	2	
Cruising Speed	24 kn	30 kn
Power @ Cruise	475 bkW	575 bkW
Capital Cost**	$13.7M	
Acquisition Schedule**	24-30 months	

*Please refer to summary report for background on study analysis and vessel assumptions.
**Costs and schedules estimates are for vessel acquisition only. Shoreside infrastructure procurements, including adding or modifying terminals and charging infrastructure for all-electric options, could add to program costs and take longer than vessel procurement.

Introduction

This report documents the vessel acquisition study conducted by Glosten for the Kitsap Transit Intra-County Passenger-Only Ferry (POF) Routes study being conducted by KPFF. The purpose of the POF Routes study is to evaluate the technical and economic feasibility of establishing ferry service on a set of new routes. The vessel acquisition study documented herein was to recommend vessels for the set of routes evaluated including their acquisition costs and schedules. The used vessel market was also evaluated to determine whether any used vessels could be viable.

Preliminary vessel recommendations for four preliminary routes were provided in Reference 1. Two routes were down-selected by Kitsap Transit and the KPFF study team: Bremerton-Silverdale and Bremerton-Eagle Harbor. Vessels befitting those final two routes were evaluated in greater detail by Glosten as reported herein.

Two basic vessel types were evaluated for each route:

- **Conventional diesel catamarans.** In this study, 'conventional diesel catamaran' means a vessel with two demihulls that travels at high speed in planing or semi-displacement mode and powered by diesel-fueled engines. It may be "foil-assisted," meaning a hydrofoil lifts part of the hull out of the water at high speed, to reduce resistance and wake.
- **Hydrofoiling ferries.** In this study, 'hydofoiling ferry' means a vessel that lifts the entire hull out of the water at cruising speed, supported only by the underwater hydrofoils. Hydrofoiling ferries were of particular interest in this study because of the extremely sensitive environmental coastlines in the region. One of the benefits of hydrofoiling ferries is that they create almost immeasurable wake when flying, completely mitigating the negative effects of wake wash. Another area of interest is ferry electrification. Hydrofoiling ferries can use roughly a third of the energy of an equivalent conventional catamaran, making them an intriguing option for high-speed, long-distance ferry service.

The sections below describe our findings for the Bremerton-Silverdale route and the Bremerton-Eagle Harbor Route. Descriptions and assumptions about the routes and vessel requirements are described. Based on these inputs, recommended vessel types are provided with key outputs for the POF Study team: operational profiles, energy consumption, crewing, capital costs, and acquisition timelines.

The results of our preliminary assessment of four preliminary routes are also provided.

The results of our used vessel search are also provided.

Bremerton – Silverdale

The ferry route between Bremerton and Silverdale is about 6.4 nm each way. The origin and destination are also connected over land via bus service, a transit that takes about 40 minutes (Bremerton Transit Center to Silverdale Transit Center, Reference 2). To be competitive with bus service, a POF must cruise at about 20 knots or more.

The route includes Port Washington Narrows, an even narrower waterway than Rich Passage. This presents significant challenges to both coastline protection and safe navigation at high speeds.

Conventional Diesel Ferry

A conventional passenger-only ferry will be particularly challenged by wake and safe navigation. Generally speaking, wake concerns may be overcome by either:

- Going slow (operating at a low Froude number, which is proportional to the ratio of speed to the square root of length, i.e. in full displacement mode); or,
- Going very fast (high Froude number, i.e. in planing or semi-planing mode).

For a fast vessel, weight is also a critical factor, and hydrofoils may be used to lift part of the hull out of the water at very high speeds. The Rich Passage-class ferries Kitsap Transit currently operates between Bremerton and Seattle incorporate each of these design elements: they are lightweight, foil-assisted, conventionally-powered fast ferries designed specifically to reduce wake impacts to the sensitive coastlines of Rich Passage.

The slower displacement hull option is ruled out by the assumed minimum competitive cruising speed of 20 knots. Therefore, the question is whether a high-speed, lightweight, foil-assisted conventional vessel could be technically viable in Port Washington Narrows.

A further challenge is that, whereas wake concerns require a faster transit through Port Washington Narrows, the channel is so narrow that a larger, less maneuverable vessel could be unsafe. By the judgement of a Glosten navigation subject matter expert, safe navigable speed could likely be limited to 20 knots. It is also likely that in inclement weather or on heavily trafficked days, speed would have to be further reduced to perhaps 12 knots (Reference 1). Kitsap Transit offered that up to 28 knots might be a safe speed during normal operations (Reference 3).

Glosten conducted a parametric study and literature search for vessels that might fit the tight design space described above: 20-28 knots, small and light enough to only generate small wake at this speed, yet large enough to be economically viable for Kitsap Transit (approximately 50 passengers was assumed to be a lower bound). Reference 4 provides a detailed analysis of wake impacts from vessels in Rich Passage and candidate vessel types to reduce wake effects to acceptable levels. The report includes assessment of a vessel similar to but smaller than the Rich Passage-class ferry, the Teknicraft 1060. Other similar ferries were identified, including:

- Teknicraft designed M/V *Clipper V* 17.7-m passenger ferry (Reference 5)
- Aluminium Marine designed M/V *James Grant* 18-m passenger ferry (Reference 6)

Our conclusion is that it may be possible to operate a conventional diesel-powered catamaran on the route with up to approximately 75 passengers. However, there are substantial risks to technical and economic feasibility:

- The vessel would likely be subject to a very tight window of allowable speeds. We estimate the feasible cruising speed to be about 24 knots.
- For safety reasons, there may be a low tolerance for weather or traffic conditions that would require a slowdown. Since it would have to cruise at approximately 24 knots or more to achieve acceptable wake impacts, it would likely have to slow down to approximately 10 knots to operate in “displacement mode” when slowing down for safety reasons.
- The only other way to thread the needle between fast enough for wake reduction and slow enough for safety would be a reduction in size, or passenger capacity. This could make the vessel uneconomical.

Operational Profile

The assumed operational profile is shown in Table 2.

Table 2 Assumed operational profile: Bremerton-Silverdale conventional diesel vessel

Segment	Speed	Segment Dist.	Total Dist.	Segment Time	Elapsed Time	Power	Energy	Diesel
	[kts]	[nm]	[nm]	[min]	[min]	[kW]	[kWh]	[gal]
Bremerton - Maneuver	5.0	0.2	0.2	2.2	2.2	110	3.9	0.3
Bremerton - Accelerate	14.5	0.1	0.3	0.5	2.7	550	4.6	0.3
Bremerton to Rocky Pt	24.0	3.8	4.1	9.4	12.0	550	85.9	5.5
Rocky Pt to Silverdale	24.0	2.2	6.2	5.4	17.5	550	49.7	3.2
Silverdale - Maneuver	5.0	0.2	6.4	2.2	19.6	110	3.9	0.3
Silverdale - Unload/Load	0.0	0.0	6.4	7.0	26.6	30	3.5	0.2
Total							**151.7**	**9.7**

Crewing

Estimated crew requirements are summarized in Table 3.

Table 3 Crew requirements: Bremerton-Silverdale conventional diesel vessel

Master	1
Deckhand	1
Total	2

Procurement

Estimated capital cost and procurement schedule are summarized in Table 4. These estimates are for the vessel only. They do not include front-end contracting development or shoreside infrastructure procurement. Shoreside infrastructure procurements, including adding or modifying terminals, could add to program costs and take longer than vessel procurement.

Table 4 Capital costs and schedule: Bremerton-Silverdale conventional diesel vessel ($USD2025)

	Cost	Schedule
Design	$0.7M	12 months
Construction	$6.6M	12-18 months
Construction Management	$0.3M	-
Total	**$7.6M**	**24-30 months**

150-Passenger Hydrofoiling Ferry

The 150-passenger Glosten-Bieker Foil Ferry is a characteristic design vessel well suited for all-electric operation on the Bremerton-Silverdale route. Principal characteristics of the Glosten-Bieker Foil Ferry are provided in Table 5 and a detailed description of the design is available as Reference 7.

Table 5 150-passenger Glosten-Bieker Foil Ferry principal characteristics

Length Overall	90.2 ft
Breadth (Hull)	24.9 ft
Breadth (Main Foil)	35.6 ft
Draft (Hull)	3.1 ft
Draft (Foils, Displacement)	12.1 ft
Draft (Foils, Flying)	5.6 ft
Nameplate Battery Capacity	1,500 kW-hr
Propulsion	2 x 500 kW pod drives
Speed, Takeoff	20 knots
Speed, Cruise	30 knots
Speed, Maximum	35 knots
Design Range	30 nm

Figure 1 150-passenger Glosten-Bieker Foil Ferry

This ferry creates negligible wake while flying. The vessel can reduce speed to its minimum flight speed of 20 knots if necessary for safety reasons. Compare this with a conventional ferry, which must either maintain a very high speed to reduce wake, or slow down to a very slow "displacement mode" speed. The low speed, negligible wake characteristic of the foil ferry provides an inherent benefit on a route like Bremerton-Silverdale, which has environmentally sensitive shorelines, long winter nights and fog, and narrow, often congested waterways that must be carefully navigated.

It is assumed that, for safety reasons, a hydrofoiling ferry would be limited to about 24 knots transiting Port Washington Narrows. For simplicity, we have assumed the vessel cruises at that speed for the duration of its transit between Bremerton and Silverdale, however it could likely often speed up to 30 knots in areas between the narrows and Silverdale.

Operational Profile

The assumed operational profile is shown in Table 6.

Table 6 Assumed operational profile: Bremerton-Silverdale 150-passenger hydrofoiling ferry

Segment	Speed	Segment Dist.	Total Dist.	Segment Time	Elapsed Time	Power	Energy
	[kts]	[nm]	[nm]	[min]	[min]	[kW]	[kWh]
Bremerton - Maneuver	5.0	0.2	0.2	2.2	2.2	140	5.0
Bremerton - Accelerate	14.5	0.1	0.3	0.5	2.7	700	5.8
Bremerton to Rocky Pt	24.0	3.8	4.1	9.4	12.0	700	109.4
Rocky Pt to Silverdale	24.0	2.2	6.2	5.4	17.5	700	63.3
Silverdale - Maneuver	5.0	0.2	6.4	2.2	19.6	140	5.0
Silverdale - Unload/Load	0.0	0.0	6.4	7.0	26.6	38	4.5
Total							**193.0**

Crewing

Crew requirements are summarized in Table 7.

Table 7 Crew requirements: Bremerton-Silverdale 150-passenger hydrofoiling ferry

Master	1
Licensed Mate	1
Deckhand	1
Total	3

Procurement

Estimated capital cost and procurement schedule are summarized in Table 8. These estimates are for the vessel only. They do not include front-end contracting development or shoreside infrastructure procurement. Shoreside infrastructure procurements, including adding or modifying terminals and charging infrastructure for all-electric options, could add to program costs and take longer than vessel procurement.

Table 8 Capital costs and schedule: Bremerton-Silverdale 150-passenger hydrofoiling ferry ($USD2025)

	Cost	Schedule
Design	$2.9M	12 months
Construction	$17.3M	12-18 months
Construction Management	$1.2M	-
Total	**$21.4M**	**24-30 months**

75-Passenger Hydrofoiling Ferry

The hydrofoiling ferry concept is scalable. Principal characteristics of a 75-passenger hydrofoiling ferry are provided in .

Table 9 75-passenger hydrofoiling ferry principal characteristics

Length Overall	62 ft
Breadth (Hull)	22 ft
Nameplate Battery Capacity	970 kW-hr
Propulsion	2 x 375 kW pod drives
Speed, Cruise	30 kt
Design Range	30 nm

Operational Profile

The assumed operational profile is shown in Table 10.

Table 10 Assumed operational profile: Bremerton-Silverdale 75-passenger hydrofoiling ferry

Segment	Speed [kts]	Segment Dist. [nm]	Total Dist. [nm]	Segment Time [min]	Elapsed Time [min]	Power [kW]	Energy [kWh]
Bremerton - Maneuver	5.0	0.2	0.2	2.2	2.2	95	3.4
Bremerton - Accelerate	14.5	0.1	0.3	0.5	2.7	475	4.0
Bremerton to Rocky Pt	24.0	3.8	4.1	9.4	12.0	475	74.2
Rocky Pt to Silverdale	24.0	2.2	6.2	5.4	17.5	475	43.0
Silverdale - Maneuver	5.0	0.2	6.4	2.2	19.6	95	3.4
Silverdale - Unload/Load	0.0	0.0	6.4	7.0	26.6	26	3.0
Total							**131.0**

Crewing

Crew requirements are summarized in Table 11.

Table 11 Crew requirements: Bremerton-Silverdale 75-passenger hydrofoiling ferry

Master	1
Deckhand	1
Total	2

Procurement

Estimated capital cost and procurement schedule are summarized in Table 12. These estimates are for the vessel only. They do not include front-end contracting development or shoreside infrastructure procurement. Shoreside infrastructure procurements, including adding or modifying terminals and charging infrastructure for all-electric options, could add to program costs and take longer than vessel procurement.

Table 12 Capital costs and schedule: Bremerton-Silverdale 75-passenger hydrofoiling ferry ($USD2025)

	Cost	Schedule
Design	$1.7M	12 months
Construction	$11.2M	12-18 months
Construction Management	$0.8M	-
Total	**$13.7M**	**24-30 months**

Bremerton – Eagle Harbor

Conventional Diesel Ferry

The Rich Passage (RP) class fast ferry currently operated by Kitsap Transit on the Bremerton-Seattle route was assumed to be a good representation of a recommended vessel type for this route. If demand favors a smaller vessel, the Bremerton-Silverdale conventional ferry could be considered, or a faster version thereof.

Principal characteristics of the RP class ferry are provided in Table 13.

Table 13 118-passenger Rich Passage class ferry principal characteristics (Reference 8)

Length Overall	78 ft
Breadth	28 ft
Draft	3.4 ft
Propulsion	4 x 599 kW diesel engines
Speed, Cruise	34 knots
Speed, Maximum	37 knots

Figure 2 118-passenger Rich Passage class ferry (Reference 8)

This ferry was designed specifically for carrying passengers at high speed through Rich Passage, a waterway separating Bremerton from Seattle, without causing undue damage to the sensitive coastlines of the passage. The need for a low-wake vessel and the research and development process that resulted in this vessel design are documented on Kitsap Transit's website, Reference 9.

The vessel accomplishes satisfactory wake performance due to its lightweight design, hydrofoil assistance, and high speed. It is required to transit Rich Passage at 35 knots or more to reduce wake. For better fuel economy and safety, it only operates at this speed through Rich Passage, slowing down a few knots when cruising outside of Rich Passage.

Operational Profile

The assumed operational profile is shown in Table 14. This operational profile is adopted from a similar operation profile presented in Reference 10.

Table 14 Assumed operational profile: Bremerton-Eagle Harbor conventional diesel ferry

Segment	Speed	Segment Dist.	Total Dist.	Segment Time	Elapsed Time	Power	Energy	Diesel
	[kts]	[nm]	[nm]	[min]	[min]	[kW]	[kWh]	[gal]
Bremerton - Maneuver	5.0	0.1	0.1	1.6	1.6	360	9.6	0.6
Bremerton - Accelerate	20.0	0.2	0.3	0.5	2.1	2,270	18.9	1.2
Bremerton - to RP Turn Pt	35.0	3.5	3.8	6.0	8.1	2,270	227.0	14.5
RP -to Ft Ward Turn Pt	35.0	3.0	6.8	5.1	13.2	2,270	194.6	12.4
Ft Ward - to Eagle Harbor	30.6	4.6	11.4	9.1	22.3	1,800	272.5	17.4
Eagle Harbor - Maneuver	5.0	0.2	11.6	2.0	24.3	360	12.0	0.8
Eagle Harbor - Unload/Load	0.0	0.0	11.6	7.0	31.3	98	11.5	0.7
Total							**746.1**	**47.5**

Crewing

Crew requirements are summarized in Table 15.

Table 15 Crew requirements: Bremerton-Eagle Harbor 150-passenger hydrofoiling ferry

Master	1
Licensed Mate	1
Deckhand	1
Total	**3**

Procurement

Estimated capital cost and procurement schedule are summarized in Table 16. These estimates are for the vessel only. They do not include front-end contracting development or shoreside infrastructure procurement. Shoreside infrastructure procurements, including adding or modifying terminals, could add to program costs and take longer than vessel procurement.

A benefit of this vessel is that it already exists, mitigating design feasibility risks and the cost and schedule associated with procuring a new design.

Table 16 Capital costs and schedule: Bremerton-Eagle Harbor conventional diesel ferry (RP-Class) ($USD2025)

	Cost	Schedule
Design	$0.0M	-
Construction	$10.8M	15-18 months
Construction Management	$0.5M	-
Total	**$11.3M**	**15-18 months**

150-Passenger Hydrofoiling Ferry

It was assumed that the 150-passenger hydrofoiling ferry for this route is the same as for the Bremerton-Silverdale route. This would be sensible for fleet commonality, should both routes be operationalized.

Unlike the assumed cruising speed restriction on the Bremerton-Silverdale route caused by Port Washington Narrows, it is assumed that no cruising speed restrictions would be imposed on the Bremerton-Eagle Harbor Route. Therefore, the vessel is assumed to cruise at 30 knots on this route.

Operational Profile

The assumed operational profile is shown in Table 17.

Table 17 Assumed operational profile: Bremerton-Eagle Harbor 150-passenger hydrofoiling ferry

Segment	Speed	Segment Dist.	Total Dist.	Segment Time	Elapsed Time	Power	Energy
	[kts]	[nm]	[nm]	[min]	[min]	[kW]	[kWh]
Bremerton - Maneuver	5.0	0.2	0.2	1.9	1.9	160	4.9
Bremerton - Accelerate	17.5	0.1	0.3	0.5	2.4	800	6.7
Bremerton to Eagle Harbor	30.0	11.2	11.5	22.3	24.7	800	297.4
Eagle Harbor - Maneuver	5.0	0.1	11.6	1.8	26.4	160	4.7
Eagle Harbor - Unload/Load	0.0	0.0	11.6	10.0	36.4	44	7.3
Total							**321.0**

Crewing

Crew requirements are the same as the 150-passenger hydrofoiling ferry on the Bremerton–Silverdale route (Table 7).

Procurement

Estimated capital cost and procurement schedule are the same as the 150-passenger hydrofoiling ferry on the Bremerton–Silverdale route (Table 8).

75-Passenger Hydrofoiling Ferry

Similar to the 150-passenger hydrofoiling ferry, it was assumed that the 75-passenger version for this route is the same as for the Bremerton-Silverdale route but can operate at its unrestricted cruising speed of 30 knots.

Operational Profile

The assumed operational profile is shown in Table 18.

Table 18 Assumed operational profile: Bremerton-Eagle Harbor 75-passenger hydrofoiling ferry

Segment	Speed	Segment Dist.	Total Dist.	Segment Time	Elapsed Time	Power	Energy
	[kts]	[nm]	[nm]	[min]	[min]	[kW]	[kWh]
Bremerton - Maneuver	5.0	0.2	0.2	1.9	1.9	115	3.5
Bremerton - Accelerate	17.5	0.1	0.3	0.5	2.4	575	4.8
Bremerton to Eagle Harbor	30.0	11.2	11.5	22.3	24.7	575	213.8
Eagle Harbor - Maneuver	5.0	0.1	11.6	1.8	26.4	115	3.4
Eagle Harbor - Unload/Load	0.0	0.0	11.6	9.0	35.4	31	4.7
Total							**230.2**

Crewing

Crew requirements are the same as the 75-passenger hydrofoiling ferry on the Bremerton–Eagle Harbor route (Table 11).

Procurement

Estimated capital cost and procurement schedule are the same as the 75-passenger hydrofoiling ferry on the Bremerton–Eagle Harbor route (Table 12).

Additional Routes

Two other routes were preliminarily evaluated: Bremerton-Manchester and Bremerton-Poulsbo. These routes were not promoted to the detailed evaluation phase. Preliminary vessel recommendations for these routes are summarized below.

Two general assumptions were made for these routes:

1. **Number of vessels.** Data on expected demand was not available, so estimates were made for the largest vessels that seem reasonable for these routes, with 150 passengers/vessel as an upper limit. This is only an initial guess that these routes will have modest demand compared to other POF routes in the region, and the fact that USCG requirements are more stringent beyond 150 passengers, making 150 passengers a relatively economical size. Where vessel size is limited, demand can be addressed by operating multiple vessels on the route (e.g. 2x 75-passenger vessels instead of one 150-passenger vessel).
2. **Charging in Bremerton only.** When considering all-electric ferries, we assumed that charging infrastructure would only be installed in Bremerton. This most directly impacts energy storage requirements, limiting range expectations.

Bremerton – Manchester

The following major assumptions were applied to this route:

- This route is similar to Bremerton-Silverdale:
  - Similar route length (6.8 nm one-way; assume 20 nm range required).
  - Similar bus-route length (including foot ferry Bremerton-Port Orchard)
- Similar navigational challenge as Bremerton-Bainbridge Island.
- Facilities: Pomeroy Park small dock facilities. Water depth appears to be an issue with current docks; upgrades likely required.

Conventional Vessel

The RP-class vessel is proven to be feasible on this route. It is assumed that demand would be significantly less than Bremerton-Seattle, so it is doubtful there would be need for a larger version. Therefore, an RP-class type vessel of 118 passengers or less is a reasonable conventional hull choice for this route.

A 50-75 passenger, 20-knot all-electric conventional catamaran ferry may be a reasonable choice for this route. Greater size or speed may not be economically justified based on the more substantial shore charging infrastructure that would be required.

Hydrofoiling Vessel

Similar to Bremerton – Silverdale, a hydrofoiling vessel would excel in terms of wake wash and energy on this route. An ICE or electric ferry could serve the route equally well from an operational standpoint.

There would be adequate time to charge at reasonable (< 2.3 MW) power while maintaining a transit time competitive with the existing bus route.

Bremerton – Poulsbo

The following major assumptions were applied to this route:

- An existing bus route connects Bremerton to the North Viking Transit Center (NVTC) in 45 minutes, however NVTC is about 2 miles from downtown/historical Poulsbo. Adding the connection for this last two miles increases transit time to 75-90 minutes.
- ~3 nm slow speed zone from Keyport to Poulsbo.
- South of Poulsbo, there are likely similar wake wash and navigational constraints as Rich Passage.
- Facilities: Port of Poulsbo docks
    - Water depth restrictions could impact hydrofoiling ferry feasibility: 7 ft @ mean lower low water (MLLW).
    - Parking for a passenger-only ferry could be a limitation.

Conventional Vessel

An RP-class ICE vessel type or similar would be a logical choice for this route based on the long route length and navigational considerations that are similar to those when transiting Rich Passage. The alternative for wake compliance would likely be a smaller, slower boat. However, a 20-knot vessel would only be marginally competitive with bus service and energy requirements yet still have relatively high energy requirements due to the long transit distance. This likely rules out an all-electric conventional hull vessel on this route.

Hydrofoiling Vessel

If a dock facility is available with adequate water depth to support a hydrofoiling ferry, it would eliminate wake wash concerns and could operate safely at 30 knots along the entire route. An ICE or electric ferry could serve the route equally well from an operational standpoint.

There would be adequate time to charge at reasonable (~ 2.3 MW) power while maintaining a transit time competitive with the existing bus route.

Used Vessels

This section documents the availability of existing vessels suitable for the intra-county passenger-only ferry routes. An exhaustive search of the used vessel market was conducted in June 2025 by reaching out to brokers and searching for recent listings online. All available vessels at that time are listed in Table 19. The most promising vessel options available at that time are presented in the Promising Vessel Options section.

This search revealed that the current used market is extremely limited. Only three used passenger vessels can potentially meet the requirements. Out of the three promising options, *Billie J* is the most promising. *Billie J* is a 69 ft, 70-passenger vessel that cruises at 30 knots and was built by All American Marine in 2008. *Ocean Discovery* and *The Pelican* might be satisfactory options with some modifications.

Although specific vessels on the market change over time, the study revealed that the current state of the used market is extremely limited. The sources used in this search should be reevaluated closer to a final investment decision.

Key Requirements

- Used passenger vessels.
- Built in the U.S. due to the Passenger Vessel Services Act. (Reference 11).
- Can reach cruise speed of approximately 20 knots (Reference 12).
- Built within the past 30 years.
- Passenger capacity is between 50 and 200. Less than 150 preferred (Reference 12).
- Current Certificate of Inspection (COI) preferred.

Available Used Vessels

A market search was conducted across all regions of the United States by reviewing the online inventories of the following websites: Ocean Marine Brokerage, Boats.com, Yacht World and Apollo Duck. Table 19 summarizes the US-built passenger boats that were on the market in June 2025.

Table 19 Available used vessels on the market

Source	Vessel	Year	PAX	Listing Price	Notes
OceanMarine	16422-PS	1978	346	COP[A]	
OceanMarine	12976-PS	1988	180	$2,500,000	
OceanMarine	13723-PS	1977	150	$1,150,000	
OceanMarine	The Pelican (14874-PS)	2002	52	$985,000	
OceanMarine	16492-PS	1967	175	$250,000	
Boats.com	Billie J	2008	70	$2,994,495	
Boats.com	Skipperliner	2005	146	$1,500,000	Cruise boat
Boats.com	SemiSub	2010	149	$1,600,000	Underwater windows
Boats.com	Super Voyager	1972	-	$1,400,000	
Boats.com	Ocean Discovery	2006	149	$1,250,000	
Yachtworld	Flying Ray	2000	110	$860,000	Fiberglass hull, only authorized to work in the Caribbean.
Yachtworld	Westport	1988	122	$699,500	
Yachtworld	Celebration	1989	88	$750,000	
Yachtworld	Breaux Brothers	1987	49	$399,000	
Apollo Duck	DO0335 Passenger vessel	1999	250	$750,000	

A. COP: Call for Price

Promising Vessel Options

As shown in Table 19, the majority of the vessels on the market were built prior to 1995. The three most promising vessel options are listed in Table 20.

Table 20 Promising vessel options

Vessel	Billie J	The Pelican (14874-PS)	Ocean Discovery
Year	2008	2002	2006
LOA [ft]	69	60	65.5
Beam [ft]	22.5	24	27.75
Draft [ft]	3	5	-
Builder	All American Marine	Tri-Kat Marine Inc	Island Boats
Flag	US	US	US
Cruise Speed [kts]	30	22	20[B]
Passenger	70	52	149
Total Price	$2,994,495	$985,000	$1,550,000[A]
Current COI	Yes	Expired COI	Yes
Notes	-	-	Port engine major rebuilds 2024 April

A. Total price for Ocean Discovery include the labor cost for starboard engine rebuilt and shipping cost.
B. The Ocean Discovery is currently outfitted with propellors that achieve a top speed of 20 knots and a lower cruising speed. Alternative propellers should make a cruising speed of 20 knots possible.

Billie J

Billie J (Figure 3), priced at $2,994,495, was the most promising option. *Billie J* has overall length of 69 ft and beam at 22.5 ft with minimum draft at 3 ft. It is a hydrofoil-assisted USCG subchapter T aluminum catamaran designed by Teknicraft and constructed by All American Marine in 2008. *Billie J is* in excellent condition, with only 200 hours on the main engines since the rebuild. It was used as a passenger ferry in San Francisco Bay. It has Quad C18 CAT jet drives for a cruise speed of 30kts and a top speed of 44 kts. It has a COI for 70 passengers and 4 crew. It is located in Portland, Oregon. The vessel has a layout that is favorable for water taxi service.

Billie J was listed as pending sale recently but was back on the market according to the listing, Reference 13.

Figure 3 Billie J

The Pelican - #14874-PS

The Pelican, a 60 ft Aluminum Catamaran passenger boat was listed on the Ocean Marine Brokage Services website (Reference 14). It is located on the west coast side of the Gulf of Mexico. The vessel's length overall is 65 ft, beam is 24 ft and draft is 5 ft. It was built in 2002 by Tri-Kat Marine, Inc. It is classed as a passenger vessel. It can reach the top speed of 27 kts with 2

Lugger L641AL2 engines. Both port and starboard engine have 4,912 hours, total horsepower is 1,400. The vessel was working in the survey industry prior to listing. *The Pelican* has an expired COI that was issued in 2022.

Figure 4 60-ft luxury catamaran passenger boat

Ocean Discovery

Ocean Discovery is a 65-ft power catamaran (Figure 5) located in Hawaii (Reference 15). The vessel's length overall is 65.5 ft and its beam is 26.75 ft. *Ocean Discovery* is priced at $1,250,000. It was built in 2006 by Island Boats. It was previously used as a whale watching boat in Hawaii. It has a current COI for 149 passengers and 3 crew. The COI also allows for 3 additional crew onboard.

Ocean Discovery is powered by two caterpillar C18 engines, total power output is 1342 hp. Currently the vessel has the smaller props fitted and can reach a top speed of 20 kts. The smaller props were used due to limited inventory during the COVID pandemic. With the correct size prop fitted, it is reported to reach a top speed of 25 kts. The port engine went through a major rebuild in April 2024, the rebuilt engine has 320 hours on it. The starboard engine has 17,014 hours on it. Parts for the starboard engine rebuild are included in the sale. The starboard engine rebuild is estimated to cost about $150,000 including parts and labor. The shipping cost from Hawaii to Seattle is estimated to be another $150,000.

Figure 5 Ocean Discovery

Glosten

PROJECT MEMORANDUM

KT IC POF Study – Used Vessels Market *23 June 2025*

TO:	Kelly Lesoing, KPFF
FROM:	Cathy Zhang, Glosten
JOB/DOC. NO.	25059.01

References

1. Lankowski, M. (Glosten), memo to Lesoing, K. (KPFF), "KT IC POF Study – Vessel Acquisition Recommendations," 20 June 2025.
2. 46 Code of Federal Regulations (CFR), "Shipping," 2025.

Summary

This memo documents the availability of existing vessels suitable for potential intracounty passenger-only ferry routes being studied by Kitsap Transit to provide context for assessment of route feasibility and potential implementation requirements. An exhaustive search of the used vessel market was conducted by reaching out to brokers and searching for recent listings online. All available vessels are listed in Table 1. The most promising vessel options are presented in the Promising Vessel Options section.

This search revealed that the current used market is extremely limited. Only three used passenger vessels can potentially meet the requirements. Out of the three promising options, *Billie J* is the most promising. *Billie J* is a 69 ft, 70-passenger vessel that cruises at 30 knots and was built by All American Marine in 2008. *Ocean Discovery* and *The Pelican* might be satisfactory options with some modifications.

Key Requirements:

- Used passenger vessels.
- Built in the U.S. due to the Passenger Vessel Services Act. (Reference 2).
- Can reach cruise speed of approximately 20 knots (Reference 1).
- Built within the past 30 years.
- Passenger capacity is between 50 and 200. Less than 150 preferred (Reference 1).
- Current Certificate of Inspection (COI) preferred.

Available used vessels

A market search was conducted across all regions of the United States by reviewing the online inventories of the following websites: Ocean Marine Brokerage, Boats.com, Yacht World and Apollo Duck. Table 1 summarizes the US-built passenger boats that are currently on the market.

Table 1 Available used vessels on the market

Source	Vessel	Year	Passenger	Listing Price	Notes
OceanMarine	16422-PS	1978	346	COP[A]	
OceanMarine	12976-PS	1988	180	$2,500,000	
OceanMarine	13723-PS	1977	150	$1,150,000	
OceanMarine	The Pelican (14874-PS)	2002	52	$985,000	
OceanMarine	16492-PS	1967	175	$250,000	
Boats.com	Billie J	2008	70	$2,994,495	
Boats.com	Skipperliner	2005	146	$1,500,000	Cruise boat
Boats.com	SemiSub	2010	149	$1,600,000	Underwater windows
Boats.com	Super Voyager	1972	-	$1,400,000	
Boats.com	Ocean Discovery	2006	149	$1,250,000	
Yachtworld	Flying Ray	2000	110	$860,000	Fiberglass hull, only authorized to work in the Caribbean.
Yachtworld	Westport	1988	122	$699,500	
Yachtworld	Celebration	1989	88	$750,000	
Yachtworld	Breaux Brothers	1987	49	$399,000	
Apollo Duck	DO0335 Passenger vessel	1999	250	$750,000	

A. COP: Call for Price

Promising vessel options

As shown in Table 1, the majority of the vessels on the market were built prior to 1995. The three most promising vessel options are listed in Table 2.

Table 2 Promising vessel options

Vessel	Billie J	The Pelican (14874-PS)	Ocean Discovery
Year	2008	2002	2006
LOA [ft]	69	60	65.5
Beam [ft]	22.5	24	27.75
Draft [ft]	3	5	-
Builder	All American Marine	Tri-Kat Marine Inc	Island Boats
Flag	US	US	US
Cruise Speed [kts]	30	22	15
Passenger	70	52	149
Total Price	$2,994,495	$985,000	$1,550,000[A]
Current COI	Yes	Expired COI	Yes

Notes	-	-	Port engine major rebuilds 2024 April

A. Total price for Ocean Discovery include the labor cost for starboard engine rebuilt and shipping cost.

Billie J

Billie J (Figure 1), priced at $2,994,495, is the most promising option. *Billie J* has overall length of 69 ft and beam at 22.5 ft with minimum draft at 3 ft. It is a hydrofoil-assisted USCG subchapter T aluminum catamaran designed by Teknicraft and constructed by All American Marine in 2008. *Billie J is* in excellent condition, with only 200 hours on the main engines since the rebuild. It was used as a passenger ferry in San Francisco Bay. It has Quad C18 CAT jet drives for a cruise speed of 30kts and a top speed of 44 kts. It has a current COI for 70 passengers and 4 crew. It is located in Portland, Oregon. The vessel has a layout that is favorable for water taxi service.

Billie J was listed as pending sale recently but is currently back on the market according to the updated listing: https://www.boats.com/power-boats/2008-custom-high-speed-70pax-coi-passenger-9691235/.

Figure 1 Images of Billie J

The Pelican - #14874-PS

The Pelican, a 60 ft Aluminum Catamaran passenger boat (Figure 2) is listed on the Ocean Marine Brokage Services website. It is located on the west coast side of the Gulf of Mexico. The vessel's length overall is 65 ft, beam is 24ft and draft is 5ft. It was built in 2002 by Tri-Kat Marine, Inc. It is classed as a passenger vessel. It can reach the top speed of 27 kts with 2 Lugger L641AL2 engines. Both port and starboard engine have 4,912 hours, total horsepower is 1,400. The vessel was working in the survey industry prior to listing. *The Pelican* has an expired COI that was issued in 2022. Listing link: https://www.oceanmarinebase.com/print/14874.

Figure 2 Image of 60 ft luxury catamaran passenger boat

Ocean Discovery

Ocean Discovery is a 65 ft power catamaran (Figure 3) located in Hawaii. The vessel's length overall is 65.5 ft and its beam is 26.75 ft. *Ocean Discovery* is priced at $1,250,000. It was built in 2006 by Island Boats. It was previously used as a whale watching boat in Hawaii. It has a current COI for 149 passengers and 3 crew. The COI also allows for 3 additional crew onboard.

Ocean Discovery is powered by two caterpillar C18 engines, total power output is 1342 hp. Currently the vessel has the smaller props fitted and can reach a top speed of 20 kts. The smaller props were used due to limited inventory during the COVID pandemic. With the correct size prop fitted, it is reported to reach a top speed of 25 kts. The port engine went through a major rebuild in April 2024, the rebuilt engine has 320 hours on it. The starboard engine has 17,014 hours on it. Parts for the starboard engine rebuild are included in the sale. The starboard engine rebuild is estimated to cost about $150,000 including parts and labor. The shipping cost from Hawaii to Seattle is estimated to be another $150,000.

The listing link is https://www.boats.com/power-boats/2006-island-boats-custom-passenger-catamaran-9537829/.

Figure 3 Image of Ocean Discovery

APPENDIX E – RIDERSHIP ANALYSIS

Kitsap Transit Intra-County Passenger-Only Ferry Study

Ridership Estimates for Proposed Intra-County POF Services | April 2026

Introduction

BERK estimated ridership demand for two different potential passenger-only ferry (POF) routes in Kitsap County - Bremerton to Silverdale and Bremerton to Bainbridge.

- For Bremerton to Silverdale, BERK estimated ridership demand with and without a shuttle connecting the Silverdale Transit Center with the proposed ferry dock located near the Silverdale Waterfront Park.
- For Bremerton to Bainbridge, two potential Bainbridge ferry terminal locations were considered: the current Washington State Ferries dock and the City of Bainbridge dock directly south of Waterfront Park.

For each route, the analysis estimated two sources of demand:

- Shifted demand: Travelers currently using other modes (like cars or buses) who would switch to the new ferry service.
- Induced demand: New trips that would be made only because the ferry option exists, representing travel that does not occur today.

This technical memorandum summarizes the methodology, assumptions, data sources used, and findings of the analysis of ridership demand.

Methodology and Data Sources

Shifted Demand

This section provides an overview of the approach used to estimate the share of *current* travel demand that might be captured by the proposed passenger-only ferry (POF) services – i.e. the percentage of current travelers who would switch from their cars or other transit to the new ferry service.

BERK used the Puget Sound Regional Council's (PSRC) SoundCast travel demand model outputs for Kitsap County as a basis to estimate potential ridership demand on the proposed Bainbridge Island to

Bremerton and Silverdale to Bremerton routes. The outputs provided by PSRC include each individual trip that people in Kitsap take on a typical Tuesday in 2023, including their origins, destinations, purpose, duration, time of travel, and mode of travel (car, transit, walking, etc.). It is based on travel patterns and the transportation network in place in 2023, and it incorporates the impact of traffic on travel time and mode choices. SoundCast uses transportation analysis zones (TAZ) as the geographic units for travel demand modeling.

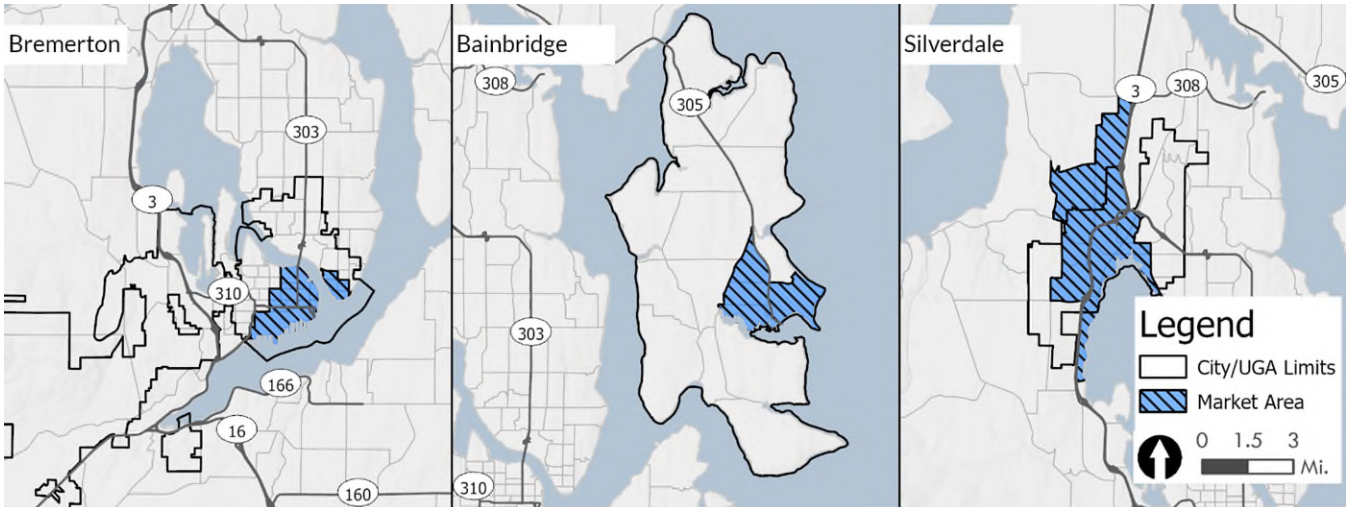
The approach to estimating shifted demand included three primary steps:

1. Define destination market areas for the proposed routes
2. Estimate the number of time-competitive trips between the origins and destinations served by the proposed routes
3. Estimate the POF market capture rate which is the share of time competitive trips that would switch to the ferry.

Destination Market Areas

BERK identified employment or activity centers that could potentially be destinations for the proposed ferry service riders. These were defined as TAZs within a 20-minute walk of the proposed ferry terminals[1]. For the Silverdale destination market area, BERK assumed the riders transfer to a shuttle that connects to the Silverdale Transit Center for the final leg of their trip after disembarking.

Exhibit 1. Destination Market Areas for Proposed POF Routes



Note: The destination market area for Bainbridge is for both docks (WSF and City dock). The market area for Silverdale assumed a connecting shuttle bus between the ferry dock and the Silverdale Transit Center.
Source: BERK, 2025.

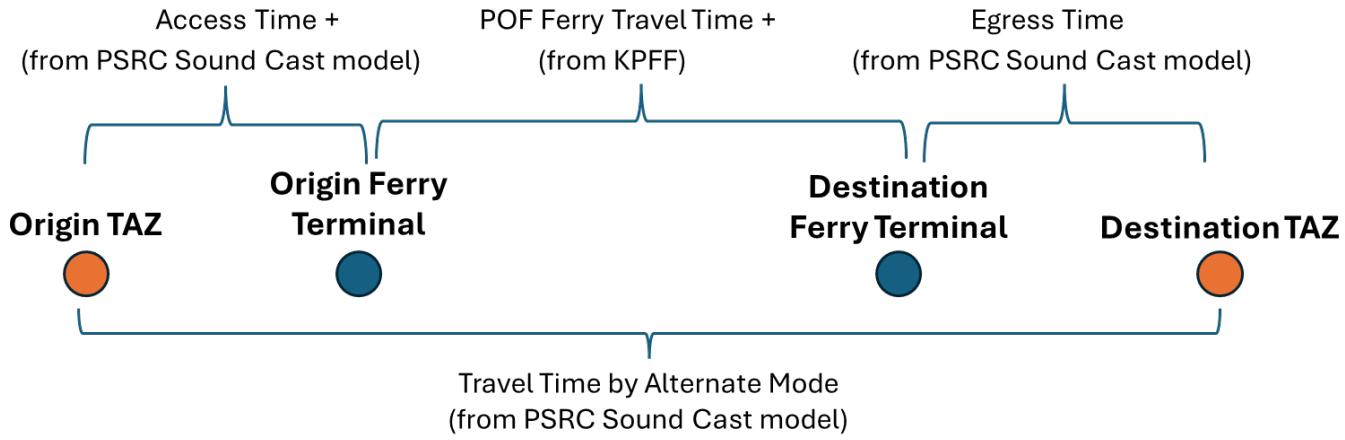
[1]Destination market areas are aggregations of transportation analysis zones (TAZ). If a TAZ intersected the 20-minute walkshed, that TAZ was included in the destination market area in its entirety. Therefore, the destination market areas are slightly larger than the 20-minute walksheds.

Time-Competitive Trips

To estimate the number of trips where the ferry is the fastest option between the origins and destinations served by the proposed routes, we executed the following steps:

- **Identify target trips:** We first identified all existing trips modeled in SoundCast within Kitsap County that have a destination within the designated market areas illustrated in Exhibit 1.
- **Estimate POF travel time:** For each of these trips, we estimated the total door-to-door travel time assuming the traveler switches to use the proposed POF service instead of the mode of travel modeled in SoundCast output.
  - This total travel time includes the estimated access time from the trip's origin zone (TAZ) to the origin ferry terminal, the sailing time (POF ferry travel time), and the egress time from the destination terminal to the destination zone (TAZ) as shown in Exhibit 2.
  - Sailing Times were set at 24 minutes for the Bremerton to Silverdale route and 28 minutes for the Bremerton to Bainbridge route (as provided by KPFF). This includes time to board and disembark the vessel.
  - The access and egress times were derived from the SoundCast model. For many existing trips, SoundCast was missing access travel times (between the trip's origin and the origin ferry terminal). BERK imputed these missing travel times using data from Google Maps API.
- **Validate SoundCast travel times:** Before comparing the POF travel time to the SoundCast travel time by the existing alternative modes (e.g., driving), we validated the travel times modeled in SoundCast. BERK compared them to data from Google Maps API. If BERK identified significant discrepancies, we adjusted the SoundCast travel times accordingly.
- **Determine time-competitive trips:** Finally, we compared the validated travel time of the alternate mode to the estimated total travel time using the POF service. If a trip was found to be faster with the POF service, it was counted as a time-competitive trip.

Exhibit 2. Ferry Travel Time Comparison Methodology



Source: BERK, 2025.

Other Assumptions

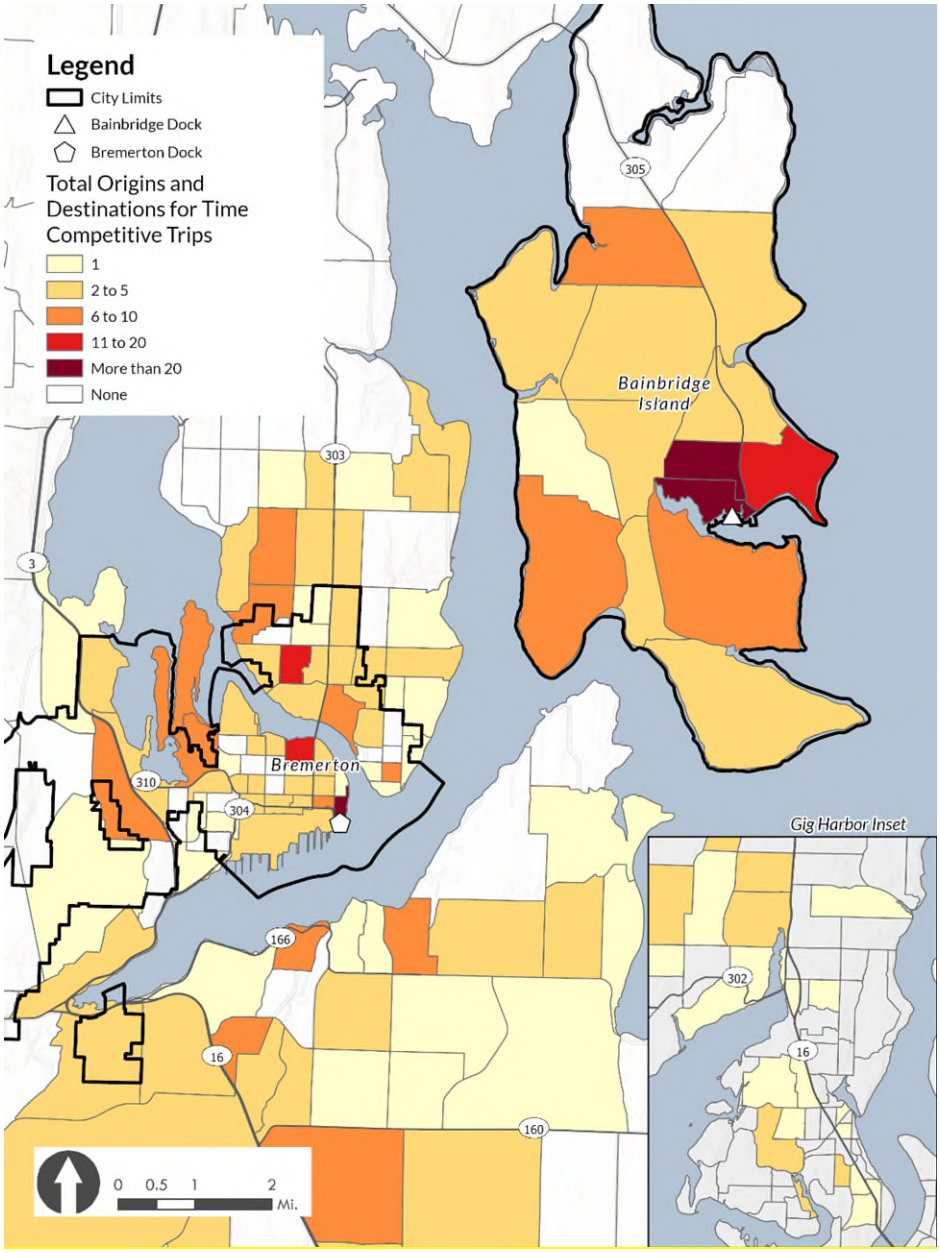
- For the Silverdale – Bremerton route, we considered whether travelers from the Silverdale area to Downtown Seattle may choose to use the proposed POF to Bremerton and transfer to the Fast Ferry due to travel time savings. BERK assumed a twenty-minute transfer (in addition to the time built in for vessel disembarking and boarding) between the proposed Silverdale – Bremerton service and the existing Bremerton – Seattle Fast Ferry.
- For the Bremerton – Bainbridge route, Seattle travel was not specifically considered (as the existing WSDOT and Kitsap Transit services are always faster for Seattle-bound trips from either end).

Exhibit 3 shows the geographic distribution of time-competitive trips for the proposed ferry route between Bremerton and Bainbridge and illustrates the following patterns:

- Most time-competitive trips are concentrated in downtown Bainbridge Island, where the time savings over road travel are most pronounced.
- For trip origins or destinations in the north end of Bainbridge Island, the proposed ferry route becomes less competitive. This is because drivers don't have to travel as far to reach the bridge and cross by land, therefore the time-saving benefit of a direct water crossing diminishes.
- On the western side of the route, origins and destinations are spread out through most of Bremerton. However, the most frequent origins and destinations are clustered in high-density areas such as Downtown Bremerton and Olympic College.
- South of Bremerton, there are fewer notable origins or destinations, but downtown Port Orchard as well as the smaller commercial nodes to the south and east of Port Orchard have notable numbers of origins and destinations.

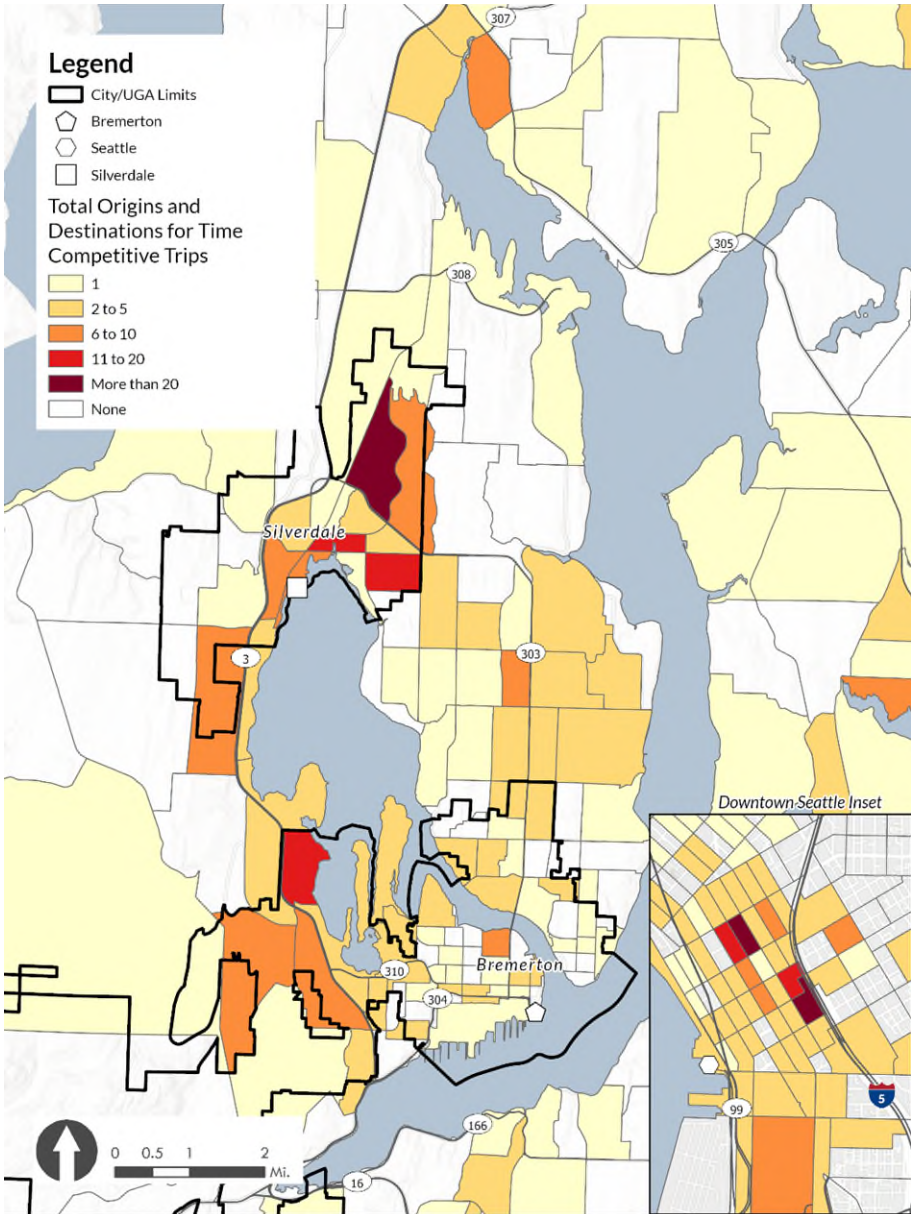
Exhibit 4 shows the geographic distribution of time-competitive trips for the proposed ferry route between Bremerton and Silverdale. The most significant source of potential ridership for this route is downtown Seattle and the large group of apartments around Ridgetop Blvd in Silverdale. Few trips have origins or destinations in downtown Bremerton, indicating that the primary draw of this service would be travel to Seattle.

Exhibit 3. Total Time Competitive Trips, Bainbridge to Bremerton



Source: BERK 2025

Exhibit 4. Total Time Competitive Trips, Silverdale to Bremerton



Source: BERK 2025

Market Capture Rate

Not all time-competitive trips may switch to the ferry as there are other factors influencing mode choice, for example service frequency, trip cost, and the need for a car at the destination. Therefore, BERK estimated a potential POF market capture rate for each proposed route - the percentage of total time-competitive trips that we assume would select the ferry service.

To establish a baseline assumption for this rate, we calculated the actual capture rate of the existing ferry service running from Port Orchard and Annapolis to Bremerton. This was done by comparing the actual ridership data for 2023 against the modeled travel demand for the same corridor in SoundCast, using the same time-competitiveness methodology described in the previous section.

Our analysis yielded a market capture rate of 114%. This figure likely stems from two potential factors. First, passengers may choose the ferry even when it is not the fastest option, for example prioritizing the ferry's reliability or comfort over faster road alternatives. Second, SoundCast may underestimate travel demand to Bremerton from areas south of Sinclair Inlet that are potentially served by the existing Port Orchard and Annapolis to Bremerton routes. Since both factors are likely to contribute to this result, we are applying the 114% market capture rate to the two proposed POF routes.

Induced Demand

BERK also estimated the potential demand for new trips that would only occur if the proposed POF service were available. The simplest example of this kind of "induced" ridership demand are recreational trips taken purely for the novelty of trying the new ferry service. However, there are other kinds of induced demand, such as people making new home, school, or workplace location decisions based on the availability of the ferry service as a new commute mode.

Our approach to estimate induced demand included the following steps for each of the two proposed POF routes:

- Identify a comparable, existing ferry route that has been in service for a while. Its current ridership is assumed to fully reflect the impacts of induced travel demand.
- Determine the service area population for that comparison route.
- Calculate a per capita ridership rate for the comparable, existing route by dividing its actual ridership by its service area population.
- Apply the per capita ridership rate to the population in the service area for the proposed POF route and compare this estimate to BERK's ridership demand estimate based on analysis of SoundCast data (described in the previous section). If the per-capita demand estimate is higher than BERK's modeled ridership demand, the difference is considered to be induced demand.

Exhibit 3 shows the comparable ferry services that were used for the two proposed POF routes for estimating induced demand.

Exhibit 5. Comparison Services for Per Capital Ridership Demand Estimation

Proposed POF Service	Comparable Ferry Services	Notes
Silverdale to Bremerton	Southworth to Seattle Fast Ferry	We only estimated induced travel demand in the direction of Bremerton. Travelers from Silverdale can transfer in Bremerton to the Fast Ferry to reach Downtown Seattle, which has the greatest potential draw for induced travel. Our comparison route is a Fast Ferry route to Downtown Seattle. Existing ferry infrastructure already provides ample access for Seattle-based recreational travelers seeking Kitsap Peninsula destinations, leaving little untapped potential for induced demand in the direction of Silverdale.
Bainbridge Island to Bremerton	Port Orchard to Bremerton POF Annapolis to Bremerton POF Bainbridge Island to Seattle WSF	We estimated induced travel demand in both travel directions. ▪ The Port Orchard and Annapolis services combined were used to estimate per capita demand for travel to Downtown Bremerton. ▪ Analysis of WSF walk-on ridership in the direction of Bainbridge Island was used to estimate per capita demand for travel to Bainbridge Island. To isolate destination-based demand for Bainbridge Island, the analysis focused exclusively on morning trips. This approach filters out 'return-to-home' travel patterns—specifically commuters returning from Seattle—ensuring the data accurately reflects those traveling to Bainbridge for work or other purposes.

Estimated Ridership Demand

Exhibit 4 shows the estimated daily ridership demand including the modeled demand (shifted demand) and the potential induced demand for the two proposed intra-county POF routes. Several things are important to highlight:

Silverdale to Bremerton

- This route is expected to primarily serve as a Seattle connector, with about 90% of riders using the service as part of a journey to/from Seattle. There are several reasons for this:
  - Existing Kitsap Transit services such as Routes 212 and 217 serve both Silverdale and Bremerton alongside major destinations such as Olympic College, minimizing the usefulness of the ferry service for intra-county trips.

- SoundCast data indicates significantly higher demand for the Silverdale-Seattle corridor than the Silverdale-Bremerton link.
- While driving between Silverdale and Bremerton is relatively fast, a car trip to Seattle is arduous - requiring either a lengthy drive through Tacoma or a WSDOT car ferry. Consequently, the proposed ferry service offers a transit alternative that is highly competitive with car travel for Seattle commuters, particularly when factoring in the streamlined transfer windows assumed by BERK.

- BERK's analysis showed no induced demand for the Silverdale to Bremerton route. Induced demand is the realization of latent demand—trips that people want to make but currently cannot make due to high cost (time or money) or inconvenience. The lack of potential induced demand on this route could be because Kitsap Transit already has frequent bus service along the corridor, and as a result there is very little "pent-up" demand left to be "induced" by a new, alternative mode of travel.

Bainbridge Island to Bremerton

- BERK's ridership analysis showed no significant difference between using the City Dock or the existing WSF terminal. This assessment did not account for the impact of transit access and parking availability at each terminal, which could affect final ridership.
- Unlike the Silverdale route, the Bainbridge Island to Bremerton route could result in some induced demand phasing in over time. This is because the new POF service would significantly improve travel options where little existing transit is currently available. This could induce more people to make trips they would not have made if the POF service were not available.

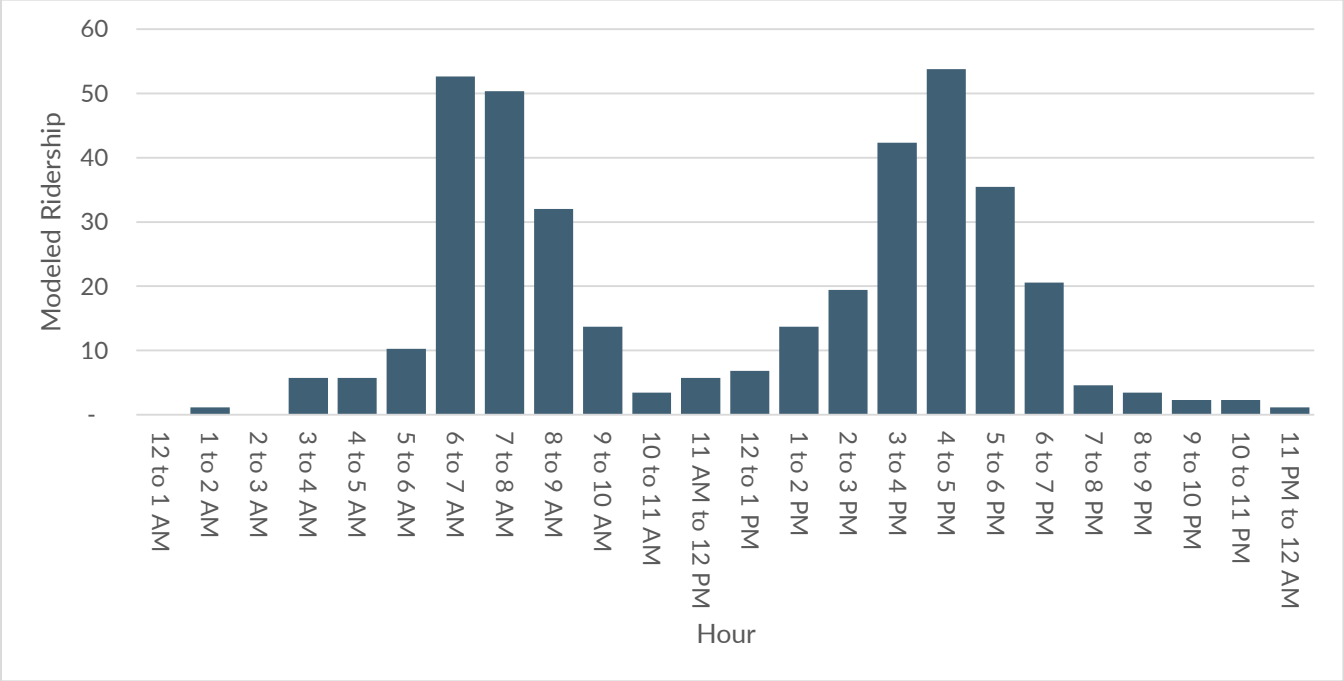
Exhibit 6. Estimated Daily Ridership Demand by Proposed POF Route

Proposed POF Service	Modeled Demand	Potential Induced Demand	Total Potential Demand
Silverdale to Bremerton, no shuttle	370	-	370
Silverdale to Bremerton, with shuttle	390	-	390
Bainbridge Island to Bremerton	390	280	670

Source: SoundCast, 2023; BERK, 2025.

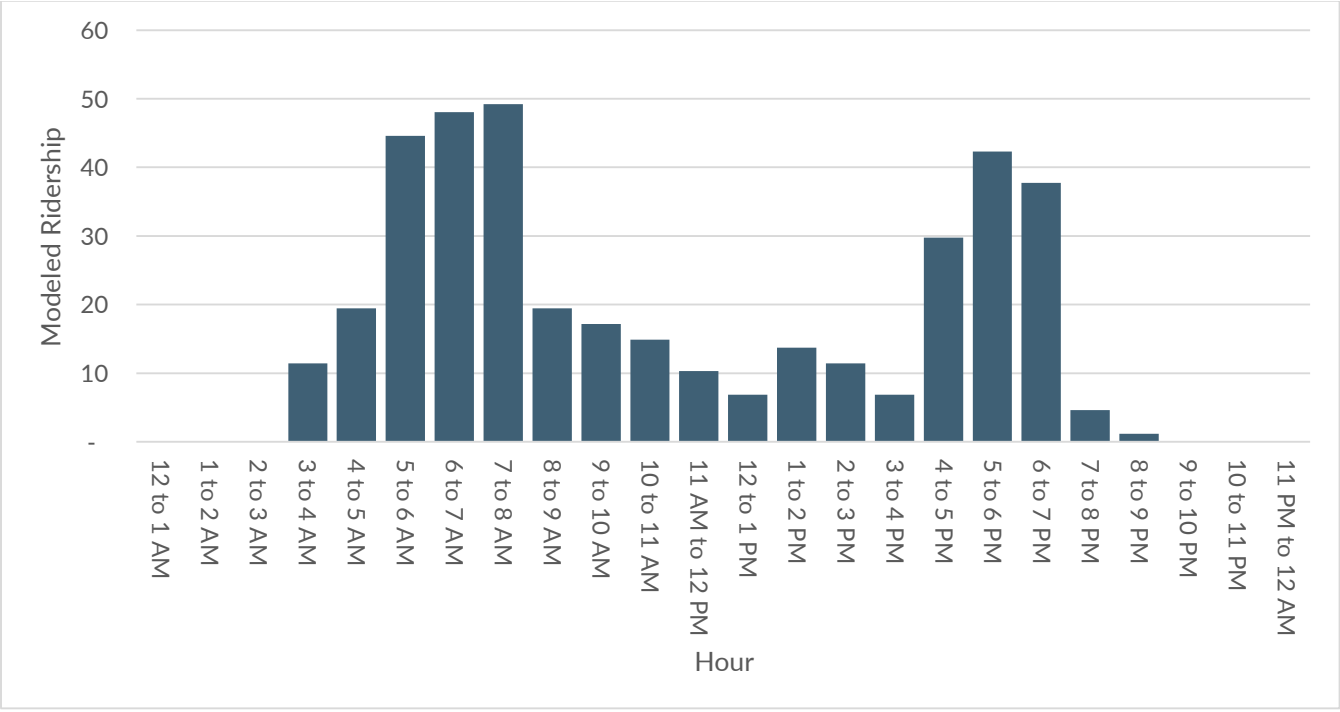
Exhibit 7 and Exhibit 8 show the distribution of modeled demand by time of day for the Bainbridge Island to Bremerton route and the Silverdale to Bremerton route respectively (not including potential induced demand). These distributions reflect existing travel patterns captured in SoundCast and are not constrained by a specific POF service frequency or schedule. For Bainbridge Island to Bremerton, about 50 trips per hour are projected during morning peak times (6 to 7 AM and 7 to 8 AM), and the six busiest hours (6 to 9 AM and 3 to 6 PM) make up 68.7% of the modeled demand. For Silverdale to Bremerton, demand is higher earlier in the morning, likely due to longer travel times needed to reach Seattle, while peak demand is otherwise similar to the Bainbridge to Bremerton route.

Exhibit 7. Modeled Ridership Demand by Time of Day, Bainbridge Island to Bremerton



Source: BERK 2025
Note: This does not include induced demand.

Exhibit 8. Modeled Ridership Demand by Time of Day, Silverdale to Bremerton



Source: BERK 2025
Note: This does not include induced demand.

APPENDIX F – FINANCIAL ANALYSIS AND FUNDING CONSIDERATIONS

Kitsap County Intracounty Passenger-Only Ferry (POF) Study
Appendix F – Capital Investments, Operating Cost Projections and Funding Considerations (January 2026)

Introduction

The study was tasked with analyzing potential intracounty passenger-only ferry (POF) routes. Following the preliminary route screening process, two routes were advanced for further feasibility analysis: Bremerton – Bainbridge Island and Bremerton – Silverdale. One step in this feasibility analysis was the development of high-level estimates for capital investments and annual operating costs. This process led to identification of startup and ongoing revenue/funding requirements for both routes.

Financial Consideration Caveats or Limitations

Even in the early stages of feasibility analysis, it is important to begin quantifying investments and ongoing expenditures. However, the limitations of these estimates should be expressly stated and understood to guide both the formation of early findings and the development of recommendations for further analysis. Below you will find a discussion of the caveats that inform the financial analysis.

- Each route is treated as standalone. If more than one route is implemented, there will likely be economies of scale and shared costs, particularly if there is a shared destination on one end of the routes.
- Investment and annual operating costs are expressed in 2025 dollars; however, actual expenditures are not expected to begin occurring for more than 5 years. Recent years have seen volatility across all cost categories but most significantly in construction and shipbuilding.
- Current and historical ferry industry and local building and operating experience are relied upon to forecast capital investments and operating costs. Conventional diesel-propelled passenger vessels have been in operation for many years but there is more limited experience with electric-propelled passenger vessels and electric hydrofoil vessels.
- Conceptual-level vessel crew schedules were developed using the proposed service schedules for each route and typical crewing practices. Crew schedules should be refined in future analysis and appropriate adjustments made to labor cost inputs.
- Puget Sound Regional Council SoundCast travel demand data was used to estimate potential ridership for both study routes, evaluating both shifted and induced demand. Time competitiveness of POF compared to other modes was evaluated; however, other factors such as trip costs and the need for a car at the destination were not considered. The service periods established to estimate operating costs align with over 90% of the estimated potential demand by time of day.

- Fare revenue was not estimated as part of this study. Development of a fare revenue forecast cannot be completed without an established fare level, which will require a more in-depth public engagement process and study of fare elasticity.
- Program development costs such as project management, environmental studies, and development of a balanced financial plan can be significant. These costs are not included in this preliminary financial analysis.

Operating Scenarios

Two operating scenarios were defined based on the two selected vessel propulsion types: diesel and electric. The table below summarized the key elements of each option.

Table A - KT Intracounty Ferry Operating Scenarios

	Conventional Diesel				Electric Hydrofoil			
	Bainbridge		Silverdale		Bainbridge		Silverdale	
	Weekday	*Saturday*	*Weekday*	*Saturday*	*Weekday*	*Saturday*	*Weekday*	*Saturday*
Vessel capacity	118 passengers		75 passengers		75 passengers			
Service days per year	260	13	260	13	260	13	260	13
Cruising Speed	35/31 knots		24 knots		30 knots		24 knots	
One-way trip time	31 minutes		27 minutes		35 minutes		27 minutes	
Trips per day	22	18	26	20	24	20	28	22
First departure	5:30 am	9:00 am	6:00 am	9:00 am	5:30 am	9:00 am	6:00 am	9:00 am
Last arrival	7:30 pm	8:40 pm	8:00 pm	8:00 pm	7:30 pm	8:40 pm	8:00 pm	8:00 pm

[1] The 75-passenger electric hydrofoil vessel will have a top cruising speed of 30 knots. On the Bremerton Silverdale route the vessel's top cruising speed is expected to be 24 knots.

Capital Program Investments

Vessel

Different vessel profiles were defined for diesel and electric propulsion. The Bremerton - Bainbridge Island route would operate in diesel propulsion using the current Rich Passage class vessel type (selected because the vessel is proven to meet the route's wake criteria) while the Bremerton - Silverdale route would operate with a conventional diesel vessel. In the electric propulsion scenario, a single vessel class would be built for both routes, operating as an electric hydrofoil vessel. Table A above captures the key operating characteristics of the recommended vessels.

As noted earlier, each route is treated as a standalone operation. Two vessels are programmed for each route for service reliability. If both routes were to be implemented with the electric vessel type, the fleet size could likely be reduced to three of the same type of vessel.

The table below displays the vessel capital costs for both routes in both propulsion scenarios.

Table B - KT Intracounty Ferry Vessel Capital Costs

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
First Vessel	$11.3 M	$13.7 M	$7.6 M	$13.7 M
Second Vessel	$11.3 M	$12.0 M	$6.9 M	$12.0 M
Total Route - Vessel	**$22.6 M**	**$25.7 M**	**$14.5 M**	**$25.7 M**

Shoreside

High-level conceptual layouts were developed for the landing sites at Bainbridge Island and Silverdale.

- For Bainbridge Island the preferred location for the Bainbridge Island landing site is to the southwest of the existing WSF terminal, with a new POF float accessed through an overhead bridge.
- For Silverdale, the preferred location for the Silverdale landing site is the Port of Silverdale pier at the Silverdale Waterfront Park.

At Bremerton the current POF terminal at the Bremerton Transportation Center would be expanded to accommodate landing and moorage for the proposed new intracounty routes. For the electric propulsion scenario, charging infrastructure and equipment would be installed in the Bremerton intracounty landing slips.

In both scenarios and on both potential routes, fare collection equipment costs are low using roll-on fare collections trolleys equipped to support collection of multi-ride passes, electronic payments, and cash fares.

Table C below summarizes the capital investment costs for the three terminal locations.

Table C - KT Intracounty Ferry Shoreside Capital Costs

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Shoreside and In-Water Structures	$37.5 M	$36.4 M	$25.3 M	$25.3 M
Charging Infrastructure	---	$5.0 M – $20.0 M	---	$5.0 M – $20.0 M
Fare Collection & Other Equipment	$34,000	$34,000	$34,000	$34,000
Total Route - Shoreside	**$37.6 M**	**$41.4 M – $56.4 M**	**$25.3 M**	**$30.3 M – $45.3 M**

Annual Operating Costs

To estimate annual operating costs, conceptual service schedules and crewing levels were developed based on the operating profiles displayed in the Table A above.

Vessel

Annual operating costs include the direct costs associated with operating the vessel such as crew labor, energy, maintenance, and other miscellaneous costs.

Labor

To estimate labor costs, the proposed service levels were translated to crew hours and a weighted labor rate, derived from recent Kitsap Transit (KT) labor expenditure reports, was applied. Crew levels and weighted crew labor rates are identified in the table below.

Table D - Vessel Crewing Levels

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Passengers	118	75	75	75
Cruising Speed	35/31 knots	30 knots	24 knots	24 knots
Captain	1	1	1	1
Senior Deckhand	1	1	1	1
Deckhand	1	1		1
Weighted Hourly Crew Labor Rate	$300	$300	$213	$300

Energy

Energy costs are estimated based on energy consumption curves for each route and the projected number of trips. The estimated price per gallon for diesel fuel reflects recent (2025) KT experience. Energy costs for the electric option were calculated using current Puget Sound Energy electrical rates including basic service, monthly demand and per kilowatt hour consumption charges. An hourly accrual for battery replacement is also included in the electrical energy rate.

Table E - Energy Cost Per Trip

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Cost per Trip [1]	$169	$75	$35	$44

[1] Costs are rounded to the nearest dollar for all day service, weekday trips. In the electric option fixed monthly electricity charges are fully loaded on weekday trips making Saturday trips the variable kilowatt hour charge only.

Maintenance

Maintenance costs are a combination of fixed costs and variable hourly rates. The hourly rates were calculated for each vessel profile and include direct labor costs and allocations for maintenance management and support, repairs, contract and annual maintenance. Below is a table summarizing maintenance expenditures and below that a discussion of these expenditures.

Table F - Maintenance Cost Summary

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Fixed Maintenance Labor	381,000	381,000	381,000	381,000
Maintenance Mgmt. & Support	150,000	159,000	152,000	159,000
Repairs & Contract Maintenance	644,000	285,000	346,000	284,000
Unplanned	64,000	28,000	35,000	28,000
Other	72,000	78,000	73,000	78,000
Total Maintenance	**$1,311,000**	**$931,000**	**$987,000**	**$930,000**

Fixed Maintenance Labor

For routine and regular maintenance and in-house repairs, an Engineer II and Engineer III position are assumed for each route at the current average annual labor cost for these positions.

Maintenance Management and Support
An hourly rate for management and support was developed using current management and support expenditures and current annual ferry service hours. This hourly rate was applied to proposed service hours for each study route.

Repairs and Contract Maintenance - Diesel
Recent KT actual expenditures and operating hours for the Rich Passage class vessel were used to develop annual contract maintenance expenditures for the Bremerton - Bainbridge Island diesel scenario. Industry experience with conventional diesel vessels was used to estimate hourly contract maintenance rates for the Bremerton - Silverdale route.

Repairs and Contract Maintenance - Electric Propulsion Maintenance
Electric propelled vessels employ less complex systems and machinery than those using typical conventional diesel propulsion. This reduced complexity translates to lower engine maintenance costs. In the absence of extensive industry experience with marine electric propulsion maintenance to draw upon, a 25% cost reduction factor was applied to all estimated repair and contract maintenance costs for the 75-passenger diesel vessel. The resulting reduction in these maintenance costs are offset some by the higher number of trips possible in electric propulsion scenario.

Unplanned and Other Maintenance
An additional ten percent of total projected repairs and contract maintenance costs is added to create an unplanned maintenance contingency. An hourly rate for other maintenance costs such as uniforms, utilities, and supplies was calculated using current maintenance expenditure records and current vessel service hours.

Other Vessel Costs
Other vessel expenditures include insurance, miscellaneous operating costs such as supplies and uniforms, and communication costs.

Shoreside

Labor
A Marine Service Ambassador position is schedule at each terminal for the duration of the service day. An average weighted hourly rate for the Marine Service Ambassador position was established using recent labor expenditure reports.

Other Shoreside
Other shoreside includes expenditures such as monthly fare collection, communication, utilities, and routine maintenance. Existing expenditure records were used to project costs for the study routes.

Management, Support and Overhead

An hourly rate was calculated for marine service department staff, allocated transit agency administration, and other overhead and support such as printing, computer and networking and professional service. Recent expenditure records were used to develop the base rate, and an hourly rate was calculated using all current ferry service hours. This rate was applied to the project service hours for each scenario and propulsion option on the study routes to estimate management and overhead costs. Although specific management staffing recommendations were not made for the study routes, the calculated rate would fund additional management and administration staff.

Cost Metrics

For comparison, cost metrics were calculated for the existing fast ferry and local foot ferry routes and the two study routes. The table below displays the results of these calculations.

Table G - Comparison of Cost Metrics

	Cost per Actual or Potential Rider [1]		Cost per Scheduled Trip [1]	
	Diesel	Electric	Diesel	Electric
Intracounty Study Routes				
Bainbridge - Bremerton	$51	$40	$815	$590
Silverdale - Bremerton	$41	$44	$546	$551
All Intracounty Routes	***$46***	***$42***	***$669***	***$569***
Current KT Ferry Routes (All Routes)	$18	N/A	$440	N/A

[1] *Uses projected annual costs, estimated potential demand and projected trips for study routes. Uses 2024 actual expenditures, riders and trips for current routes.*

The higher cost per potential rider for the study routes is driven by the lower estimated demand. The relatively low cost of local service contributes to the lower cost metrics for existing routes. Due to limitations in the manner current expenditure data is collected, it was not possible to easily fully segregate costs by route.

Consolidated Funding Requirements

The first step in developing a balanced financial plan is to estimate capital investment requirements and ongoing operating expenditures. Front end cash flow requirements for the necessary capital investments are often greater than an agency can fund from federal, state, and local revenue sources and will depend to some degree on debt financing. Once the funding plan for initial investments is defined, ongoing annual expenditures can be finalized to include both operating expenditures and annual capital debt servicing and retirement payments. While developing a balanced financial plan is premature at this point, the table below provides a preliminary picture of the estimated funding needs.

Table H – Capital Investments and Operating Expenditure Requirements

	Bremerton-Bainbridge		Bremerton-Silverdale	
	Rich Passage Class	75 Pax Electric Hydrofoil	75-Pax Diesel	75 Pax Electric Hydrofoil
Vessels				
First Vessel	$11.3 M	$13.7 M	$7.6 M	$13.7 M
Second Vessel	$11.3 M	$12.0 M	$6.9 M	$12.0 M
Total Route - Vessel	**$22.6 M**	**$25.7 M**	**$14.5 M**	**$25.7 M**
Shoreside				
Shoreside and In-Water Structures	$37.5 M	$36.4 M	$25.3 M	$25.3 M
Charging Infrastructure	---	$5.0 M – $20.0 M	---	$5.0 M – $20.0 M
Fare Collection & Other Equipment	$34,000	$34,000	$34,000	$34,000
Total Route - Shoreside	**$37.6 M**	**$41.4 M – $56.4 M**	**$25.3 M**	**$30.3 M – $45.3 M**
Total Capital Investments	**$60.2 M**	**$67.1 M - $82.1 M**	**$39.8 M**	**$56.0 M – $71.0 M**
Vessel Operations				
Labor	$1,249,000	$1,301,000	$921,000	$1,299,000
Fuel/Energy	$1,009,000	$234,000	$245,000	$161,000
Maintenance	$1,311,000	$931,000	$987,000	$930,000
Other	$437,000	$452,000	$433,000	$451,000
Total Vessel Operations	**$4,006,000**	**$2,918,000**	**$2,586,000**	**$2,841,000**
Terminal Operations				
Labor	$299,000	$320,000	$299,000	$320,000
Other	$49,000	$51,000	$53,000	$57,000
Shuttle Service	$-	$	$385,000	$411,000
Total Terminal Operations	**$348,000**	**$371,000**	**$737,000**	**$788,000**
Total Operating Expense	**$4,354,000**	**$3,289,000**	**$3,323,000**	**$3,629,000**
Administration, Management, and Support	$499,000	$544,000	$507,000	$544,000
Total Annual Expense	**$4,853,000**	**$3,833,000**	**$3,830,000**	**$4,173,000**

Funding Considerations

Current ferry revenues are constrained by the cost of operating existing routes, retiring capital program debt, and maintaining the existing fleet and facilities in good repair. Further complicating funding for local ferry service expansion are unfunded future capital investment needs in excess of approximately $300 million through 2050 for:

- The replacement of eight vessels,
- moorage facilities at Southworth,
- land acquisition and construction of a vessel maintenance facility, and
- development of a Seattle passenger ferry terminal.

Although unfunded capital investment needs will likely be lessened by future competitive grant awards, there is uncertainty about the type and level of future grant funding that may be available.

KT has statutory authority for one tenth of one percent of additional sales tax if approved by the county's voters. Based on current tax collections, one tenth would yield approximately $8 million annually. While this may be sufficient to operate one or possibility both routes in today's economic climate, funding capital investments for implementation of even one of the routes would require significantly higher near-term revenue collections.

Federal grants might fund a large portion of the investment, but the current federal transportation funding act is set to expire at the end of the current federal fiscal year in September 2026. The type and level of funding programs in the next federal transportation act are unknown and uncertain.

KT could pursue additional voter approved local taxing authority as well as state appropriation or grants. The Governor's transportation budget introduced in December 2025 did not rely on any new revenue sources and focuses on preserving existing transportation infrastructure. Local transportation agencies are prioritizing protecting existing funding sources and programs. Future transportation revenue packages might offer an opportunity for new programs such as intracounty routes.

Route Financial Summary

The following sections present summarized route profiles and financial projections for each of the study routes.

Route Financial Summary: Bremerton – Bainbridge Island

Route Profile

	Rich Passage Class Diesel		Electric Hydrofoil	
	Weekday	Saturday	Weekday	Saturday
Vessel Capacity	118 passengers		75 passengers	
Vessel Cruise Speed	36 knots		30 knots	
Landing Sites	New float BTC POF Terminal New float northside WSF Bainbridge Terminal			
Service Days per Year	260	13	260	13
One-way Trip Time	31		35	
Trips per Day	22	18	24	20
First Departure	5:30am	9:00am	5:30am	9:00am
Last Arrival	7:30pm	8:40pm	7:30pm	8:40pm

Financial Projections

	Bremerton -Bainbridge	
	Rich Passage Class	Electric Hydrofoil
Capital Investments		
Vessels		
First vessel	11,300,000	13,700,000
Second Vessel	11,300,000	12,000,000
Total Route - Vessel	**$22,600,000**	**$25,700,000**
Shoreside		
Shoreside and In-Water Structures	37,540,000	36,413,000
Charging Infrastructure		5 M - 20 M
Fare Collection & Other Equipment	33,500	33,500
Total Route - Shoreside	**$37,574,000**	**$41.4M - $56.4M**
Total Capital Investments	**$60,174,000**	**$67.1M - $82.1M**
Operating Expense		
Vessel		
Labor	1,249,000	1,301,000
Fuel/Energy	1,009,000	234,000
Maintenance	1,311,000	931,000
Other	437,000	452,000
Total Vessel Operations	**4,006,000**	**2,918,000**
Terminal		
Labor	299,000	320,000
Other	49,000	51,000
Shuttle Service		
Total Termninal Operations	**348,000**	**371,000**
Total Operating Expense	**4,354,000**	**3,289,000**
Management and Support	**499,000**	**544,000**
Total Annual Expense	**$4,853,000**	**$3,833,000**

Route Financial Summary: Bremerton – Silverdale

Route Profile

	Conventional Diesel		Electric Hydrofoil	
	Weekday	Saturday	Weekday	Saturday
Vessel Capacity	75 passengers		75 passengers	
Vessel Cruise Speed	24 knots		24 knots	
Landing Sites	New float at BTC POF Terminal Retrofit existing dock and float at Port Pier/Silverdale Waterfront Park			
Service Days per Year	260	13	260	13
One-way Trip Time	31		35	
Trips per Day	22	18	24	20
First Departure	5:30am	9:00am	5:30am	9:00am
Last Arrival	7:30pm	8:40pm	7:30pm	8:40pm

Financial Projections

	Bremerton -Silverdale	
	Conventional Diesel	Electric Hydrofoil
Capital Investments		
Vessels		
First vessel	7,600,000	13,700,000
Second Vessel	6,900,000	12,000,000
Total Route - Vessel	**$14,500,000**	**$25,700,000**
Shoreside		
Shoreside and In-Water Structures	25,304,000	25,304,000
Charging Infrastructure		5M - 20 M
Fare Collection & Other Equipment	33,500	33,500
Total Route - Shoreside	**$25,337,500**	**$30.3M - $45.3M**
Total Capital Investments	**$39,838,000**	**$56M - $71M**
Operating Expense		
Vessel		
Labor	921,000	1,299,000
Fuel/Energy	245,000	161,000
Maintenance	987,000	930,000
Other	433,000	206,000
Total Vessel Operations	**2,586,000**	**2,841,000**
Terminal		
Labor	299,000	320,000
Other	53,000	57,000
Shuttle Service	385,000	411,000
Total Termninal Operations	**737,000**	**788,000**
Total Operating Expense	**3,323,000**	**3,629,000**
Management and Support	**507,000**	**544,000**
Total Annual Expense	**3,830,000**	**4,173,000**