



Washington State Ferries

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

June 30, 2009



**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.

SIDNEY

ORCAS

SHAW

FRIDAY  
HARBOR

LOPEZ

ANACORTES

**Washington State  
Department of Transportation  
Ferries Division  
Final Long-Range Plan:  
2009-2030**

**Final  
Long-Range Plan**



**Washington State  
Department of Transportation**  
Ferries Division



June 30, 2009

CLINTON

MUKILTEO

INGSTON

EDMONDS

INBRIDGE

SEATTLE

ON

HWORTH

FAUNTLEROY

VASHON

TAHLEQUAH

PT. DEFIANCE



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## EXECUTIVE SUMMARY

The Washington State Department of Transportation Ferries Division (WSF) is the largest ferry system in the nation. Nearly 23 million customers annually rely on WSF's 22 vessels and 20 ferry terminals for safe, reliable transportation across Puget Sound. WSF serves two vital transportation functions: as a marine highway and as a transit service provider. WSF is an essential part of the highway network of Western Washington. It serves as the only public transportation link to the mainland for Vashon Island and the San Juan Islands, and it is the second largest transit system in Washington State.

WSF is releasing this Final Long-Range Final Plan (Plan) at an historic point in Washington's marine transportation. The culmination of new legislative direction, new leadership, and new information about ferry system customers provides a unique opportunity to set a positive direction for the ferry system. While challenges remain, particularly the identification of a stable source of capital funding, this plan sets forth a vision for the future of the ferry system that will enable it to maintain its current routes and service levels, improve its operation, and make essential vessel and terminal investments.

### 1.1 Purpose

The goal of this Plan is to provide information about the needs of ferry customers, establish new operational and pricing strategies to meet those needs, and identify vessel and terminal operations and capital requirements. The Plan horizon covers 22 years, 2009-2030 (fiscal years 2010-2031), to meet federal planning requirements and to be consistent with regional efforts. The first 16 years of this Plan correspond to the legislature's 16-year financial planning period. This Plan is based on: 2007 legislative direction; a draft plan developed and presented for public review and comment in December 2008; a revised plan in January 2009 that incorporated the public comments, and an extensive review by the Governor's Office and the Legislature leading up to and during the 2009 session.

While the December 2008 and January 2009 draft and revised plans presented two scenarios for the future of the ferry system, this Final Long-Range Plan presents a single package of service improvements and investments.



## 1.2 The Final Plan

The Final Plan presents a vision for the future of the WSF system. Consistent with legislative direction, it maintains current levels of service with limited improvements (as new vessels are acquired to replace retiring vessels) and the State's role as principal owner and operator of the marine transportation system. Exhibit ES-1 presents the key elements of the plan. This plan presents a realistic service and capital investment strategy that seeks to balance service goals and long-term funding requirements.

### Exhibit ES-1 Summary of Plan Elements by Route

Route	Service Plan	Major Terminal Projects
Seattle - Bainbridge	No Change	Starting in 2011: Seattle terminal rebuild
Seattle - Bremerton	2014: Vessel upsize ( <i>fall, winter, spring only</i> ) 2029: Vessel upsize ( <i>summer only</i> )	
Edmonds - Kingston	No Change	2029: Edmonds terminal multimodal improvements
Fauntleroy - Vashon - Southworth	2014: Vessel upsize 2027: Vessel upsize	No major terminal projects proposed
Point Defiance - Tahlequah	2012: Vessel upsize	No major terminal projects proposed
Mukilteo - Clinton	2014: Vessel upsize 2027: Vessel upsize	2017: Proposed Mukilteo terminal relocation
Port Townsend - Keystone	2010: Vessel upsize 2011: Second vessel added ( <i>peak season only</i> )	No major terminal projects proposed
Anacortes - San Juan Islands	2014: Vessel upsize	2011: Proposed Anacortes terminal replacement
Anacortes - Sidney	2014: Vessel upsize ( <i>summer only</i> )	
San Juan Islands Interisland	2009: Vessel downsize ( <i>winter only</i> )	No major terminal projects proposed

## 1.3 Changing Our Business

Steps have been taken to reduce WSF's 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.

Ridership is expected to grow by 37% between 2006 and 2030 – 13% growth would return WSF to the historical high level of ridership it had in 1999, with the additional forecasted growth bringing ridership levels above what the system has previously seen. Vehicle capacity during peak periods is WSF's greatest constraint and the origin of the

pressure for additional services and larger facilities. There is little capacity to support vehicle growth in peak periods, especially in the summer, when a recreational traffic surge causes even greater capacity challenges. In addition to these peak period capacity constraints, WSF is also challenged by under-utilization of its vehicle capacity during non-commute periods and the off-season.

Adopting operational and pricing strategies will allow WSF to provide the best service at the lowest possible cost, minimize fare increases, and fill under-used non-peak capacity. The Plan is built on the following key strategies that are designed to either spread vehicle demand to non-peak periods and/or increase walk-on use:

- **Vehicle Reservation System.** The most important operational strategy included in the Final Plan is the deployment of a vehicle reservation system. A 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. The 2009 legislature authorized funding to further study the potential implementation of a vehicle reservation system, with a report due to the legislature for consideration during the 2010 session
- **Transit Enhancements.** WSF would have 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. To address this issue, WSF requested funding for a number of transit enhancements at terminals, but the 2009 legislature deferred capital investments in transit supportive facilities outside of the 16-year plan financial period (or until it is clear that local transit service is available and that walk-on ridership is increasing).
- **Pricing Strategies.** The Plan makes two significant pricing strategy proposals. One is focused on demand management by not charging an extra fee for reservations to encourage customer use of the system. The second is targeted at mitigating fuel price risk and proposes implementing a fuel surcharge mechanism that will automatically adjust fares up and down for fluctuations in fuel prices. The 2009 legislature directed WSF to report on how a fuel surcharge would be implemented before it is adopted as a pricing strategy.
- **Marketing.** The 2009 legislature provided funding for a new marketing program for WSF to increase non-peak ridership. The legislature required that WSF present a marketing plan to the



legislature in the 2010 session that must be approved before moving forward on any marketing efforts.

## 1.4 Fleet Procurement Plan

Vessel procurements are a key element of the capital program necessary to ensure stable and reliable service. WSF's fleet is one of the oldest of any major ferry system, with four vessels recently retired on an emergency basis and eight additional vessels to be retired by 2030. As a result of the emergency vessel retirement, service on the Port Townsend-Keystone route has been provided by a leased vessel since 2008 and has been reduced from its normal two boat shoulder and summer season service to one boat service.

This Plan calls for 10 new vessels by 2030, two for the Port Townsend- Keystone route and eight to replace older vessels as they come due for retirement. In addition the Plan anticipates a major refurbishment of the Hyak (144-car vessel) to extend its life until 2032. Exhibit ES-2 below shows the vessel procurement plan in detail.

### Exhibit ES-2 Vessel Procurement Plan

Year	Vessel	Notes
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)
<i>Procurement # 1 (144's)</i>		
2014	144-car vessel #1	Replace the Evergreen State
2014	144-car vessel #2	Restore standby/reserve capacity; 87-car vessel moved to standby
<i>Procurement # 2 (144's)</i>		
2027	144-car vessel #3	Replace the Tillikum
2028	144-car vessel #4	Replace the Klahowya
2028	144-car vessel #5	Replace the Elwha
2029	144-car vessel #6	Replace the Kaleetan
2029	144-car vessel #7	Replace the Yakima

## 1.5 Costs and Funding Needs

**Exhibit ES-3**  
**Funding Implications of the Final Long Range Plan**  
**(YOE\$ in millions)**

	LRP (22-Yr)	16-Year
<b>CAPITAL</b>		
<i>2009-11 Cash Carry-Forward</i>	<b>\$2</b>	<b>\$2</b>
Terminals	\$1,096	\$784
Vessels	\$3,255	\$1,268
Miscellaneous Uses	\$336	\$230
Existing Debt Service	\$212	\$212
<b>Total capital needs</b>	<b>\$4,899</b>	<b>\$2,494</b>
Dedicated capital funds	\$711	\$575
Administrative Transfers	\$450	\$450
Local Funds & Deposit Earnings	\$15	\$15
Federal Funds	\$340	\$252
Bond Proceeds	\$245	\$245
<b>Net Funding Capital Program</b>	<b>(\$3,136)</b>	<b>(\$954)</b>
<b>OPERATING</b>		
<i>2009-11 Cash Carry-Forward</i>	<b>(4)</b>	<b>(4)</b>
Operating revenues	\$5,078	\$3,301
Operating expenses	\$6,399	\$4,255
<b>Net operating income/(subsidy)</b>	<b>(\$1,325)</b>	<b>(\$958)</b>
<b>Average farebox recovery rate</b>	<b>78%</b>	<b>76%</b>
Dedicated operating taxes	\$782	\$542
Administrative Transfers	\$57	\$54
<b>Estimated Subsidy Available</b>	<b>\$840</b>	<b>\$595</b>
<b>Net operating surplus/(deficit)</b>	<b>(\$486)</b>	<b>(\$363)</b>
<b>Total Funding Needs</b>	<b>(\$3,621)</b>	<b>(\$1,317)</b>
Fuel Surcharge Revenues	\$297	\$229
<b>Total Funding Needs (w/ Fuel Surcharge)</b>	<b>(\$3,325)</b>	<b>(\$1,088)</b>

**Note:** Operating revenues, dedicated tax revenues (capital & operating), and fuel costs are based on June 2009 Transportation Economic & Revenue Forecast. Legislative Plan was adopted using March forecast.

**Note:** The 16-Year vessel capital expenditures include \$13.6 million of additional costs attributable to new vessel design for five new 144-car vessels.

**Note:** Fuel Surcharge would be implemented only if Legislature approves the fuel surcharge plan

**Note:** Parenthetical values represent program shortfalls; positive values represent program surpluses

Capital Costs. Exhibit ES-3 above shows the estimated costs and funding needs associated with the Long Range Plan. The Plan's capital program is estimated to total \$4.9 billion (in year of expenditure dollars) through 2030.

- Vessels - \$3.3 billion: Two-thirds of the capital costs are for investments in WSF's fleet, including \$1.9 billion for 10 new vessels, \$1.3 billion to preserve vessels, and \$84 million for vessel improvements to meet evolving regulatory and environmental requirements.



- Terminals - \$1.1 billion: 22% of the total capital costs are for investments in terminals, including \$985 million to preserve terminals and \$111 million for improvements to terminals.
- Other - \$548 million: The remaining 12% of the capital program is for debt service on bonds previously issued to finance WSF's capital expenditures (\$212 million) and emergency repair allowances/management and support (\$ 336 million).

Capital Revenues. The Plan projects available capital revenues of \$1.8 billion from dedicated gas tax revenues (\$711 million), discretionary transfers from the motor vehicle fund made by the legislature (\$411 million), federal funds (\$340 million), bond proceeds (\$245 million), and miscellaneous funds (\$15 million). The gap in capital funding is \$3.1 billion or 63% of the anticipated capital requirement. Revenues are based on June 2009 forecasts.

Operations Costs. The Plan projects operations costs of \$5.1 billion through 2030. Seventy-two percent of operations costs are for vessel operations, 17% for terminal operations and 11% for management and support. Fuel costs are based on June 2009 forecasts.

Farebox and Other Operations Revenues. WSF receives the majority of its operations funding from fares, which are projected to recover 78% of all operations costs through 2030 assuming annual fare increases of 2.5% and a 37% increase in ridership. Fuel surcharges, if approved by the legislature, are anticipated to generate an additional \$297 million, which would bring the total farebox recovery rate to 82%. Operating revenues are based on June 2009 forecasts.

The WSF operations program receives a dedicated portion of the fuel tax, which is expected to generate \$782 million through 2030 or 12% of operations costs. The operating program assumes that WSF will receive \$46.4 million in support from other transportation funds over the next two biennia (per 2009 Legislative session).

The gap in operations funding, assuming approval of the fuel surcharge, is \$189 million or 3% of the anticipated operations funding required.

## 1.6 Public Involvement in Plan Development

In early January, WSF conducted a total of ten public hearings to present the Draft Long-Range Plan. The Draft Plan was developed with extensive public input at 26 public meetings and workshops in ferry-served communities in 2008. The January public hearings were

well attended with over 1,300 individuals that signed in and nearly 400 who chose to testify.

In addition to the public testimony at the official public hearings, WSF collected feedback through emails, letters, and news accounts. In total, WSF received more than 800 comments on the Draft Long-Range Plan between December 19, 2008 and January 26, 2009. All public comment along with a revised plan was submitted to the Legislature on January 31, 2009.

## 1.7 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. It 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 responded that ferries are very important (70%) or somewhat important (25%). Respondents included East Sound (95%), West Sound (98%), and Island (100%) residents (General Market Survey).

Our ridership base is changing. Today, we have fewer 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), although during peak periods, over half of the system's riders are commuters. This reduction in commute trips 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

### Public Hearing Comments

The comments at the public hearings on the Draft Long Range Plan touched on a broad range of subjects, and the following key themes emerged:

- WSF should be treated as part of the state highway system
- Economic impacts of service changes should be considered
- The Draft Plan had not adequately addressed ridership growth
- The Draft Plan raised concerns about a vehicle reservation system
- More information was needed on what WSF is already doing to reduce costs
- WSF should consider building vessels out of state if it would save money
- Scenario B (the reduced service scenario) included an unfunded state mandate for local government to provide passenger-only service



### Challenges Ahead

**Aging Asset Base.** WSF is facing a significant recapitalization effort in the next 20 years. WSF's fleet is among the oldest of any major ferry operator. Furthermore, many of the 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.

**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 vessels or improve terminals, so WSF must anticipate the future need for such projects today.

**Vehicle Capacity Limitations.** Vehicle capacity during peak periods is WSF's greatest constraint and the origin of the pressure for additional services and larger facilities. 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.** While forecasts indicate ridership will increase 37% over the 22-year planning period, ridership is down 13% since its peak in 1999. Population growth is expected in many of the communities served by WSF, but it is not clear how this will translate into increased demand for ferry services.

more frequently (15% said they have been riding significantly more). With respect to flexibility, 8% of peak period vehicle travelers said they could shift to off-peak times, indicating that strategies geared toward time shift (like a vehicle reservation system) could be effective in reducing congestion during the peak.

Fares are only one factor affecting use of ferries. In 1999, WSF lost a significant source of funding when the Motor Vehicle Excise Tax (MVET) was repealed. 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%. 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.

## 1.8 Long-Term Funding

The foremost challenge facing WSF is the anticipated lack of capital funding, with existing resources anticipated to provide only 37% of the needed capital funding. This will require careful consideration of WSF's capital expenditures and continuous efforts to reduce capital costs by delivering projects in the most cost-effective manner. However, costs savings alone will not close the gap in WSF's capital funding. A stable source of capital funding, to replace the MVET funding lost in 1999, is needed.

During the 2007 Legislative session, the Washington State Transportation Commission (WSTC) was directed to conduct a study to identify and evaluate long-term funding alternatives for WSF. The WSTC delivered its report on March 2, 2009. The Governor and the Legislature have not yet acted on these recommendations. The legislative Joint Transportation Committee is conducting a comprehensive analysis of mid-term and long-term funding mechanisms as part of its 2009 work plan, which includes a review of all state transportation funding needs, including those identified for WSF.

<b>BACKGROUND AND CONTEXT</b>	<b>1</b>
1. Introduction	1
1.1 WSDOT Ferries Division (Washington State Ferries/WSF)	2
1.2 Purpose of the Long-Range Plan	4
2. Policy Framework	6
2.1 Washington Transportation Plan	7
2.2 ESHB 2358 The “Ferry Bill”	7
2.3 What factors did WSF consider in developing this Plan?	10
3. Financial Sustainability	12
3.1 Historical Context	13
3.2 Funding for WSF Post MVET Repeal	14
3.3 What is WSF Doing to Keep Costs Down?	15
<b>PUBLIC AND STAKEHOLDER INVOLVEMENT</b>	<b>19</b>
4. Planning Process	19
4.1 Technical and Policy Review Teams	19
4.2 Public Outreach and Stakeholder Involvement	20
5. Draft Plan Outreach	21
5.1 Public Involvement	21
5.2 Key Themes	22
5.3 Summary of Changes to Draft Plan	26
<b>OUR CUSTOMERS: RIDERSHIP AND DEMAND</b>	<b>29</b>
6. Current Ridership	29
6.1 What Did We Learn from Recent Survey Efforts?	30
7. Demand Forecasts	35
7.1 Updated Process for Demand Forecasting	35
7.2 How much ridership is expected?	36
7.3 Implications of Demand Forecasts	41
<b>CUSTOMER SERVICE: LEVEL OF SERVICE STANDARDS</b>	<b>45</b>
8. Current Standards	45
8.1 Current Standards	45
8.2 Need to Re-establish Vehicle LOS Standards	46
9. Changing the Vehicle LOS Measure	47
9.1 Changing the Vehicle LOS Measure	47
9.2 A Framework for Setting LOS Standards	48
10. LOS Implementation Issues	55
<b>OPERATIONS: ADAPTIVE MANAGEMENT STRATEGIES</b>	<b>57</b>
11. Transit Enhancements	59
12. Vehicle Reservations	61
13. Other operational Strategies	68

13.1	Fuel Saving Strategies	68
13.2	Other Strategies	70
<b>14.</b>	<b>Pricing</b>	<b>72</b>
14.1	Pricing and a Vehicle Reservation System	73
14.2	Fuel Surcharge	73
14.3	Other Pricing Strategies	74
	<b>SERVICE PLAN AND INVESTMENT NEEDS</b>	<b>79</b>
<b>15.</b>	<b>Legislative Plan Commitment</b>	<b>80</b>
15.1	Operating Program	80
15.2	Capital Program	87
<b>16.</b>	<b>Additional Long-term Ferry Needs</b>	<b>95</b>
16.1	Terminal Improvements	96
	<b>LONG-RANGE PLAN IMPLEMENTATION</b>	<b>99</b>
<b>17.</b>	<b>Long-term Funding Implications</b>	<b>99</b>
17.1	Operating Program	99
17.2	Capital Program	101
17.3	Long-Term Funding Outlook	102
<b>18.</b>	<b>Other Issues and Risks</b>	<b>104</b>
18.1	Environmental Considerations and Regulatory Risks	104
18.2	Ridership and Demand Risk	109
18.3	Cost and Inflation Risk	110
18.4	Fleet Age and Service Reliability	112
18.5	LOS Standards	112

#### Technical Appendices

<b>A</b>	<b>Summary of Legislative Requirements</b>
<b>B</b>	<b>Terminal Design Standards</b>
<b>C</b>	<b>List of Participants</b>
<b>D</b>	<b>Public Comments on Draft Plan</b>
<b>E</b>	<b>Agency and Stakeholder Comments on Draft Plan</b>
<b>F</b>	<b>Ridership Forecasting Technical Report</b>
<b>G</b>	<b>Annualization Factors for Ridership Analysis</b>
<b>H</b>	<b>Operating Strategies Evaluation</b>
<b>I</b>	<b>Joint WSF/WSTC Recommendations on Adaptive Management Strategies</b>
<b>J</b>	<b>Proposed Transit Enhancements by Terminal</b>
<b>K</b>	<b>Pricing Strategies Evaluation</b>
<b>L</b>	<b>One-Point Toll Collection Technical Memorandum</b>
<b>M</b>	<b>Scenario A and Scenario B</b>
<b>N</b>	<b>Proposed Vessel Assignments</b>
<b>O</b>	<b>Sources and Uses</b>
<b>P</b>	<b>Environmental Considerations</b>