

## **Washington State Ferries Financing Study**

Technical Appendix 1: Review of Studies and Reports



### **Prepared For:**

Joint Transportation Committee  
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## Executive Summary

This review covers a set of studies and reports prepared for and by Washington State Ferries (WSF) between 1998 and 2006 about WSF strategic planning and finances. The purpose of this review is to compile and assess the studies' recommendations and policy directions. The reports are summarized below and in more detail in Appendices A-D.

### ***Long-Range Plans and Passenger-Only Ferry Studies***

This review included two WSF long-range plans (prepared in 1998 for 1999-2018, and a draft updated plan in 2006 for 2006-2030), three passenger-only ferry reports (one in 2005 and two in 2006), and two origin and destination studies (1999 and 2003). See Appendices A and B for details of these studies.

**Planning Strategies and Corridors.** The two long-range plans and the 2005 passenger-only study identify key strategies that guide ferry system planning. Strategies that all three include are: capacity to meet the adopted level of service standards; inter-modal connections between WSF service and local public transit providers; and having an operationally and financially sustainable system. The 2006-2030 plan, which is the basis for WSF's current long-range capital program, also identifies as key strategies: charging prices that are reasonable and equitable as required by RCW 47.60.326; environmental stewardship; and respect for local government land use and growth management plans.

WSF planning is done systemwide and by four service corridors—Central Puget Sound, North Puget Sound, South Puget Sound and the San Juan Islands. These service corridors serve seven distinct travel sheds or travel markets.

**Level of Service and Ridership.** The level-of-service standards and ridership projections are the cornerstone of WSF's long-range plan and capital program. For the Puget Sound routes (90 percent of ferry passengers), the level of service standard is no wait to board a ferry for walk-on pedestrians, and one boat-wait for vehicles for all routes except Bainbridge and Mukilteo, which have a two boat-wait standard. For the San Juan Islands (8 percent of passengers), the standard is no wait for pedestrians. For vehicles in peak season on the San Juan routes, the standard is 25 to 40 percent of monthly sailings where demand exceeds capacity, and in off-peak season, 15 to 25 percent where demand exceeds capacity.

Ridership projections are based on WSF's origin and destination studies, and use transportation planning models and population projections of the Puget Sound Regional Council and state Office of Financial Management, along with historic ridership data, applied to the WSF transportation model. The long-range plan from 1999 projected ridership growth of 70 percent. However, with the sharp fare increases instituted in 2001 as a result of loss of funding from the Motor Vehicle Excise Tax (MVET), ridership actually fell by 10 percent from 1999 to 2005.

The 2006-2030 draft plan again projects ridership growth of 70 percent based on current service, and growth of 88 percent with the planned system improvements. The plan notes

three factors affecting ridership growth: demographic growth, fares and service improvements. Like the prior plan, the 2006-2030 plan assumes a shift away from drivers with vehicles on the ferries to more walk-on passengers. This plan projects 62 percent walk-ons in 2030, up from the 2003 actual of 44 percent. The projected increase in ridership varies among service corridors, with the South Sound projected to have the greatest rate of increase, and Central Puget Sound continuing to have the highest percentage of total ridership.

**Service and Capital Improvements, Capacity Utilization.** The 2006-2030 plan projects capital improvements required to service the projected ridership within the WSF service level standards. These improvements include vessel acquisitions to meet the projected numbers of passengers and vehicles, and terminal improvements to accommodate the vessel changes and passenger growth. The plan assumes a total of fourteen new vessels and fourteen retirements/sales of vessels. While there would still be 28 vessels in 2030, as there are today, there would be more large vessels and more frequent service to serve the projected demand. Major improvements are anticipated at eight terminals, affecting all four corridors (Central – Bainbridge, Colman Dock/Seattle, Edmonds; North – Mukilteo, Clinton, Keystone; South – Southworth, Colman Dock; San Juan Islands – Anacortes).

The ferry system can meet the passenger demand during the afternoon (PM) peak on all routes, with the exception of the “peak of the peak” Seattle-Bainbridge Island sailings. Most of the pressure to expand services and terminals comes from the projected growth in the number of vehicles. The capacity utilization for vehicles is projected to be more than 100 percent during the PM peak on the Bainbridge Island route and the Seattle-Bremerton route (despite additional vessels on this route) by 2030.

**Financial Plan.** A long-term operating and capital financial plan is included in both long-range plans. The 1999-2018 plan included substantial MVET funding, which was eliminated with I-695 in 1999. The draft 2006-2030 plan projects \$5.6 billion in capital investments to maintain the existing fleet and facilities, deliver the new vessels and terminal improvements, provide funding for emergency repairs, and cover debt service. Operating expenses are projected to be less than revenues available from the farebox, other miscellaneous sources such as concessions, and state gas tax and other revenues dedicated to ferry operations over the twenty-five year period. The plan proposes transferring the net, \$925.5 million, to help meet capital expenses. Farebox recovery in total over the twenty-five year period is 98.6 percent, growing from 78 percent in the 2005-07 biennium to 108.9 percent over the 2029-31 biennium.

For capital funding, transfer of the net income from operations is anticipated to provide 18 percent and dedicated tax support (from gas tax, 2003 Nickel Package, 2005 Transportation Partnership Account, and other dedicated funds) 19 percent. Discretionary funding by the legislature from gas tax distributions is assumed at a rate to meet preservation standards, for a total of \$2.6 billion or 49 percent of all anticipated capital funding. Other sources are bond proceeds (5 percent) and federal funds (9 percent). Capital funding is short \$410.7 million over the life of the program, with no source identified in the plan.

**Policy Issues.** The 2006-2030 draft plan raises six key policy issues. These are: fares, farebox recovery rate, service constraints for vessel loading and landside needs, impact of ridership and service increases on Colman Dock, third party operation of Seattle-Kingston passenger-only ferries, and moving people vs. vehicles.

### ***Studies and Task Force Reports***

This review compiles and compares the recommendations of three studies of WSF operations, management of vessels and capital program (1991, 1998 and 2001), and a Joint Legislative Task Force on Ferries, which produced a report in 2001. The three studies are the Management of Vessel Refurbishment Programs conducted in 1991 for the Legislative Transportation Committee by Booz Allen & Hamilton Inc. and M. Rosenblatt & Son, Inc.; the Department of Transportation Ferry System Performance Audit Report 98-6, conducted in 1998 for the Joint Legislative Audit and Review Committee by Booz-Allen & Hamilton, Inc.; and the Office of Financial Management: Performance Audit of the Washington State Ferry System Capital Program conducted in 2001 by Talbot, Korvola & Warwick. See Appendix C for details.

These reports include fifty-nine recommendations in seven categories: organizational structure; labor relations; operations and maintenance; budget; service levels; long-range and capital planning; and vessel construction. WSF has implemented 31 of these recommendations and partially implemented an additional 10. See the Summary of Recommendations table starting on page 7.

### ***Customer Survey***

In 2002 WSF conducted its first-ever survey of riders. The findings are included in a 2002 report, summarized in Appendix B. The survey found that WSF had a significant base of support for its performance, with 75 percent of all riders satisfied or very satisfied, and 25 percent dissatisfied. Full-fare riders were more satisfied (79 percent) than commuters (71 percent). Viewed by route, overall satisfaction ranged from 58 percent for Fauntleroy-Seattle customers, to 86 percent for Keystone-Port Townsend customers.

Regarding fares, 48 percent of all riders felt that the fares represented a good value; 52 percent did not. Full-fare riders were more likely to think the fares were a good value (51 percent) than were commuters (45 percent). Regarding improvements needed, 28 percent of all riders thought fares should be reduced, 16 percent wanted more boats or runs, 14 percent wanted improvements in on-time service, 12 percent wanted better customer service, and 10 percent better food and beverages.

Customers were asked to rank the importance of and their satisfaction with five service elements: on-time performance, route reliability, cleanliness of bathrooms on ferries, cleanliness of the ferry, and friendly/helpful ferry employees. While between 91 and 97 percent ranked each of these elements as important, the percentage of customers satisfied with these elements ranged from 64 percent (for cleanliness of bathrooms) to 76 percent (for route reliability).

### ***Performance Reports and 5+5+5 Plan***

WSF has published progress reports in 1999 (on FY 1998-99), and in 2003 (on FY 2001-03). WSF also reports regularly in the Washington State Department of Transportation’s quarterly performance report (*Gray Notebook*), which is available on the department’s web site. These reports are summarized in Appendix D.

The 1999 Progress Report discussed the completion of the 1999-2018 long-range plan and the 1999 origin and destination study, and indicated that WSF had developed a methodology for a stated-preference survey. (That survey was not conducted.)

The 2001-03 Progress Report dealt primarily with WSF’s adaptation to the loss of MVET funding. The report laid out four strategic goals: (1) continually improve and refine business operations; (2) broaden the revenue base and reduce costs; (3) promote and assist in the planning of regional transportation centers; and (4) redefine who we are. To meet these goals, WSF developed a 5+5+5 business plan for the operating budget. This plan aimed to reduce costs by 5 percent, cap fare increases at 5 percent, and generate new revenues of 5 percent through a comprehensive retail, marketing and advertising program. The goal was to cover 90 percent of operating costs with revenues by 2008. The plan assumed there would be additional funding for capital improvements from reductions in preservation work connected with service reductions and vessel retirements.

The WSF quarterly performance reports include information on customer satisfaction, ridership, trip reliability, on-time performance, capital expenditures, operating revenues, and terminals and vessel condition.

**Summary of Recommendations from Studies and Task Force Report**

**Organizational Recommendations**

Recommendation	Source	Status
1. Re-organize to have engineering design & construction report to the Assistant Secretary.	1991 Study	Implemented
2. Reduce direct reports to the Assistant Secretary.	1998 Audit	Implemented
3. Evaluate management structure. 4. Evaluate ferry governance structure/create local or regional ferry transit districts.	1998 Audit Task Force	Implemented - 2005 Legislature established WSDOT as a cabinet agency and passed RCW 36.54 allowing for the creation of ferry districts. 2006 Legislature established ferry grant program for districts offering passenger-only service.
5. Continue in-house design engineering capacity.	1991 Study	Implemented
6. Assign ships to single owner & create program manager for ship construction.	1991 Study	Implemented
7. Job description of Assistant Secretary/Director of Operations include shipyard experience.	1991 Study	Not implemented/Current job descriptions properly emphasize strategic capacity.
8. Develop employee training and development system beyond mandatory safety training.	1998 Audit	Not fully implemented - funding constraints

**Labor Relations Recommendations**

Recommendation	Source	Status
1. Comprehensive job classification & compensation study as basis for collective bargaining.	1998 Audit	Implemented – 2006 SHB 3178
2. Improve Marine Employees Commission.	1998 Audit	Partially implemented– 2006 SHB 3178
3. Align overtime with other state employees (one and a half times hourly rate rather than double).	1998 Audit	Not implemented

Recommendation	Source	Status
4. Remove mandatory cost-of-living adjustment.	1998 Audit	Not implemented

### Operations & Maintenance Recommendations

Recommendation	Source	Status
1. Analyze vessel deployment strategies to reduce non-revenue generating boat moves.	1998 Audit	Implemented
2. Extend the International Safety Management effort to include WSF domestic routes.	1998 Audit	Implemented
3. Develop emergency response and contingency plans.	1998 Audit	Implemented
4. Implement a maintenance management system.	1998 Audit	Implemented
5. Restructure Eagle Harbor Repair facilities operation.	1998 Audit	Partially implemented: Master plan complete – Phase I construction nearly complete. Staffing & cost estimating improvements.
6. Maintain an in-house maintenance & preservation facility.	Task Force	
7. Develop an information technology plan.	1998 Audit	Partially implemented: Planning done but still have aging, non-integrated information systems.
8. Continue to adopt operational efficiencies, particularly technology to implement variable pricing.	Task Force	Not fully implemented - Electronic fare system implementation behind schedule.

### Budget Recommendations

Recommendation	Source	Status
1. Develop guidelines for project and program budget estimates.	1991 Study	Implemented with life-cycle cost model.
2. Strengthen budget procedures to more closely monitor budget revisions and to evaluate budget revisions against service levels.	1991 Study	Not implemented: Budgets are not compared to the original budget and are not tied to service and performance objectives established in the long-range plan.
3. Communicate to the legislature more clearly the policy implications of schedule and budget adherence.	1991 Study	Partially implemented: WSF has not linked its operating and capital budgets to service levels. The preservation program shows the status of the preservation program against recommended objectives.
4. State needs to do a better job of telling citizens what they are getting for their ferry operating and capital investments.	Task Force	
5. Legislature should exempt ferry tariffs from I-601 to gradually raise tariffs to achieve 80% farebox recovery over six years. <ul style="list-style-type: none"> <li>a. The effect on demand should be evaluated following each tariff increase. <ul style="list-style-type: none"> <li>o Passenger-only ferries (POF) tariffs should be set at double passengers' level on auto ferries.</li> <li>o Implement tariff route equity based on a journey time-based model.</li> </ul> </li> </ul>	Task Force	Partially implemented: The Legislature exempted ferry tariffs from I-601. Since 2000, fares have increased between 60% and 108%. Farebox recovery in FY 2005 was at 76%. The report on the effect of tariff increases on demand has not been produced, though elasticity is considered in the revenue forecasts. Tariff route equity has been implemented.

### Service Level Recommendations

Recommendation	Source	Status
1. Ferries should remain open with no currently operated ferry routes terminated.	Task Force	Superseded by legislative direction to discontinue WSF passenger-only ferry service.
2. State should continue both auto ferry and passenger-only ferry service.	Task Force	Superseded by legislative direction to discontinue WSF passenger-only ferry service.
3. Ferries should continue reduced level of service through 2001-03 with future service needs to be re-evaluated once WSF is able to more accurately assess the impact of tariff increases on ridership.	Task Force	Implemented. Service increases have not been possible given funding constraints.

### Long-Range and Capital Planning Recommendations

Recommendation	Source	Status
1. Develop a life-cycle cost model for terminals.	1998 Audit	Implemented
2. Use a modified version of the current life-cycle cost model to provide an economic condition rating.	2001 Audit	Implemented
3. Build from WSF's corporate strategy to develop a strategic plan down to the section and individual implementation.	1998 Audit	Not implemented
4. Validate the current travel forecast model with a new origin and destination study and update the origin and destination study every five years.	1998 Audit	Partially implemented. A 1999 origin and destination study was done and another is planned for 2006
5. Short- and long-term capital preservation requirements should be met. <ol style="list-style-type: none"> <li>a. Current life-cycle preservation activities do not address the replacement of assets as they reach the end of their useful life.</li> <li>b. Catching up and keeping up with ferry and terminal preservation &amp; maintenance means raising the condition rating for vital systems to between 90% and 100% by 2011, and for non-vital systems to between 60% and 80% by 2011.</li> <li>c. New construction to replace vessels &amp; terminals will result in reduced preservation costs.               <ol style="list-style-type: none"> <li>i. Replace four auto ferries.</li> <li>ii. Mukilteo &amp; Anacortes terminal projects should address preservation &amp; multi-modal needs.</li> <li>iii. Replace two POF vessels.</li> </ol> </li> </ol>	Task Force	Partially implemented: Life-cycle preservation activities do not address the replacement of assets. System goals should be met by 2015. Funding has been secured for four auto ferries and the terminal projects address multi-modal needs. The POF vessel recommendation has been superseded by subsequent legislative direction to discontinue WSF passenger-only ferry service.
6. WSF should conduct a clean-slate analysis of service.	1998 Audit	Not implemented: Assumed existing landside and vessel paradigms in Draft Long-Range Strategic Plan.

### Vessel Construction Policy and Pre-Planning Recommendations

Recommendation	Source	Status
1. Support a policy of renewed shipyard competition and additional shipyard capacity by facilitating renewed shipyard competition and support of out-of-state shipyards.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as implemented.</li> <li>• Implemented legislatively approved revisions to vessel contracting procedures. (see below)</li> </ul>
2. Formalize refurbishment decision process.	1991 Study	1998 Audit reported as implemented.
3. Establish a steel maintenance program.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as not implemented and repeated the recommendation.</li> <li>• Implemented since 1998 with formalized program and survey of single-compartment ferries.</li> </ul>
4. Establish formal pre-refurbishment inspection program.	1991 Study	Partially implemented. WSF does not remove vessels from service for the recommended stand-alone inspections. WSF has instituted a destructive testing program to inspect hidden areas.

### Vessel Construction Specification Development Recommendations

Recommendation	Source	Status
1. Standardize work scoping process.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as implemented.</li> <li>• 2001-02 developed standardized work specification language.</li> </ul>
2. Develop a procedure for estimating planned growth.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as implemented.</li> </ul>

Recommendation	Source	Status
		<ul style="list-style-type: none"> <li>Included in 2002 Vessel Engineering Manual.</li> </ul>
3. Develop a standard structure for unit pricing.	1991 Study	1998 Audit reported as implemented.
4. Specify bid lots for all planned growth.	1991 Study	1998 Audit reported as implemented.

### Vessel Construction Contracting Recommendations

Recommendation	Source	Status
1. Revise standard contract language on the use of unit prices to preclude increased/decreased quantities from negotiation.	1991 Study	1998 Audit reported as implemented.
2. Award planned growth along with base work package.	1991 Study	1998 Audit reported as implemented.
3. Require the shipyard to provide additional management tools.	1991 Study	1998 Audit reported as implemented.
4. Modify legislation controlling firm, fixed pricing contracting practices to allow WSF more discretion and flexibility in its procurement/contracting policy.	1998 Audit	<p>Implemented: SHB 2221 passed in the 2001 legislative session enabled WSF to negotiate single sole-source contracts for vessel maintenance and preservation when there is only one bidder able to accommodate a vessel or class of vessels in their facility. It also streamlined WSF's approval process for utilizing the RFP process.</p> <p>SHB 1680 passed in the 2001 legislative session included authority for WSF to utilize the modified RFP process for new vessel construction.</p>
5. Examine and pursue alternative procurement approaches and statutory authorization regarding procurement of vessel maintenance and repair services.	2001 Audit	
6. Seek legislative changes allowing the procurement of auto ferry equipment and systems through the Request for Proposal -Best Value process without first requesting an exception to the Invitation for Bid process.	2001 Audit	
7. Seek legislative authority to allow the use of a modified Request for Proposal process to procure large-ferry new construction.	2001 Audit	
8. Implement the use of checklists to assure contract coordinators maintain contract files.	2001 Audit	Implemented
9. Modify current contracting procedures manual and update as appropriate.	2001 Audit	Not implemented: WSF plans to complete by Dec. 31, 2006.

### Vessel Construction Contract Management Recommendations

Recommendation	Source	Status
1. Improve change order management procedures.	1991 Study	1998 Audit reported as implemented.
2. Modify the change order approval process to reduce change authority.	1991 Study	1998 Audit reported as implemented.
3. Establish an audit function within WSF reporting to the engineering superintendent or the Assistant Secretary.	1991 Study	Not implemented. WSF does not have a separate audit function.
4. Formalize the asbestos abatement program.	1991 Study	Not implemented. The fleet-wide asbestos survey was not undertaken, but in 1991-1996 surveys were done by vessel class. WSF estimates that 5% to 10% of asbestos remains in the fleet. Bainbridge, Seattle and Anacortes are the only terminals with asbestos remaining.
5. Assign a contract administrator from the contracts/legal department to new construction, renovation and preservation contracts over \$10 million.	1998 Audit	Implemented in 2001 for M. V. Yakima Preservation project. Other preservation projects have been below \$10 million.
6. Modify the standard contract language on contract problem reports to require timely submission of proposals to accomplish indefinite-quantity work items.	1998 Audit	Implemented: WSF eliminated indefinite-quantity work clauses from vessel preservation and new construction contracts.
7. Reduce the amount of preplanned indefinite-quantity work included the contract award to no more than 10%.		
8. Increase the length of time between contract and shipyard arrival.	1998 Audit	Implemented. Lengthened to 30 days.

## **Section One Introduction**

This review covers a set of studies and reports prepared for and by Washington State Ferries (WSF) between 1998 and 2006 about WSF strategic planning and finances. The purpose of this review is to compile and assess the recommendations and policy directions from past studies and audits, focusing on WSF operating programs, and terminal and vessel maintenance and preservation. Studies and reports reviewed include performance audits, Legislative Task Force reports, long-range plans, passenger-only ferry studies, origin and destination studies, a customer survey, and various performance reports. The reports are summarized in the following sections and in more detail in Appendices A-D.

## **Section Two**

### **Long-Range Plans and Passenger-Only Ferry Studies**

The Washington State Transportation Commission (WSTC) adopted the *Washington State Ferries System Plan 1999-2018* in 1998. WSF has updated this plan with a *Draft Long-Range Strategic Plan 2006-2030*, developed as part of the Washington State Department of Transportation's (WSDOT) revision of the Washington State Transportation Plan. The 2006-2030 plan is the basis for WSF's current long-range capital program.

A January 2005 report by Burk & Associates, the *Ten-Year Passenger Strategy for Washington's Multimodal Ferry Transportation System*, reviewed WSF's passenger-only ferry service. A Joint Transportation Committee Passenger-Only Ferry Task Force utilized this report and a *Passenger-Only Ferry Cost Analysis* prepared by Parametrix to issue a *Task Force Report* in January 2006. The 2006 Legislature directed WSF to discontinue WSF passenger-only ferry service in light of the costs of such service, with the Seattle-Vashon passenger-only ferry service authorized to continue through 2007. This legislative direction was incorporated into the 2006-2030 draft plan. Appendix A includes a synopsis of the 1999-2018 plan, the draft 2006-2030 plan and the three passenger-only ferry reports.

The 2006-2030 plan relied on a 1999 origin and destination study documented in the *WSF Travel Survey and Analysis Results Report 2000* by Parsons Brinckerhoff. The *Ten-Year Passenger Strategy for Washington's Multimodal Ferry Transportation System* relied on a 2003 origin and destination study of the south Puget Sound area documented in the *Washington State Ferries South Sound Travel Survey Analysis and Results Report 2004* by Parsons Brinckerhoff. Appendix B includes a synopsis of these origin and destination studies.

#### **A. Planning Strategies**

The two long-range plans and the *Ten-Year Passenger Strategy for Washington's Multimodal Ferry Transportation System* identify key strategies that guide ferry system planning. Consistent strategies among the three are: capacity to meet the adopted level of service standards (see Section C for further explanation of the level of service standards); inter-modal connections between WSF service and local public transit providers; and having an operationally and financially sustainable system. The 1999–2018 plan also included as key strategies: traffic demand management strategies to reduce the number of single occupant vehicles driven onto ferries; improving the south Sound routes; and completing terminals to accommodate new vessels. The 2006-2030 plan identifies as key strategies: charging prices that are reasonable and equitable as required by RCW 47.60.326; environmental stewardship; and respect for local government land use and growth management plans. The *Ten-Year Passenger Strategy* included as key strategies efficiency, by helping to mitigate bottlenecks and chokepoints in the ferry system,; and cost-effectiveness in using existing assets and passenger carrying capacity.

**Table 1. Planning Strategies**

Planning Strategies	1999-2018 Plan	2006-2030 Plan	Ten-Year Strategy (passenger-only ferries)
1. Capacity: meet level of service standard	yes	yes	yes
2. Multi-modal connections	yes	yes	yes
3. Financially sustainable	yes	yes	yes
4. Terminal improvements		yes	
5. Traffic demand management	yes		
6. South Sound routes	yes		yes
7. Prices		yes	
8. Local government plans		yes	
9. Environment		yes	
10. Public consultation		yes	
11. Cost-effectiveness			yes
12. Efficiency – mitigate bottlenecks			yes

## **B. Service Corridors**

WSF planning is done systemwide and by four service corridors—Central Puget Sound, North Puget Sound, South Puget Sound and the San Juan Islands. The variation among the service corridors is important to understanding the proposed ferry service levels, ridership projections and the capital program. The four service corridors serve seven distinct travel sheds or travel markets, which are analyzed in the origin and destination studies.

**Table 2. Service Corridors**

Corridor	Routes	Travel Sheds	% passengers (03)
Central	Bainbridge-Seattle Bremerton-Seattle Edmonds-Kingston	One	56%
North	Mukilteo-Clinton Pt. Townsend-Keystone	Two	20%
South	Seattle-Vashon POF Fauntleroy-Vashon-Southworth Point Defiance-Tahlequah	Two (Pt. Defiance separate)	16%
San Juan	Anacortes-Friday Harbor routes Inter-island routes International route	Two (International, San Juan Islands)	8%

## **C. Level of Service Standards**

The WSTC adopted level of service standards for ferry service in 1994. These standards are used in the 1999-2018 and 2006-2030 Draft Plan to assess whether the system has adequate capacity to meet ridership demand and are critical determinants of WSF’s capital plan.

For the Puget Sound routes, which provide service to more than 92 percent of the ferry system’s passengers, the level of service standard is based on the afternoon (PM) peak weekday traffic westbound (3:00 – 7:00 PM) assumed as a Tuesday, Wednesday, or Thursday in May. The standard for pedestrians walking onto the ferry is no waits, including not waiting for the “peak of the peak” sailing, that is, the most congested sailing of the day. For vehicles the standard varies from a one-boat wait to a two-boat wait on the Seattle-Bainbridge Island and Mukilteo–Clinton routes, which have shorter times between sailings. (In the 2006-2030

Draft Plan these standards are expressed as hour waits instead of boat waits, but the standards remain the same.)

The San Juan Island routes, which in 2005 had 8 percent of the system’s passengers, experience daily and seasonal peaks rather than PM peaks. The level of service standard for walk-ons is that there is no wait. For vehicles, the level of service standard varies between peak and off-peak service expressed as the percentage of monthly sailings where demand exceeds capacity—between 25 percent and less than 40 percent during the peak season and between 15 percent and less than 25 percent during the off-peak season.

**Table 3. Level of Service Standards**

Area	Category	Level of Service Standard	Measured
Puget Sound	Pedestrian	No wait	PM Peak-westbound weekday 3:00 PM-7:00 PM
	Auto	One boat wait except Bainbridge & Mukilteo – 2 boat	
San Juan Islands	Pedestrian	No wait	% of monthly sailings where demand exceeds capacity
	Auto	Peak – 25% - <40% Off-peak – 15% - <25%	

### **D. Ridership**

Ridership projections and the level of service standards are the cornerstone of WSF’s Draft Long-Range Plan and capital program. Ridership projections are partially based on origin and destination studies, with the 1999-2018 relying on a 1993 origin and destination study, and the 2006-2030 plan on the 1999 origin and destination study.<sup>1</sup>

The projections for ridership in the Draft Long-Range Plan use the Puget Sound Regional Council (PSRC) transportation planning model to project growth rates for cross-Sound commute periods (PM peak westbound 3:00 – 7:00 PM) for King, Snohomish, Kitsap and Pierce county residents. These projections are then used in a specific WSF transportation model to estimate route choice and mode of access for each trip. Historic ridership data on the relationship between commute-period ridership and annual ridership is used to project annual ridership.

For counties that lie outside the jurisdiction of the PSRC, WSF uses Office of Financial Management (OFM) population projections, which are then applied to the WSF transportation model to estimate route choice and mode of access. For the north Sound corridor the historic relationship of commute-period ridership to annual ridership is used to project annual ridership. For the San Juan Islands, daily ridership is used for service planning.

The 1999-2018 plan projected a system-wide increase in ridership of 70 percent. This projected level of ridership, which was made before the sharp fare increases instituted in 2001 as a result of the loss of Motor Vehicle Excise Tax (MVET) funding, has not materialized. Between 1999 and 2005 system ridership has fallen by 10 percent.<sup>2</sup>

<sup>1</sup> The 1998 Department of Transportation Performance Audit by Booz Allen recommended that the origin and destination study be updated every five years. (p. 8-20)

<sup>2</sup> WSF Route Summary Statements 1999-2005.

The 2006-2030 plan projects ridership growth of 70 percent with current service and 88 percent with planned service improvements. The plan notes that three factors affect ridership growth:

1. *Demographic growth:* Growth in Kitsap County is especially important. The choice vehicle commuters make between the expanded Tacoma Narrows Bridge and the ferries (assumed to be 75 percent of growth going to the bridge and 25 percent to ferries) is particularly important.
2. *Fares:* Ferry fares are planned to continue to increase annually, with the rate of increase capped at 2.5 percent per year, assumed to be in line with inflation. As fares stabilize, WSF believes that passenger growth will return to pre-I-695 levels (before loss of MVET funding).
3. *Service related growth:* As service improves with the planned increase of 40 percent in service levels, riders will be induced to use the system who otherwise would not.<sup>3</sup>

Both plans assume a shift away from drivers and vehicles using the ferries to more walk-on passengers. The 1999-2018 plan, which assumed a shift from 41 percent peak period walk-on passengers to 55 percent walk-on by 2018, notes: “the future system must rely on more people walking on rather than driving on to meet level of service standards” (p. 13). The 2006-2030 draft plan assumes that walk-ons, which increased to 44 percent of peak period passengers in 2003, will increase further to 62 percent by 2030.

**Table 4. Ridership Projections**

	Ridership Projection	PM Mode Split
1999-2018 Plan	70%	55% walk-on from 41%
2006-2030 Plan	70% current service/88% with additional service	62% walk-on from 44%
2005 Actual	10% decrease (1999-2005)	44% walk-on (2003)

The projected increase in ridership varies among the service corridors, with the 1999-2018 plan anticipating the highest rate of increase in the central Sound corridor and the 2006-2030 draft plan anticipating the greatest increase in the south Sound corridor. It is projected that the central Sound corridor will continue to have the highest percentage of total ridership.

**Table 5. Ridership Projections by Service Corridor**

Corridor	1999-2018 Projection	1999-2005 Actual	2006-2030 Projection	% of passengers (2030)
Central	136% increase	12% decrease	82% increase	56%
North	43% increase	8% decrease	62% increase	17%
South	68% increase	9% decrease	113% increase	19%
San Juan	77% increase	3% decrease	77% increase	7%

## ***E. Service and Capital Improvements***

The 2006-2030 plan projects capital improvements required to service the projected ridership within the established service level standards, starting with vessel acquisitions. Terminal improvements are identified to meet projected ridership and to accommodate anticipated

<sup>3</sup> 2006-2030 Draft Long-Range Plan (p. 14)

vessel changes.<sup>4</sup> These improvements and the capital requirements for preservation of terminals and vessels are the basis of the long-range capital program.

The 2006-2030 Draft Plan assumes three groups of vessel acquisitions and dispositions, with a total of fourteen new vessels and fourteen retirements/sales of vessels. Funding for the first group of new vessels, four 144-car Expanded Issaquah class vessels, has been appropriated by the legislature.

By 2030 the fleet returns to its current size of twenty-eight vessels, with no passenger-only ferries, and an increase in capacity and service additions as noted in Table 7 below on corridor service and capital improvements. By 2030 the fleet would also be more uniform, with sixteen Extended Issaquah class 144-car vessels and six Issaquah class vessels. Standardization of the fleet is anticipated to reduce preservation and maintenance costs.

**Table 6. Fleet Acquisition  
Draft Long Range Strategic Plan**

Size cars	Fleet -current	Group 1 (06-13)	Fleet 2013	Group 2 (14-21)	Fleet 2021	Group 3 (22-30)	Fleet 2030
> 200	3 Mark II		3 *		3		3
140-190	4 Super 2 Jumbo	4 new (144 car)	10	4 new (144 car)/ 1 retire Super	13	6 new (144 car) 3 retire Super	16
90-120	6 Issaquah		6		6		6
90	3 Evergreen		3		3	1 retire	2
45-60	6 Steel Elec/others	4 retire	2	1 retire	1		1
Passenger-only	4	Retire/sell					
<b>Total Vessels</b>	<b>28</b>		<b>24</b>		<b>26</b>		<b>28</b>

2006-2030 Draft Plan pp. 46-48

\* Modified to increase seating but not capacity.

Seven of the new vessels will be used to expand service, while five of the new vessels will replace retired vessels. Additional vessels for more frequent service are planned for the central Sound corridor on the Edmonds-Kingston and Bremerton-Seattle routes; for the north Sound corridor on the Mukilteo-Clinton and the Keystone-Pt. Townsend routes; for the south Sound corridor on a new Seattle-Southworth route; and for the San Juan Islands corridor.

Terminal improvements are planned to match the vessel procurements and service expansions and to meet projected ridership. Major terminal improvements are anticipated in the central Sound corridor at Bainbridge Island, Colman Dock in Seattle and Edmonds; in the north Sound corridor at Mukilteo, Clinton and Keystone; in the south sound corridor at Southworth; and in the San Juan Islands at Anacortes.

<sup>4</sup> The 1999-2018 Plan included an emphasis on passenger-only ferry service, particularly in the Puget Sound service corridors, as a way to meet service demands. The 2006-2030 draft plan is based on the legislative direction to discontinue WSF provision of passenger-only ferry service and assumes third party operation of passenger-only service.

**Table 7. Corridor Service & Capital Improvements  
Draft Long-Range Strategic Plan**

Corridor	Issues	Service Improvements	Vessel Additions	Terminal Improvements
Central	<ol style="list-style-type: none"> <li>1. Growth in vehicle demand on all three routes.</li> <li>2. Growth in passenger demand on Bainbridge route.</li> <li>3. Vehicle traffic at Colman Dock &amp; SR 305.</li> </ol>	<ol style="list-style-type: none"> <li>1. Balance by improving service on Bremerton &amp; Kingston routes.</li> <li>2. Assume private passenger-only ferry service Kingston-Seattle.</li> </ol>	<ol style="list-style-type: none"> <li>1. Kingston – 2 vessels (Groups 1 &amp; 3)</li> <li>2. Bremerton – 1 vessel (Group 2)</li> </ol>	<ol style="list-style-type: none"> <li>1. Bainbridge – expansion</li> <li>2. Colman Dock – Seattle new terminal &amp; add fourth slip.</li> <li>3. Edmonds – new terminal, two additional slips, overhead pedestrian loading.</li> </ol>
North	<ol style="list-style-type: none"> <li>1. Meeting vehicle demand on routes.</li> <li>2. Tentative plan until completion of Keystone Harbor Study addressing navigational issues.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase vehicle carrying capacity.</li> <li>2. Review service options with Keystone Harbor Study complete.</li> </ol>	<ol style="list-style-type: none"> <li>1. Mukilteo – 1 vessel (Group 3)</li> <li>2. Keystone – 1 vessel summers (Group 3)</li> </ol>	<ol style="list-style-type: none"> <li>1. Mukilteo – Relocate to new terminal with Sounder station and bus transit center.</li> <li>2. Clinton – Third slip &amp; overhead loading.</li> <li>3. Keystone – dependent on harbor study.</li> </ol>
South	<ol style="list-style-type: none"> <li>1. Fauntleroy bottleneck/inability to expand.</li> <li>2. Route structure convenient for riders.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add direct Southworth-Seattle service/stop triangular service.</li> </ol>	<ol style="list-style-type: none"> <li>1. Southworth-Seattle 2 vessels (Group 2)</li> </ol>	<ol style="list-style-type: none"> <li>1. Southworth – 2<sup>nd</sup> slip</li> </ol>
San Juan Islands	<ol style="list-style-type: none"> <li>1. Meet vehicle demand on all routes.</li> </ol>	<ol style="list-style-type: none"> <li>1. Maximize possible service.</li> </ol>	<ol style="list-style-type: none"> <li>1. San Juan routes- 1 vessel (Group 2).</li> </ol>	<ol style="list-style-type: none"> <li>1. Anacortes – expand terminal &amp; third slip.</li> </ol>

**F. Capacity Utilization**

The level of service standards are based on the peak PM period and are based on waits for the “peak of the peak” sailings for passengers and the peak period for vehicles. The ferry system can meet the passenger demand during the PM peak on all routes, with the exception of the “peak of the peak” Seattle-Bainbridge Island sailing. Capacity for vehicles is more constrained and drives the need for additional and larger vessels, and correspondingly larger terminals. “[T]here are tensions in terms of how priorities should be established regarding moving people versus moving vehicles. This is a particularly significant issue for this Plan, as most of the pressure to expand services is coming from growth in vehicles” (Draft Long-Range Strategic Plan, p. 68). On some routes as service expands to meet vehicle demand, passenger ridership as a percent of capacity of the vessel declines or stays relatively level as ridership increases. The percent capacity utilization for vehicles is projected to be more than 100 percent during the PM peak on the Bainbridge Island route and the Seattle-Bremerton route (despite additional vessels on this route) by 2030.

**Table 8. Capacity Utilization  
Draft Long-Range Strategic Plan**

	Passengers		Vehicles	
	2030	2003*	2030	2003
Central Corridor				
Seattle-Bremerton**	44%-53%	61%	122%	N/A
Seattle-Bainbridge Island	95%	53%	116%	N/A

	Passengers		Vehicles	
	2030	2003*	2030	2003
Edmonds-Kingston**	26%-34%	22%	89%	N/A
<b>North Corridor</b>				
Mukilteo-Clinton**	27-28%	36%	n/a	N/A
Pt. Townsend-Keystone**	13-16%	n/a	n/a	N/A
<b>South Corridor</b>				
Pt Defiance-Tahlequah**	13%	25%	n/a	N/A
Vashon-Southworth	19-22%	4%	n/a	N/A
Fauntleroy-Vashon	21%-22%	33%	n/a	N/A
Fauntleroy-Southworth	55%-59%		n/a	N/A
Seattle-Southworth***	n/a		86%	N/A
** Capacity added ***New service				

\* 2030 from 2006-2030 Draft Plan; 2003 from Ten-Year Passenger Strategy

## G. Financial Plan

A long-term operating and capital financial plan based on the projected service and capital improvements is included in the 1999-2018 and the draft 2006-2030 plan. The 1999-2018 plan included substantial Motor Vehicle Excise Tax funding, which was eliminated with passage of I-695.

The draft 2006-2030 plan projects \$5.6 billion (in year-of-expenditure dollars) in capital investments to maintain the existing fleet and facilities, deliver the new vessels and terminal improvements, provide funding for emergency repairs, and cover debt service. Sixty percent of total capital expenditures are for vessel preservation and acquisitions; 33 percent for terminal preservation and improvements, and 7 percent for debt service and emergency repairs.

**Table 9. Capital Program  
Draft Long-Range Strategic Plan**

Category	06-30 \$ (000s)	%
Vessel Preservation	2,801.0	50%
Vessel Improvements	584.1	10%
Terminal Preservation	1,202.2	22%
Terminal Improvements	614.5	11%
Debt Service	287.9	5%
Emergency Repairs	116.2	2%
<b>Total</b>	<b>5,605.9</b>	

Operating expenses are projected to be less than revenues available from the farebox, other miscellaneous sources such as concessions, and State gas tax and other revenues dedicated to ferry operations over the twenty-five year period. The plan proposes that the net, \$925.5 million, be transferred to help meet capital expenses. Farebox recovery in total over the

twenty-five year period is 98.6 percent, growing from 78 percent in the 2005-07 biennium to 108.9 percent over the FY 2029-31 biennium.

**Table 10. Operating Income & Expense  
Draft Long-Range Strategic Plan**

	<b>06-30 (000s)</b>	<b>%</b>	
<b>Operating Income</b>			
Farebox	7,371.1	98%	
Misc Revenue	155.2	2%	
<i>Total Operating Income</i>	<i>7,526.3</i>	<i>88%</i>	of total operating income
<b>Expense</b>			
Vessels	5,171.5	68%	
Terminals	1,148.8	15%	
Management & Support	1,311.4	17%	
<i>Total Operating Expense</i>	<i>7,631.7</i>		
<b>Farebox Recovery</b>	<b>98.6%</b>		
<b>Net</b>	<b>-105.4</b>		
<b>State tax support</b>	<b>1,030.9</b>	12%	of total operating income
<b>Net to capital</b>	<b>925.5</b>		

For capital funding, in addition to the transfer from operating income, the plan anticipates the use of gas tax and other revenues dedicated to ferry capital expenses, including ferry support from the 2003 Nickel Package and 2005 Transportation Partnership Account, plus bond proceeds and federal funds. Discretionary funding by the legislature from gas tax distributions is assumed at a rate to meet preservation standards (90 to 100 percent of vital systems operating within life-cycle and 60 to 80 percent of non-vital systems), for a total of \$2.6 billion or 49 percent of all anticipated capital funding. The transfer of the net income from operations is anticipated to provide 18 percent of capital funding, and dedicated tax support to provide 19 percent. Capital funding is short \$410.7 million over the life of the program, with no source identified in the plan.

**Table 11. Capital Income & Expense  
Draft Long-Range Strategic Plan**

	<b>06-30 (000s)</b>	<b>%</b>
<b>Capital Income</b>		
State Distribution of gas tax	615.6	
2003 Nickel funding	164.6	
2005 TPA funding	164.5	
Other dedicated state funds	30.2	
<i>Total dedicated</i>	<i>974.9</i>	<i>19%</i>
Assumed distributions from Motor Vehicle Fund	2,567.0	49%
Transfer from operating	925.5	18%
Bond Proceeds	265.3	5%
Federal funds	462.5	9%
<b>Total capital income</b>	<b>5,195.2</b>	
<b>Total capital expense</b>	<b>5,605.9</b>	
<b>Net</b>	<b>-410.7</b>	

## **H. Policy Issues**

The 2006-2030 draft plan raises six key policy issues:

### **1. Fares**

The projections of ridership and the funding framework assume that fare levels remain close to today's level – increasing at the rate of 2.5 percent annually, which is anticipated to be less than the rate of inflation.

### **2. Farebox recovery**

The plan anticipates that the farebox recovery rate will be over the 80 percent level recommended as a goal by the 2001 Joint Legislative Task Force on Ferries, growing to 109 percent by 2030. If farebox recovery were held to 80 percent, the projections on ridership, operating and capital budgets would change.

### **3. Service constraints**

The plan assumes existing vessel loading (i.e., no double-decker loading) and landside constraints. “[F]or many corridors and terminals the Plan represents the maximum amount of service that can be realized under current terminal and vessel paradigms. . . . To move significantly beyond the service level proposed in the Draft Plan would likely require the construction of new terminals, potentially on both sides of Puget Sound, and possibly in conjunction with introduction of new routes.” (p. 66)

### **4. Colman Dock**

With the proposed new service between Southworth and the Colman Dock and increases in ridership and service on the Bremerton and Bainbridge Island routes, ridership in the PM peak at Colman Dock is expected to increase from approximately 7,500 in 2003 to 19,500 in 2030. The ability of WSF to successfully develop a terminal at Colman Dock that will handle the increase in walk-on and vehicular traffic is a critical issue.

### **5. Seattle-Kingston passenger-only ferry service**

The draft plan relies on third-party operation of a direct Seattle-Kingston passenger-only ferry service to relieve congestion on the Bainbridge Island-Seattle route. Even with this service, it is anticipated that the Bainbridge Island PM peak will be at 95 percent of capacity by 2030 for passengers and at 116 percent for vehicles.

### **6. Moving people vs. vehicles**

“As with the rest of the highway system and the broader transportation system, there are tensions in terms of how priorities should be established regarding moving people versus moving vehicles. This is a particularly significant issue for this Plan, as most of the pressure to expand services is coming from growth in vehicles. There are two principal policy areas where issues of people versus vehicles arise: 1) the Commission congestion (level of service) standards; and 2) fare policies . . . . One way to meet the demand for expanded ferry services would be to relax the Commission congestion standards for vehicles . . . . An option that would reduce the demand for vehicles and possibly improve the mode shift on ferry routes would be to make vehicle fares relatively more costly than passenger fares over time.” (pp. 68-69)

## Section Three Studies and Task Force Report

In 1991 the Legislative Transportation Committee commissioned a study by Booz Allen & Hamilton and M. Rosenblatt & Son, Inc. on *Washington State Ferries Management of Vessel Refurbishment Programs* (1991 Study). The purpose of the study was to evaluate the ferry vessel refurbishment process and procedures, particularly those related to vessel inspection, engineering, cost estimating, construction management, change order management and budget procedures.

In 1998, the Joint Legislative Audit Review Committee (JLARC) commissioned the *Department of Transportation Ferry System Performance Audit 98-6* by Booz Allen & Hamilton (1998 Audit) to review the implementation of the 1991 recommendations and to provide an independent and comprehensive audit of WSF's overall operation. The audit examined WSF's organizational structure, operations, maintenance and safety programs, vessel construction and refurbishment, and long-range planning. The study included recommendations on public/private partnerships that were not endorsed by JLARC.

In 2001 the Office of Financial Management commissioned a *Performance Audit of the Washington State Ferry System Capital Program* by Talbot, Korvola & Warwick (2001 Audit). The study reviewed WSF's capital investment life-cycle cost models; WSF's contracting and bidding processes; contracting and bidding processes used by other entities; and implementation of the 1998 audit recommendations.

In 2000 a Joint Legislative Task Force on Ferries (Task Force) was formed by the legislature, composed of Legislators, citizens, ferry management and ferry workers with the charge to make recommendations to the full legislature on: establishing goals for farebox recovery; options for different levels of service; feasibility of privatization, public-private partnerships or state and local partnerships; and establishing the short-term and long-term capital needs of the system. The Task Force issued its report in January 2001.

Appendix C includes a detailed review of these studies, including their key findings, recommendations, and the implementation status of the recommendations.

The reports include 59 recommendations in 7 categories: organizational structure; labor relations; operations and maintenance; budget; service levels; long-range and capital planning; and vessel construction.

**Table 12. Study Recommendations Summary**

Area	# Recommendations
Organizational structure	8
Labor relations	4
Operations & maintenance	8
Budget	5
Service levels	3
Long-range & capital planning	6
Vessel construction	25
<b>Total Recommendations</b>	<b>59</b>

## A. Organizational Structure

The 1991 Study found that the need to refurbish aging vessels had transformed WSF from an operations-oriented entity to a more capital and construction intensive organization and that better work definitions for refurbishment specifications developed in-house had contributed to reductions in actual growth of refurbishment project budgets. The study made four organizational recommendations, three of which have been implemented. Those implemented include recommendations to reduce the organization layers between the Assistant Secretary and those directly responsible for engineering design and construction; continuing an in-house design engineering capacity; and assigning ships to a single owner port engineer and creating a program manager for ships under construction or refurbishment.

The 1991 Study also recommended that the Assistant Secretary and Operations Superintendent job descriptions be modified to require previous shipyard and/or vessel maintenance management experience. This recommendation was not implemented. The current job descriptions more appropriately emphasize the strategic and policy roles of these positions and better reflect their current range of responsibilities.

The 1998 Audit found that: the diversity of stakeholder interests impeded the ability of WSF to manage and operate effectively and efficiently; the organizational structure was inverted, with senior management having numerous direct reports and lower management having few; management was characterized by high turnover in key positions, which affected operational continuity and succession planning; and while WSF delivered the required safety-based programs effectively, adequate employee development and leadership training were not available. The audit recommended reducing the number of direct reports to the Assistant Secretary, which has been implemented, and that WSF implement an employee training and development program, which has been hampered by lack of funding.

The key finding of the 1998 Audit regarding management turnover continues to be a problem at WSF, with a very similar pattern to that found in the audit occurring between 1998 and 2006.

**Table 13. WSF Management Turnover**

Position	# of employees 1990 – 1998*	# of employees 1998 – 2006**	Current Title if different from 1 <sup>st</sup> column/date changed if known
Assistant Secretary/CEO	3	3	Executive Director/2004
Deputy Director	1	2	Director of Finance/2002
Marine Operations Director	3	3	Director of Operations
Human Resources Director	4	2	Director of Human Resources
Vessel Engineering Manager	3	1	Director of Vessel Engineering
Terminal Engineering Manager	5	3	Director of Terminal Engineering
Director of Administration	3	1	N/A (eliminated)

\* from Booz-Allen Report

\*\* from WSF

The 1998 Audit recommended evaluating the management system to identify options to reduce decision cycle time, clarify accountability and responsibility, eliminate conflicts and facilitate access to capital. The 2001 Joint Legislative Task Force recommended that the governance structure of WSF be reviewed as part of the Blue Ribbon Commission on Transportation's recommended overall review of transportation governance. The Legislative

Task Force also recommended the creation of local or regional ferry transit districts as a funding mechanism for expanded passenger-only ferry service. The 2005 Legislature established the Washington State Department of Transportation as a cabinet agency reporting to the Governor rather than to the Washington State Transportation Commission. RCW 36.54 adopted in the 2005 legislative session allows for the creation of county ferry districts. SB 6787 adopted in the 2006 legislative session establishes a ferry grant program for ferry districts offering passenger-only ferry service and requires WSF collaboration in terminal operations to support this service.

**Table 14. Organizational Recommendations**

Recommendation	Source	Status
1. Re-organize to have engineering design & construction report to the Assistant Secretary.	1991 Study	Implemented
2. Reduce direct reports to the Assistant Secretary.	1998 Audit	Implemented
3. Evaluate management structure. 4. Evaluate ferry governance structure/create local or regional ferry transit districts.	1998 Audit Task Force	Implemented - 2005 Legislature established WSDOT as a cabinet agency and passed RCW 36.54 allowing for the creation of ferry districts. 2006 Legislature established ferry grant program for districts offering passenger-only service.
5. Continue in-house design engineering capacity.	1991 Study	Implemented
6. Assign ships to single owner & create program manager for ship construction.	1991 Study	Implemented
7. Job description of Assistant Secretary/Director of Operations include shipyard experience.	1991 Study	Not implemented/Current job descriptions properly emphasize strategic capacity.
8. Develop employee training and development system beyond mandatory safety training.	1998 Audit	Not fully implemented - funding constraints

## ***B. Labor Relations***

The 1998 Audit found that: collective bargaining and dispute resolution processes impacted WSF’s day-to-day operations and management and its ability to operate efficiently and effectively; grievances and unfair labor practice charges were disproportionately high compared to other state agencies; and the services provided by the Marine Employees Commission were not fully utilized by WSF management and labor unions.

The audit made four recommendations to improve labor relations. A recommendation to conduct a comprehensive job classification and compensation study to support collective bargaining and a recommendation to evaluate the benefits of improving current Marine Employees Commission services and/or placing WSF marine employees under the Public Employee Relations Commission have been fully or partially implemented. The 2006 Legislature passed SHB 3178, which reformed collective bargaining for WSF by: assigning responsibility to the Governor; modifying the timeframe for negotiations; requiring a determination of financial feasibility by the Office of Financial Management; creating a provision to return to collective bargaining in the event of a revenue shortfall; and including an interest arbitration provision.

The other two recommendations from the 1998 Audit—to align marine employees’ overtime with the rest of state employees to pay time-and-a-half for overtime rather than double time, and to remove the mandatory cost of living adjustments for WSF bargaining unit employees—have not been implemented.

The 1998 Audit also found that labor relations adversely affects the ability of WSF to operate effectively and efficiently, and that the organization experiences an extraordinary number of unfair labor practice charges and grievances. These problems continue today. Both the legislature and WSF anticipate that this situation may be at least partially rectified with the passage of SHB 3178.

**Table 15. Labor Relations Recommendations**

Recommendation	Source	Status
1. Comprehensive job classification & compensation study as basis for collective bargaining.	1998 Audit	Implemented – 2006 SHB 3178
2. Improve Marine Employees Commission.	1998 Audit	Partially implemented– 2006 SHB 3178
3. Align overtime with other state employees (one and a half times hourly rate rather than double).	1998 Audit	Not implemented
4. Remove mandatory cost-of-living adjustment.	1998 Audit	Not implemented

### ***C. Operations and Maintenance***

The 1998 Audit found that: WSF incurred expenses and reduced vessel availability from non-revenue trips that might have been avoided; International Safety Management (ISM) procedures were required for international compliance and for safety and should result in system improvements; WSF did not maintain adequate emergency response documentation to meet situational needs; WSF did not fully utilize technology internally or externally to achieve operational savings and support management decision-making; there was greater oversight, ownership and resources dedicated to vessels than to the terminals; the Eagle Harbor repair facility was antiquated and that its staffing, while comparable in costs to private shipyards, was not aligned with seasonal workload variations; and WSF had not successfully implemented a maintenance management system.

The audit recommended: analyzing vessel deployment strategies to reduce or eliminate the frequency of non-revenue-generating boat moves and refueling operations; extending the International Safety Management effort to include WSF domestic routes and terminal operations; developing emergency response and contingency plans for WSF; and accelerating the implementation of a maintenance management system. These recommendations have been fully implemented. WSF has reduced non-revenue boat moves from 1.8 percent of total moves (1996) to 0.5 percent of total moves due to more efficient fueling practices (1999-1,383 fueling trips/2006-317), vessel retirements and service reductions. A maintenance management system, the Maintenance Productivity Enhancement Tool, is in use for all vessels, terminals, at the warehouse, in the purchasing department and at the Eagle Harbor repair facility.

The 1998 Audit recommended that the Eagle Harbor repair facility be restructured to address facilities, staffing levels, workload management and job cost-estimating problems. The 2001

Legislative Task Force recommended that WSF maintain an in-house maintenance and preservation facility. These recommendations have been partially implemented. An Eagle Harbor master facility plan has been completed, with phase one construction to create a drive-on slip nearing completion. The Maintenance Productivity Enhancement Tool will be used to develop a labor collection cost capability that will permit improved job planning, budget forecasting and accurate job costing. Eagle Harbor staffing has been leveled to some extent through WSF’s mission integration program, which permits Eagle Harbor staff to work on a “not to interfere” basis on vessels while they are in commercial shipyards. The Project Planning Office at Eagle Harbor includes two planners/estimators to improve job costing.

The 1998 Audit also recommended that WSF develop an information technology plan to identify future information requirements, achieve operational and organization efficiencies, and support management decision-making. WSF has not had funding to fully implement this recommendation and continues to have aging and non-integrated systems. WSF indicates that it plans to seek funding from the 2007 legislature to improve its information systems.

The 2001 Legislative Task Force recommended that WSF continue to adopt operational efficiencies, including investments in technology to enable WSF to implement time-of-day and time-of-week variable tariffs. This recommendation has been partially implemented. An electronic fare system was funded (\$15.7 million) beginning in the 2003 legislative session. Implementation of the system is behind schedule. Testing on the Port Townsend-Keystone route started in January 2006, with extension of the system to Anacortes in October 2006.

**Table 16. Operations & Maintenance Recommendations**

Recommendation	Source	Status
1. Analyze vessel deployment strategies to reduce non-revenue generating boat moves.	1998 Audit	Implemented
2. Extend the International Safety Management effort to include WSF domestic routes.	1998 Audit	Implemented
3. Develop emergency response and contingency plans.	1998 Audit	Implemented
4. Implement a maintenance management system.	1998 Audit	Implemented
5. Restructure Eagle Harbor Repair facilities operation. 6. Maintain an in-house maintenance & preservation facility.	1998 Audit Task Force	Partially implemented: Master plan complete – Phase I construction nearly complete. Staffing & cost estimating improvements.
7. Develop an information technology plan.	1998 Audit	Partially implemented: Planning done but still have aging, non-integrated information systems.
8. Continue to adopt operational efficiencies, particularly technology to implement variable pricing.	Task Force	Not fully implemented - Electronic fare system implementation behind schedule.

#### **D. Budget**

The 1991 Study found that: inaccurate program budget estimates led to growth in refurbishment capital budgets; no formal guidelines existed to prepare, justify and show linkage of capital budgets to traffic demand; and the system used for accountability and monitoring of the original program budget estimates may have contributed to the continued

inaccuracy of estimating. Financial reports used the current authorized budget not the original budget estimate, and post-program reviews did not include a review of initial budget estimates relative to actual program costs.

The 1991 Study recommended that WSF develop guidelines for project and program budget estimates. This recommendation has been implemented through the vessel and terminal life-cycle cost models.

The 1991 Study recommended that WSF strengthen budget procedures to more closely monitor budget revisions, and that the policy implications of schedule and budget adherence should be more clearly communicated to the legislature in the original budget and subsequent versions. The budget procedures recommendations included: establishing a process for evaluating budget revisions against service objectives prior to approval; comparing major budget revisions against the original budget, as well as the prior budget revision; and limiting budget revision authority.

The Legislative Task Force recommended that the state do a better job of telling citizens what they are getting for their ferry operating and capital investments. The Task Force recommended that budgets be formatted as maintenance, operations, preservation and improvement expenses; ferry capital projects be included in the Transportation Executive Information System (TEIS); information be presented in performance-based budgeting modules; and more information be made available to the public.

Some of the Task Force's recommendations have been implemented, including the inclusion of the ferry capital program in TEIS. Information is presented in a performance-based budgeting module through the use of WSF's life-cycle cost models. The recommended alignment of budget decisions with planned service levels has not been implemented nor has the systematic reporting of expenditures against the original budget. WSF divides its capital budget by preservation and improvements.

The Task Force's findings on tariffs were that: I-601 would limit ferry tariff increases to 2.7 percent annually without a waiver from the legislature; current tariff relationships and route groups were based on the tariff structure WSF inherited from the Black Ball system in 1951; there was no policy rationale for the current relationship among tariffs on routes of different lengths; and WSF had never implemented a tariff increase of a magnitude to cause a decrease in ridership.

The Task Force recommended that the legislature exempt ferry tariffs from I-601 so that tariff increases could be phased in over six years, with the goal of raising farebox recovery systemwide to 80 percent. The Task Force also recommended that: the effect on demand should be evaluated following each tariff increase; passenger-only ferry tariffs be set at double the passenger level on auto ferries; and WSF should implement tariff route equity based on a journey time-based model. These recommendations have been implemented, with the exception of the report on the effect of tariff increases on demand. Farebox recovery rose to 76 percent systemwide in 2005.

**Table 17. Budget Recommendations**

Recommendation	Source	Status
1. Develop guidelines for project and program budget estimates.	1991 Study	Implemented with life-cycle cost model.
2. Strengthen budget procedures to more closely monitor budget revisions and to evaluate budget revisions against service levels.	1991 Study	Not implemented: Budgets are not compared to the original budget and are not tied to service and performance objectives established in the long-range plan.
3. Communicate to the legislature more clearly the policy implications of schedule and budget adherence. 4. State needs to do a better job of telling citizens what they are getting for their ferry operating and capital investments.	1991 Study  Task Force	Partially implemented: WSF has not linked its operating and capital budgets to service levels. The preservation program shows the status of the preservation program against recommended objectives.
5. Legislature should exempt ferry tariffs from I-601 to gradually raise tariffs to achieve 80% farebox recovery over six years. b. The effect on demand should be evaluated following each tariff increase. o Passenger-only ferries (POF) tariffs should be set at double passengers' level on auto ferries. o Implement tariff route equity based on a journey time-based model.	Task Force	Partially implemented: The Legislature exempted ferry tariffs from I-601. Since 2000, fares have increased between 60% and 108%. Farebox recovery in FY 2005 was at 76%. The report on the effect of tariff increases on demand has not been produced, though elasticity is considered in the revenue forecasts. Tariff route equity has been implemented.

**E. Service Levels**

The Task Force made two recommendations related to passenger-only ferries (POF) that have been superseded by subsequent legislative direction to discontinue passenger-only service in light of the costs of such service. The Task Force recommended that WSF should continue its then reduced level of service through 2001-2003, which was implemented. Service additions, if any, were to be evaluated based in part on specific Task Force findings with regard to the Port Townsend-Keystone and Point Defiance-Talequah routes and in light of experience with the elasticity of demand as tariffs increased.

**Table 18. Service Level Recommendations**

Recommendation	Source	Status
1. Ferries should remain open with no currently operated ferry routes terminated.	Task Force	Superseded by legislative direction to discontinue WSF passenger-only ferry service.
2. State should continue both auto ferry and passenger-only ferry service.	Task Force	Superseded by legislative direction to discontinue WSF passenger-only ferry service.
3. Ferries should continue reduced level of service through 2001-03 with future service needs to be re-evaluated once WSF is able to more accurately assess the impact of tariff increases on ridership.	Task Force	Implemented. Service increases have not been possible given funding constraints.

## ***F. Long-Range and Capital Planning***

The 1998 Audit found that: the WSF mission statement was not supported by detailed standards and performance measures; the cornerstone of long-range planning was the use of the travel forecasting model for demand forecasting; the fleet planning process was scenario-based, focused on service planning by route and region, which may not optimize operating and capital costs; WSF terminals are out-of-date and have insufficient capacity to support future demand; and estimating capital expenditure requirements builds from recent construction costs, the life-cycle cost model and professional experience.

The 1998 Audit recommended that WSF build from its corporate strategy to develop a strategic plan detailing corporate goals and objectives, actions and implementation steps, and timing of actions to department and individual responsibilities. The audit also recommended that the travel forecast model be updated with a new origin and destination study and that the origin and destination study be updated every five years. They recommended that WSF conduct a clean-slate fleet and service optimization exercise to identify and evaluate benefits-costs of an unconstrained fleet and compare it to the twenty-year plan.

These recommendations have been partially implemented. WSF has not developed a detailed strategic plan. The origin and destination study was updated in 1999, but was not updated in 2004. WSF has not conducted a clean slate analysis and, as indicated in the 2006-2030 Draft Long-Range Plan, anticipates maximizing service with the current vessel and landside paradigms by 2030.

The 1998 Audit also recommended that a life-cycle cost model be developed for terminals. The 2001 Audit recommended that the life-cycle cost models be modified to include an economic condition rating. These recommendations have been implemented.

The Task Force recommended that short- and long-term capital preservation requirements be met. They noted that the current life-cycle preservation activities do not address the replacement of assets as they reach the end of their useful life. They recommended that catching up and keeping up with ferry and terminal preservation and maintenance means raising the condition rating for vital systems to between 90 percent and 100 percent by 2011 and for non-vital systems to between 60 percent and 80 percent. The Task Force noted that new construction to replace vessels and terminals will result in reduced preservation costs, and recommended the replacement of four aging auto ferries. They also recommended that the Mukilteo and Anacortes terminal projects address preservation and multi-modal needs, and that two passenger-only ferry vessels be replaced.

These recommendations have been partially implemented, with the exception of the recommendation to replace the two passenger-only ferries, which has been superseded by subsequent legislative direction to discontinue WSF passenger-only service. WSF anticipates that with current funding, the preservation goals will be met by 2015. Funding has been secured for four new ferries. The Mukilteo and Anacortes terminal projects address multi-modal needs. Current life-cycle preservation activities do not address the replacement of assets that are nearing the end of their useful lives.

**Table 19. Long-Range and Capital Planning Recommendations**

Recommendation	Source	Status
1. Develop a life-cycle cost model for terminals.	1998 Audit	Implemented
2. Use a modified version of the current life-cycle cost model to provide an economic condition rating.	2001 Audit	Implemented
3. Build from WSF's corporate strategy to develop a strategic plan down to the section and individual implementation.	1998 Audit	Not implemented
4. Validate the current travel forecast model with a new origin and destination study and update the origin and destination study every five years.	1998 Audit	Partially implemented. A 1999 origin and destination study was done and another is planned for 2006
5. Short- and long-term capital preservation requirements should be met. <ul style="list-style-type: none"> <li>c. Current life-cycle preservation activities do not address the replacement of assets as they reach the end of their useful life.</li> <li>d. Catching up and keeping up with ferry and terminal preservation &amp; maintenance means raising the condition rating for vital systems to between 90% and 100% by 2011, and for non-vital systems to between 60% and 80% by 2011.</li> <li>c. New construction to replace vessels &amp; terminals will result in reduced preservation costs.</li> <li>iv. Replace four auto ferries.</li> <li>v. Mukilteo &amp; Anacortes terminal projects should address preservation &amp; multi-modal needs.</li> <li>vi. Replace two POF vessels.</li> </ul>	Task Force	Partially implemented: Life-cycle preservation activities do not address the replacement of assets. System goals should be met by 2015. Funding has been secured for four auto ferries and the terminal projects address multi-modal needs. The POF vessel recommendation has been superseded by subsequent legislative direction to discontinue WSF passenger-only ferry service.
6. WSF should conduct a clean-slate analysis of service.	1998 Audit	Not implemented: Assumed existing landside and vessel paradigms in Draft Long-Range Strategic Plan.

## **G. Vessels**

The 1991 Study and the 1998 and 2001 Audits dealt extensively with vessel construction. Their twenty-five recommendations can be divided into policy and pre-planning, specification development, contracting, and construction management recommendations. The 1998 and 2001 Audits reviewed implementation of the 1991 recommendations. The 2001 Audit reviewed implementation of the 1998 recommendations.

The 1991 report made recommendations regarding the vessel refurbishment program, which by 1998 had been transformed into a vessel preservation program. The preservation program features more frequent, less expensive renovations to the vessels rather than waiting for the vessel to need a complete overhaul. The 1998 Audit supported the change to a preservation program, noting that the refurbishment program may not have resulted in the greatest return on capital investments, as expenditures for some refurbishments exceed 67 percent of the new construction costs. “The main advantage of a preservation approach (vs. refurbishment) is that it should permit more cost-effective and targeted investments in vessel systems, passenger spaces and hull with lower project expenditures” (p. 7-13).

## 1. Vessel Construction Policy and Pre-Planning Recommendations

The 1991 Study found that the decline in the region’s shipbuilding and repair industry’s ability to provide service left WSF vulnerable to higher-than-normal ship refurbishment costs for large vessel drydocking.

The study examined five vessel refurbishments which represented 95 percent of the vessel refurbishment expenditures from 1985-1990. They found that WSF received value for 81 percent of the expenditures and no value for 19 percent of the expenditures. The 19 percent premium resulted primarily from inadequate planning, inspection, specification and contract development, and poor construction and change management procedures. Forty-one percent of growth came from problems during the planning phase, indicating inadequate planning and control processes that resulted in changes and cost increases. A lack of inspection procedures resulted in “hidden surprises” during refurbishment, causing increases in the scope of work.

The study recommended that the Washington State Department of Transportation and the legislature support a policy of renewed shipyard competition and additional shipyard capacity in the region, including facilitating pre-qualification of shipyards with drydocks capable of handling the WSF fleet and supporting out-of-state shipyards. This recommendation, which was noted as implemented in the 1998 Audit, has also been implemented through revisions to the bidding process noted under the contracting section below.

The study also recommended that WSF formalize its refurbishment decision-making process. The 1998 Audit found that this recommendation had been implemented. They also recommended that a steel maintenance program be implemented. This had not been implemented by the time of the 1998 Audit, which reiterated the recommendation. WSF has since formalized its steel maintenance program and, as recommended by the 1998 Audit, had all single-compartment vessels surveyed.

The study recommended that a formal pre-refurbishment inspection be instituted in coordination with vessel operating, maintenance and drydocking schedules to include the identification of hidden or inaccessible items. This recommendation has been partially implemented. WSF has elected not to take vessels out of service for pre-preservation inspections. They have started a destructive testing program as part of the ongoing maintenance inspection program to inspect interior portions of the vessels.

**Table 20. Vessel Construction Policy and Pre-Planning Recommendations**

Recommendation	Source	Status
1. Support a policy of renewed shipyard competition and additional shipyard capacity by facilitating renewed shipyard competition and support of out-of-state shipyards.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as implemented.</li> <li>• Implemented legislatively approved revisions to vessel contracting procedures. (see below)</li> </ul>
2. Formalize refurbishment decision process.	1991 Study	1998 Audit reported as implemented.
3. Establish a steel maintenance program.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as not implemented and repeated the recommendation.</li> <li>• Implemented since 1998 with formalized program and survey of single-compartment ferries.</li> </ul>
4. Establish formal pre-refurbishment inspection program.	1991 Study	Partially implemented. WSF does not remove vessels from service for the recommended stand-alone inspections. WSF has instituted a destructive testing program to inspect hidden areas.

## 2. Vessel Construction Specification Development Recommendations

The 1991 Study found that insufficiently detailed specifications allowed shipyards too many loopholes to increase the scope and price of work. They recommended that: WSF standardize its work scoping process; develop a procedure for estimating planned growth using data from pre-refurbishment inspections, vessel maintenance histories, and a change order database from previous refurbishments; develop a standard structure for unit pricing as a basis for change order estimating; and specify bid lots for all planned growth to ensure unit pricing is included in the construction contracts.

The 1998 Audit found that these recommendations had been implemented. WSF reports additional implementation with the development in 2001-02 of standardized work specification language and the inclusion of procedures for estimating planned growth in its 2002 Vessel Engineering Manual.

**Table 21. Vessel Construction Specification Development Recommendations**

Recommendation	Source	Status
1. Standardize work scoping process.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as implemented.</li> <li>• 2001-02 developed standardized work specification language.</li> </ul>
2. Develop a procedure for estimating planned growth.	1991 Study	<ul style="list-style-type: none"> <li>• 1998 Audit reported as implemented.</li> <li>• Included in 2002 Vessel Engineering Manual.</li> </ul>
3. Develop a standard structure for unit pricing.	1991 Study	1998 Audit reported as implemented.
4. Specify bid lots for all planned growth.	1991 Study	1998 Audit reported as implemented.

## 3. Vessel Construction Contracting Recommendations

The 1991 Study found that: proper contract development is a critical tool for controlling growth; 30 percent of all cost growth on WSF refurbishment contracts included charges for delay and disruption and provided no value to WSF; and at peer ferry systems, work scope and price are controlled by unit prices, shipyards being required to estimate work within two weeks of a change request, and if disputed, being required to proceed on a time-and-material basis with a cost ceiling.

The 1991 Study made three recommendations related to contract development. They recommended that WSF revise its standard contract language on the use of unit prices to preclude increased/decreased quantities from negotiation, with increased work to be covered by bid lots. They also recommended that WSF award planned growth along with the base work package to increase control and reduce the basis for shipyard claims for delay and disruption, and that WSF require the shipyards to provide additional management tools such as critical-path-method networks to track schedules.

The 1998 Audit found that these three recommendations had been implemented. The audit made an additional recommendation that the legislature allow WSF to have more discretion and flexibility in its procurement/contracting policies.

The 2001 Audit found in its review of WSF contract files that some files were incomplete, missing or mis-filed, and that the WSF contracting manual needed to be revised. The 2001 Audit also found that the use of the invitation-for-bid method for dockside and small ferry maintenance services was appropriate and that the request for proposal-best value (RFP) process was best for large auto-ferry construction projects. The RFP process could be implemented only with approval of the Secretary of Transportation, which the audit found to be unnecessary and overly restrictive. The audit also found that invitation to bid was the only process available to WSF for new auto ferry construction, which was a process no longer used by other entities for procurement of large vessels.

The 2001 Audit recommended that WSF implement the use of a checklist to assure contract coordinators maintain contract files. This recommendation has been implemented. They also recommended that WSF modify the contracting manual and update it as appropriate. WSF has not implemented this recommendation, but anticipates doing so by the end of 2006.

The 2001 Audit recommended three changes to the state’s procurement policies: examining and pursuing alternative procurement strategies; seeking legislative changes allowing the procurement of auto ferry equipment and systems through the RFP process without first requesting an exception to the invitation-for-bid process from the Secretary of Transportation; and seeking legislative authority to allow the use of a modified RFP process to procure large new ferry construction.

The recommended changes in procurement policies have been implemented through actions of the legislature. SHB 2221 approved in the 2001 legislative session enabled WSF to negotiate single sole-source contracts for vessel maintenance/preservation when there is only one bidder able to accommodate a vessel or class of vessels in their facility, and streamlining the approval process for utilizing the RFP process. SHB 1680 approved in the 2001 legislative session included authority for WSF to utilize the modified RFP process for new vessel construction.

**Table 22. Vessel Construction Contracting Recommendations**

Recommendation	Source	Status
1. Revise standard contract language on the use of unit prices to preclude increased/decreased quantities from negotiation.	1991 Study	1998 Audit reported as implemented.
2. Award planned growth along with base work package.	1991 Study	1998 Audit reported as implemented.
3. Require the shipyard to provide additional management tools.	1991 Study	1998 Audit reported as implemented.
4. Modify legislation controlling firm, fixed pricing contracting practices to allow WSF more discretion and flexibility in its procurement/contracting policy.	1998 Audit	Implemented: SHB 2221 passed in the 2001 legislative session enabled WSF to negotiate single sole-source contracts for vessel maintenance and preservation when there is only one bidder able to accommodate a vessel or class of vessels in their facility. It also streamlined WSF’s approval process for utilizing the RFP process.
5. Examine and pursue alternative procurement approaches and statutory authorization regarding procurement of vessel maintenance and repair services.	2001 Audit	
6. Seek legislative changes allowing the procurement of auto ferry equipment and systems through the Request for Proposal -Best Value process without first requesting an exception to the Invitation for Bid process.	2001 Audit	
7. Seek legislative authority to allow the use of a modified	2001 Audit	
		SHB 1680 passed in the 2001

Recommendation	Source	Status
Request for Proposal process to procure large-ferry new construction.		legislative session included authority for WSF to utilize the modified RFP process for new vessel construction.
8. Implement the use of checklists to assure contract coordinators maintain contract files.	2001 Audit	Implemented
9. Modify current contracting procedures manual and update as appropriate.	2001 Audit	Not implemented: WSF plans to complete by Dec. 31, 2006.

#### 4. Vessel Construction Management Recommendations

The 1991 Study found that: the construction management practices and procedures used by WSF allowed shipyards too much leeway in determining the size, scope and price of changes; the procedure then in use for change orders resulted in loss of negotiating leverage and effective control of the shipyard work; the cost per change order at WSF is between three and four times that of other ferry systems; and some other ferry systems have independent engineering auditors.

The 1991 Study recommended WSF improve its change order management procedures to better negotiate unplanned growth with shipyards. They also recommended that: WSF modify its change order approval authority to reduce change authority with cumulative limits; establish an audit function within WSF by establishing one or more audit functions for construction and cost management reporting directly to the Engineering Superintendent or even the Assistant Secretary; and formalize the asbestos abatement program.

The 1998 Audit found that WSF had implemented appropriate modifications to its change order procedures and management. WSF had not, and still has not, implemented the recommendations for a separate audit function nor formalized its asbestos abatement program. The auditor had recommended a fleet-wide asbestos survey as part of the abatement program. This was not implemented, but WSF did surveys by vessel class in 1991-96. WSF reports that staff at the Eagle Harbor repair facility are updating a 2004 asbestos survey and currently estimate that 5 to 10 percent of asbestos is remaining on vessels. Bainbridge, Anacortes and Seattle terminals have remaining asbestos.

The 1998 Audit recommended that WSF assign a contract administrator from the contracts/legal department to new vessel construction, renovation and preservation contracts over \$10 million. WSF implemented this process in 2001 for the M. V. Yakima Preservation project. Since that time WSF reports that implementation of the fleet preservation program has eliminated shipyard contracts over \$10 million.

The 1998 Audit also recommended that WSF modify the standard contract language on contract problem reports to require timely submission of proposals to accomplish indefinite-quantity work and reduce the amount of pre-planned indefinite-quantity work. WSF has implemented these recommendations by eliminating indefinite-quantity work clauses from vessel preservation and new construction contracts.

The audit recommended that the WSF increase the length of time between contract award and ferry shipyard arrival. This has been implemented, with the length of time increased to thirty days.

**Table 23. Vessel Construction Contract Management Recommendations**

Recommendation	Source	Status
1. Improve change order management procedures.	1991 Study	1998 Audit reported as implemented.
2. Modify the change order approval process to reduce change authority.	1991 Study	1998 Audit reported as implemented.
3. Establish an audit function within WSF reporting to the engineering superintendent or the Assistant Secretary.	1991 Study	Not implemented. WSF does not have a separate audit function.
4. Formalize the asbestos abatement program.	1991 Study	Not implemented. The fleet-wide asbestos survey was not undertaken, but in 1991-1996 surveys were done by vessel class. WSF estimates that 5% to 10% of asbestos remains in the fleet. Bainbridge, Seattle and Anacortes are the only terminals with asbestos remaining.
5. Assign a contract administrator from the contracts/legal department to new construction, renovation and preservation contracts over \$10 million.	1998 Audit	Implemented in 2001 for M. V. Yakima Preservation project. Other preservation projects have been below \$10 million.
6. Modify the standard contract language on contract problem reports to require timely submission of proposals to accomplish indefinite-quantity work items. 7. Reduce the amount of preplanned indefinite-quantity work included the contract award to no more than 10%.	1998 Audit	Implemented: WSF eliminated indefinite-quantity work clauses from vessel preservation and new construction contracts.
8. Increase the length of time between contract and shipyard arrival.	1998 Audit	Implemented. Lengthened to 30 days.

## Section Four Customer Survey

In 2002 WSF conducted its first-ever survey of riders. The objectives of the survey were to test interest in different types of amenities that might be provided on vessels and at terminals; measure the importance of and satisfaction with key elements of WSF’s service delivery; measure the importance of and satisfaction with current amenities; and analyze differences in customer satisfaction and interest in new amenities across routes and passenger segments. The findings are included in the *Amenity Concept and Customer Satisfaction Study, 2002* by the Northwest Research Group. The survey results are summarized in Appendix B.

The survey found that WSF had a significant base of support for its performance, with 75 percent of all riders satisfied or very satisfied with WSF, and 25 percent dissatisfied. Full-fare riders were more satisfied (79 percent satisfied/ 21 percent dissatisfied) than commuters (71 percent satisfied/ 29 percent dissatisfied).

Forty-eight percent (48%) of all riders felt that the fares represented a good value; 52 percent did not. Full-fare riders were more likely to think the fares were a good value (51 percent) than were commuters (45 percent). The table below shows systemwide responses to questions about needed improvements.

**Table 24. Improvement Needed: Systemwide Responses**

Improvement	% all riders	% commuters	% full fare
Reduce fares	28%	25%	32%
Provide more boats/more runs	16%	23%	28%
Keep ferries on schedule	14%	20%	8%
Improve customer service	12%	15%	9%
Improve food and beverages	10%	9%	12%

Respondents were asked to rate the importance of certain ferry services and then to indicate whether or not they were satisfied with each service. Those services that more than 90 percent of respondents believed were important and their satisfaction with those services are shown in Table 25.

**Table 25. Satisfaction: Systemwide Responses**

Service	% important	% satisfied	% not satisfied
On-time performance	97%	67%	33%
Route reliability	96%	76%	24%
Cleanliness of bathrooms on ferries	95%	64%	26%
Cleanliness of ferry	93%	73%	27%
Friendly/helpful ferry employees	91%	66%	34%

Respondents’ overall satisfaction, areas of concern, and satisfaction with ferry and terminal services and with ferry amenities varied by route and service corridor as shown in Table 26 below.

Ferry services that respondents were asked to rate included: route reliability, on-time performance, cleanliness of restrooms on the ferry, cleanliness of the ferry, comfort of onboard seating, friendly/helpful ferry employees, overall appearance of the ferry, enforcement of smoking rules, enforcement of rules on rowdiness, clarity of onboard announcements, ability to contact crew members on the ferry, and enforcement of rules on animals.

Terminal services respondents were asked to rate were different for their point of origin and their destination. For their point of origin, respondents were asked to rate their satisfaction with ease of loading the ferry, clarity of directions from employees loading the ferry, cleanliness of restroom at the terminal, ease of purchasing tickets at the ferry terminal, availability of ferry schedule brochures, cleanliness of terminal, road signage to the terminal, overall appearance of the terminal, and availability of fare brochures. Services at the destination terminal that respondents were asked to rate were ease of exiting the ferry, cleanliness of restrooms, cleanliness of the terminal and overall appearance of the terminal. The average terminal satisfaction rating was based on the terminal destination responses.

For ferry amenities respondents were asked to rate their satisfaction with: the cleanliness of the food service area; cleanliness of the dining area; friendliness of food service staff; price of food; price of the beverages; quality of food and beverages on the ferry; variety of food available; variety of beverages available on the ferry; newspaper vending on the ferry; maps, posters and other onboard decorations; brochure racks and advertising onboard/terminal; price of vending machines on the ferry; price of vending machines at the terminals; food and beverage vending machines on the ferry; and food and beverage vending machines at terminals.

**Table 26. Satisfaction: Responses By Route**

Service	Satisfied Overall % yes	Good Value % yes	Fares Too High % yes	% Satisfied Ferry Service	% Satisfied Terminal Service *	% Satisfied Ferry Amenities
<b>Central Puget Sound</b>						
Edmonds-Kingston	76%	44%	36%	68%	72%/ 73%	39%
Seattle-Bainbridge	79%	54%	26%	66%	56%/ 58%	38%
Seattle-Bremerton	70%	46%	28%	58%	56%/ 68%	37%
<b>North Puget Sound</b>						
Mukilteo-Clinton	77%	46%	30%	66%	71%/ 74%	37%
Keystone- Pt. Townsend	86%	65%	28%	70%	73%/ 74%	41%
<b>South Puget Sound</b>						
Fauntleroy-Seattle	58%	35%	23%	53%	59%/ 61%	35%
Fauntleroy-Southworth	59%	44%	11%	56%	59%/ 2%	36%
<b>San Juan Islands</b>						
Anacortes-San Juan Islands	79%	57%	29%	58%	68%/ 70%	41%

First % is first terminal listed. 70% for San Juan Islands is percentage for Friday Harbor terminal.

## **Section Five**

### **Performance Reports and 5+5+5 Plan**

In 1999 WSF published a *1999 Progress Report* covering FY 1998-99, and in 2003 published *Maximizing our Resources to Build for the Future: Capitalizing on Change, Washington State Ferries Progress*, covering FY 2001-03. WSF has regular reports in WSDOT's *Measures, Markers and Milestones: The Gray Notebook* quarterly performance report. The progress reports and quarterly Gray Notebook reports are summarized in Appendix D.

The 1999 Progress Report discussed the completion of the 1999-2018 long-range plan and the 1999 origin and destination study, and indicated that WSF had developed a methodology for a stated-preference survey. This survey, which was not done, would ask riders how much they were willing to pay for new services and if they would shift from auto ferries to passenger-only ferries.

The 2001-03 Progress Report dealt primarily with WSF's adaptation to the loss of MVET funding. The report laid out four strategic goals: (1) continually improve and refine business operations; (2) broaden the revenue base and reduce costs; (3) promote and assist in planning regional transportation centers; and (4) redefine who we are.

To meet these strategic goals, WSF developed a 5+5+5 business plan for the operating budget. WSF intended to reduce costs by 5 percent, cap fare increases at 5 percent, and generate new revenues of 5 percent through a comprehensive retail, marketing and advertising program. The goal was to cover 90 percent of operating costs with revenues by 2008.

The capital funding plan that complemented the 5+5+5 plan was based on the premise that service reductions and vessel retirements would reduce funding needed for preservation work. Less preservation work would result in additional funding for capital improvements. Phase one of the capital plan for 2003-05 was to include service reductions and stopping passenger-only ferry service. A Phase two plan from 2005-2013 included retiring four older vessels and purchasing four new ones, upgrading the Keystone terminal, discontinuing service to Sidney for twelve weeks during winter season, eliminating the third vessel on the weekend service on the Fauntleroy-Vashon-Southworth route, and studying alternative sites for the Eagle Harbor repair facility.

The 1999 and 2003 reports both provided information on WSF's customer service initiatives, ridership, trip completion, farebox recovery, human resources and operating, capital, maintenance, and preservation expenditures. The 2003 report discussed ferry safety and security, including the completion of a Federal Transportation Administration security vulnerability assessment and the award of a federal security grant. The 1999 report also reviewed WSF's life safety and security programs, including creation of an automated operations support system to meet federal requirements, and WSF's environmental stewardship efforts.

The quarterly Gray Notebook reports include information on:

- Customer satisfaction: measured as number of complaints
- Ridership: reported quarterly against the budget plan
- Trip completion: trip reliability index report (i.e., number of cancellations per thousand sailings)
- On-time performance: measured by the percentage of trips that sail within ten minutes of schedule
- Capital expenditures: reported against budget
- Operating revenues: reported against budget forecast
- Terminals and vessels: percentage of vital and non-vital systems operating within life cycle