



Washington State Ferries

# Washington State Department of Transportation Ferries Division Draft Long-Range Plan

December 2008



**Washington State**  
**Department of Transportation**



## **About Washington State Ferries**

Formed in 1951, WSF is the largest ferry transit system in the U.S.

WSF serves about 23 million passenger and vehicle trips per year;

Operates 10 ferry routes and runs nearly 500 sailings per day;

Provides service to eight Washington State counties and the Province of British Columbia;

Operates and maintains 20 terminals from Point Defiance to Sidney, B.C.; and

Provides priority loading for freight, bicycles, vanpools, and carpools.

**Washington State  
Department of Transportation  
Ferries Division  
Draft Long-Range Plan: 2008-2030**

**Draft  
Long-Range Plan**



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Department of Transportation**  
Ferries Division



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## EXECUTIVE SUMMARY

The Washington Department of Transportation Ferries Division (WSF) is releasing this Draft Long-Range Plan (Draft Plan) at a historic point in the state's marine transportation system. WSF carries more than 23 million riders annually and demand for ferry service is projected to increase as population in ferry-served communities grows. The system is constrained by tight financial resources, limited vehicle carrying capacities especially during peak periods, and aging vessels and terminals. This Draft Plan is based on 2007 legislation and will guide WSF future service and investment decisions through the year 2030.

In the 2007 legislative session, the Legislature passed Engrossed Substitute House Bill (ESHB) 2358 ("the Ferry Bill") and its biennial transportation budget that contained specific directives related to how WSF is currently providing services and how it should be planning to meet the needs of ferry communities served by marine transportation in the future.

The legislation specifically spelled out a series of planning requirements that aimed to address the long-term funding crisis for the ferry system. In particular the Legislature said WSF needed to:

- Reconnect with its customers to get better information about their travel
- Improve its forecasting approach to ensure its plans are based on the best projections of future needs
- Develop strategies to minimize costs
- Implement adaptive management practices to keep costs as low as possible while continuously improving the quality and timeliness of services.
- Consider operational and pricing strategies that would improve asset utilization and reduce costs
- Re-establish the vehicle level-of-service standard to better fit with current policy and funding realities

### 1.1 Purpose

The goal of this Draft Long-Range Plan is to assess the needs of ferry customers and develop a service and capital program that is responsive to those needs, while providing policy makers with the right information to develop a long-term solution that addresses WSF's financial sustainability.



A number of the specific tasks called out in ESHB 2358 require WSF to take a fresh look at how ferry services may be delivered in order to support current and future customers, while recognizing the significant financial challenges facing the ferry system.

Given the current economic conditions, the scale of the funding needs that the State is facing, in addition to the continuing financial demands of the ferry system, it is unclear if the State can realistically keep up with the challenges. It is therefore necessary to consider the implications of a future where the State takes a different role in funding the ferry system.

The Draft Plan is designed to provide the necessary information to support a dialogue and timely resolution of three key strategic issues:

1. Operational strategies, particularly the proposed free, vehicle reservation system;
2. A fleet procurement plan, with timing and sizing of vessels; and,
3. An adequate and sustainable source of long-term capital funding

As a result of these challenges, this Draft Plan puts forward two options for consideration:

1. Plan A. This option assumes that the State will continue in its current role as owner, operator, and principal funder of ferry services in the Puget Sound region. Current level of service remains with operational strategies implemented over time and several new vessels coming online. This plan contains a significant budget shortfall that will require new revenues.
2. Plan B. This option recognizes that the State may not be able to provide new revenues to meet the evolving needs of all ferry customers and communities, and looks at marine transportation very differently. It proposes an alternative where the State takes responsibility for the core marine highway system and a locally-funded entity or entities would take responsibility for a new marine transit system. This option assumes operational strategies would be implemented over time. It also contains a budget shortfall, but it is significantly smaller than Plan A.

## 1.2 Challenges

While the foremost challenge facing WSF is the lack of a predictable and sustainable source of capital funding, there are several critical challenges that the Draft Long Range Plan must address.

Long-Term Funding. Much has changed since the last Long-Range Plan for WSF was adopted in 1999; most profoundly the voter approval of I-695 and the corresponding budget cuts, which

substantially reduced dedicated funding for the ferry system. For the last ten years, the Legislature has filled the funding gap created by the I-695 budget cuts by allocating transportation funds to WSF that would have otherwise supported the highway system. In light of the continuing needs of the state highway system, diverting funds from it to support the marine highways is not a sustainable long-term funding approach.

**Role of Fares in Long-Term Funding.** One of the impacts of the lost funding has been a significant increase in fares over a relatively short period of time. Since 2000, fares have increased between 37% and 122%. WSF's operation is 70 percent supported by fares (2007 fiscal year), compared to 60 percent in fiscal year 2000.

**Aging Asset Base.** WSF's fleet is among the oldest of any major ferry operator, with four vessels recently retired on an emergency basis and eight additional vessels to be retired over this planning horizon. Also, many of the current terminal facilities were built in the 1940's and 1950's and have had few improvements beyond basic maintenance and preservation since they were built. WSF is facing a significant recapitalization effort in the next 20 years related to aging vessels and facilities.

**Long Lead Times for Capital Investments.** A long-range capital plan is necessary because decisions about ferry service have long-term implications. There are significant lead times required to build new vessels or improve terminals, so WSF must anticipate the future need for such improvements today.

**Vehicle Capacity Limitations during the Peak.** The ferry system's greatest capacity constraint and the origin of the pressure for additional services and larger facilities is vehicle capacity during peak periods. There is little capacity to support vehicle growth in these time periods, especially in the summer, when a recreational traffic surge causes even greater capacity challenges.

**Growth, Ridership Demand, and Service Needs.** Although WSF carries more than 23 million riders annually, ridership is down almost 11% since its peak in 1999. While there is population growth expected in many of the communities served by WSF, it is not clear precisely how this will translate into increased demand for ferry services. Ridership has declined from 2000 to 2006 throughout the system despite population growth in counties served by WSF ranging from 14% in Island County to 4% in Kitsap County during the same period of time. There are policy choices regarding the type of service that should be provided to balance customer convenience, community needs, and effective use of assets.



### 1.3 Customers

ESHB 2358 directed the Washington State Transportation Commission to conduct a comprehensive survey of ferry customers to help inform level-of-service, operational, pricing, planning, and investment decisions. The legislation requires the survey to be updated every two years. The initial survey, conducted in 2008, included on-board surveys of 13,000 customers, focus groups, and a general market phone survey of 1,200 Puget Sound residents and identified several important findings that have helped shape this plan.

Importance of ferry service. The survey found that residents throughout Puget Sound use the ferries and think they are an important service.

- The general market survey (telephone survey of Puget Sound residents) found that 91% of all residents in the region have ridden WSF at some point in the past.
- 95% of Puget Sound residents, including East Sound (95%), West Sound (98%), and Island (100%) residents responded that ferries are very important (70%) or somewhat important (25%). (General Market Survey)

Our ridership base is changing. Today, we have less commuters and more discretionary trips as a percentage of total ridership. Approximately one-third of WSF customers travel for the purposes of work or school (i.e. make non-discretionary commute trips). This trend has also been observed in recent WSF' Origin-Destination Surveys (conducted in 1993, 1999, and 2006), which have shown a gradual decrease in the peak period commute.

Our riders travel less frequently and have more flexibility than was expected. The average vehicle customer makes 16 one-way trips per month. For about half of the customer base, frequency of use has not changed over time. Thirty-three percent of the customers surveyed said they have been riding ferries more frequently (15% said they have been riding significantly more). With respect to flexibility, 9% of peak period vehicle travelers said they could shift to off-peak times, indicating that strategies geared toward time shift (like a reservation system) could be effective in reducing congestion during the peak.

Fares are not the only factor affecting use of ferries. While the survey confirmed WSF's fare sensitivity estimates (a 10% fare increase would result in a 4% drop in riders), the general telephone survey (not just current customers) found fares to be a small factor in why some persons are using WSF less. Also, a majority of customers in the on-board surveys believe that ferry

services reflect a good value and are pleased with the services they are receiving.

## 1.4 Changing Our Business

Steps have been taken to reduce ferry system costs without jeopardizing safe, reliable and efficient service. Administrative staff reductions, fuel conservation measures, and reduced expenses throughout the system have resulted in cost savings. These reductions are part of an ongoing cost containment process designed for continuous improvement in the cost effectiveness of ferry services.

WSF must also adopt operational and pricing strategies to maximize the use of its existing assets and provide the most cost effective service, while responding and adapting to the changing characteristics of its customer base.

This approach will change how customers interact with the ferry system and allow WSF to provide the best service at the lowest possible cost. Following this approach, both of the plan options are built on the following key strategies that are designed to either spread vehicle demand to non-peak periods and/or increase walk-on use:

- **Reservation System.** The most important operational strategy recommended in the Draft Plan is the deployment of a reservation system. A free, well-designed reservation system would allow WSF to operate with the smallest possible terminal facilities while maintaining a high level-of-service. The system would be tailored to specific route-level demand and market conditions.
- **Transit Enhancements.** WSF has the ability to accommodate significant growth in ridership with existing facilities if more customers elected to travel as walk-ons. The single biggest impediment to walking on is the lack of sufficient transit supportive facilities and services. This plan proposes a mix of WSF investments in its own facilities and identifies local transit service needs to maximize the potential walk-on ridership in the future.
- **Pricing Strategies.** The Plan makes three significant pricing strategy proposals. The first two are focused on demand management: (1) not charging an extra fee for reservations; and (2) increasing passenger fares at half the rate of vehicle fares. The third is targeted to mitigating fuel price risk and proposes (3) implementing a fuel surcharge mechanism that will automatically adjust fares for spikes in fuel prices.



## 1.5 The Plan

The Draft Plan presents two possible visions for the future of the WSF system. The first is a continuation of the state role as principal owner and operator of the marine transportation system in the Puget Sound region and maintains the current service level. The second is a multi-jurisdictional approach to delivering marine transportation services, with a smaller state ferry system providing the marine highway, which would be augmented by a locally-owned and operated system(s) of passenger-only ferry (POF) services, supplementing the core state system. Exhibit ES-1 presents the key elements of each plan option.

### Exhibit ES-1 Summary of Plan Options

Plan A	Plan B
<p><b>Service Program</b> <i>Maintain service at existing levels except:</i> Restore 2-boat service at Pt Townsend-Keystone (22 weeks) Strategically slow vessels to optimize fuel consumption Marginal capacity increases due to new vessel procurements on: Anacortes-San Juan Islands Mukilteo-Clinton Seattle-Bremerton Fauntleroy-Vashon-Southworth Point Defiance-Tahlequah</p> <p><i>Implement operational and pricing strategies</i> Reservation system for vehicles at no extra fee Transit enhancements to promote walk-ons Increase passenger fares at half the rate of vehicle fares</p> <p><b>Capital Program</b> Preserve and maintain existing terminals and vessels Purchase 10 new vessels to replace retired and retiring vessels Invest in a new reservation system Make transit supportive investments at selected terminals Invest in selected terminals to maintain service frequency/reliability</p> <p><b>Locally Provided Ferry Services</b> <i>King County Ferry District</i> Vashon POF continues</p>	<p><b>Service Program</b> <i>State System, same as Plan A except:</i> Close Anacortes-Sidney in September 2009 Reduced San Juan Domestic service when Sidney boat removed Keep Port Townsend-Keystone at one boat year-round Downsize Point Defiance-Tahlequah (Hiyu) ('09-11) Reduce Bremerton to one boat year-round ('11-'13) Eliminate night service on Bremerton and Edmonds ('11-'13) Reduce Vashon-Southworth-Fauntleroy to two boats ('11-'13) Eliminate Mukilteo extra summer weekend service (starting 2013)</p> <p><b>Capital Program</b> <i>State System, same as Plan A except:</i> Purchase 5 new vessels (5 fewer) Eliminate terminal improvements targeting loading and unloading</p> <p><b>Locally Provided Ferry Services</b> <i>King County Ferry District</i> Increase Vashon POF to 2 or 3 vessel service</p> <p><i>Kitsap County provider</i> Seattle-Bremerton POF -- 2 or 3 vessel service Seattle-Southworth POF -- 2 or 3 vessel service Seattle-Kingston POF -- 2 or 3 vessel service</p>

In developing Plan B, the objective was to reduce the ferry system to the core highway system that preserved all of the domestic routes. Plan B also continues the operational and pricing strategies outlined in Plan A. The primary change is a state funded marine highway system and locally funded marine transit system, which reduces the size of the WSF fleet and service levels on a number of routes.

Vessel procurements are a key element of the capital program necessary to support either Plan option. Under Plan A, there would be a need for 10 new vessels plus a significant reinvestment in an

existing vessel to extend its life beyond its current retirement date. Under Plan B, the vessel procurements are significantly reduced, with a total of five new vessels acquired. Exhibit ES-2 presents the vessel procurement schedules for each Plan option.

The smaller fleet necessary to support Plan B is the primary factor in the cost differences between the two options, as this leads to lower vessel preservation needs (both because of a smaller fleet and due to early retirements), fewer vessel deployments, and lower operating costs. Beyond the difference in number of vessels, Plan B also replaces a Super Class vessel (144-car capacity) with a small vessel (between 40 and 50 vehicles in size).

In both Plan options, the Hyak (144-car vessel) would be refurbished, for approximately \$20 million, which will extend its life until 2032.

### **Exhibit ES-2 Vessel Procurement Plan**

<b>Year</b>	<b>Vessel</b>	<b>Notes</b>
<b>PLAN A</b>		
2010	Island Home #1	Replace a Steel Electric (Port Townsend)
2011	Island Home #2	Replace a Steel Electric (Port Townsend)
2011	Hyak reinvestment	Invest in the Hyak to extend life 20 years
2012	Island Home #3	Replace the Rhododendron (go to Point Defiance)
2013	144-car vessel #1	Replace the Evergreen State
2015	144-car vessel #2	Restore standby/reserve capacity; Hyak moved to standby
2017	144-car vessel #3	Replace the Tillikum
2019	144-car vessel #4	Replace the Klahowya
2021	144-car vessel #5	Replace the Elwha
2023	144-car vessel #6	Replace the Kaleetan
2025	144-car vessel #7	Replace the Yakima
<b>PLAN B</b>		
2010	Island Home #1	Replace a Steel Electric (Port Townsend)
2011	Hyak reinvestment	Invest in the Hyak to extend life 20 years
2021	Small Vessel #1	Replace the Elwha
2023	Small Vessel #2	Replace the Hiyu
2025	144-car vessel #1	Replace the Kaleetan
2027	144-car vessel #2	Replace the Yakima



## 1.6 Costs and Funding Needs

As presented in Exhibit ES-3, both Plan options would need additional funding to balance the capital program. However, the funding gap over the 22-year in the Plan B option (\$1.3B) is less than 40% of the gap for Plan A (\$3.5B), both figures in year-of-expenditure (YOE) dollars. This is entirely a function of the size of the ferry system under each plan option, in particular the smaller fleet needs of Plan B.

**Exhibit ES-3**  
**Funding Implications of Draft Plan Options**  
**(YOE\$ in millions)**

	Plan A Yr)	Plan B Yr)
<b>CAPITAL</b>		
Terminals	\$1,932	\$1,845
Vessels	\$3,430	\$2,064
Miscellaneous Uses	\$544	\$544
Existing Debt Service	\$212	\$212
<b>Total capital needs</b>	<b>\$6,118</b>	<b>\$4,665</b>
Dedicated capital funds	\$829	\$829
Administrative Transfers	\$1,126	\$1,126
Federal Funds	\$347	\$347
Bond Proceeds	\$241	\$241
<b>Net Funding Capital Program</b>	<b>(\$3,575)</b>	<b>(\$2,121)</b>
<b>OPERATING</b>		
Operating revenues	\$5,638	\$5,243
Operating expenses	\$6,466	\$5,421
<b>Net operating income/(subsidy)</b>	<b>(\$828)</b>	<b>(\$178)</b>
<b>Average farebox recovery rate</b>	<b>87%</b>	<b>97%</b>
Dedicated operating taxes	\$809	\$809
Administrative Transfers	\$88	\$88
<b>Estimated Subsidy Available</b>	<b>\$897</b>	<b>\$897</b>
<b>Net operating surplus/(deficit)</b>	<b>\$68</b>	<b>\$719</b>
<b>Total Funding Needs for 2030 Ferry Plan</b>	<b>(\$3,506)</b>	<b>(\$1,403)</b>

Plan A. Plan A would result in a net funding gap of \$3.5B in the capital program, while the operating program is largely balanced with operating expenses equal to or less than fare revenues plus dedicated taxes for operations in most biennia.

- Ridership growth and fare increases result in an average farebox recovery rate of 87%.
- Base fare assumptions assume current legislative average annual increases of 2.5%. Fuel surcharges are set to cover

the increased costs of fuel associated with variances on fuel prices beyond the long-term average cost of fuel.

- Funding assumes that WSF will receive the \$88 million in administrative transfers over the next three biennia (per the 2008 Legislative 16-Year Plan).

The Plan A capital program is estimated to total \$6.1 billion (in year of expenditure dollars) over the 22-Year Long-Range Plan horizon. These investments would include:

- Vessel preservation needs of \$1.5 billion
- Vessel construction of \$1.8 billion (10 new vessels)
- Vessel improvements of \$93 million
- Terminal preservation needs of \$1.4 billion
- Terminal improvements of \$520 million
- Other (debt service, management & support, emergency repairs) \$750 million

To fund the capital needs of Plan A will require \$3.5 billion more than current assumed funding (or approximately \$327 million per biennium over 22 year planning horizon). Revenues include assumed transfers from the Motor Vehicle or Multimodal Accounts in the legislative 16-Year Plan (continued through 2031).

Plan B. Plan B would result in a net funding gap of \$2.1B in the capital program, while the operating program would produce a net surplus in tax revenues of approximately \$719 million. If the excess operating taxes are transferred to support capital, the net funding gap for Plan B is estimated to be \$1.4B.

The operating costs for Plan B are estimated to be \$5.4 billion 22-Year Long-Range Plan horizon. Plan B operating revenues are estimated to be \$5.2 billion over the same period, leaving only \$178 million to be funded from the dedicated operating subsidy.

- Projected ridership growth and fare increases result in an average farebox recovery rate of 97%, with the same fare assumptions as in Plan A.
- With dedicated tax subsidies of almost \$900 million over 22 years, there would be an estimated tax subsidy surplus in the operating account of approximately \$719 million, which would be available to support capital needs.

The capital program proposed for Plan B is estimated to total \$4.7 billion over the 22-Year Long-Range Plan horizon. Most of the savings in the capital program can be traced to the smaller fleet, which results in fewer new vessel procurements and lower fleet



preservation costs. To fund the capital needs of the Draft Plan will require \$2.12 billion more than current assumed capital funding, which includes:

- Assumptions about transfers consistent with those in Plan A.
- The capital funding gap is weighted with several vessel procurements in the final six years of the plan. As a result, the 16-year funding gap is only \$1.1 billion or almost half of the full 22-year gap.
- Looking at only the 16-year Legislative planning horizon, the overall funding gap is half as much at approximately \$600 million, or \$37.5 million per biennium.

Plan B still shows a capital funding gap, even after the significant reductions in service and capital investments discussed above. To close this gap would require additional revenues, higher fares or additional service and investment reductions or some combination of thereof. It is important to note, that further service reductions that might make a meaningful impact on the funding gap would likely require closing some domestic routes.

## NEXT STEPS

The next step for the Draft Plan is to gather public feedback through a series of public hearings (10 meetings during early January 2009). WSF will consider all feedback when developing a Final Plan, which is scheduled to be presented to the Legislature January 31, 2009 for consideration and possible action during the upcoming legislative session.

How to provide comment on the draft long-range plan:

- Attend a public hearing. Schedule online at [www.wsdot.wa.gov/ferries/planning/ESHB2358.htm#HearingDates](http://www.wsdot.wa.gov/ferries/planning/ESHB2358.htm#HearingDates)
- Email [wsfplanning@wsdot.wa.gov](mailto:wsfplanning@wsdot.wa.gov)
- Write Washington State Ferries, Attn. Joy Goldenberg, 2901 3rd Ave., Seattle, WA 98121.

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