



**Washington State  
Department of Transportation**

Paula J. Hammond, P.E.  
Secretary of Transportation

**Washington State Ferries**  
2901 3rd Avenue, Suite 500  
Seattle, WA 98121-3014

206-515-3400  
TTY: 1-800-833-6388  
[www.wsdot.wa.gov/ferries](http://www.wsdot.wa.gov/ferries)

David H. Moseley  
Assistant Secretary for  
Washington State Ferries

December 24, 2008

To: Joint Transportation Committee Ferry Policy Group

Subj: WSF Response to Draft CRG Vessel Sizing and Timing Report

Ref: Cedar River Group Draft Vessel Sizing and Timing Report dated 5 Nov 2008

WSDOT Ferries Division (WSF) concurs with the majority of findings and recommendations of the Cedar River Group as presented in the Draft Vessel Sizing and Timing Report. The core of the report rests on four integral issues that frame up key decisions that establish the strategic direction for WSF over the next two decades. These issues are:

- Reduction of the annual ferry maintenance time from 7 to 6 weeks
- Number of stand-by vessels maintained
- Timing and number of 64-Auto ferries constructed
- Timing and number of 144-Auto ferries constructed

The following discussion addresses these key issues and provides insight into WSF's recently released Draft Revised Long Range Plan that builds on similar strategies addressed in the consultant's report.

**Reduction in Maintenance Time:** WSF concurs that there can be cost efficiencies gained if the maintenance time can be reduced for the ferry fleet. WSF recognizes that it is reasonable to establish a target of 6 weeks of maintenance per vessel on average. However, it is usually the unanticipated mandate or repair that drives longer ferry maintenance times. Security system installations (14-weeks for a Jumbo ferry) and extensive ship repairs (e.g. 6 month Yakima structural, one year Elwha main motor) have driven the major out-of-service maintenance and preservation periods the last several years for the fleet. WSF has minimized vessel out of service time by completing renovations and vessel upgrades in a deliberative fashion through a series of smaller segments completed over several years during normal maintenance and preservation periods vs. removing vessels from service for extended periods. However, WSF anticipates that changes to the Clean Air Act rules for diesel engine emissions and the Clean Water Act for vessel discharges may require significant vessel modifications in the coming decade. Such changes will dictate extended out-of-service periods to enable the upgrades to be completed.



**Number of Stand-by Vessels:** WSF has learned the value of having stand-by vessels which have been essential to maintaining the appropriate level of service for customers. The ferry system will be at high risk for loss of service, especially during the critical summer months, if the system were to reduce the fleet significantly. WSF recommends a 22-vessel fleet instead of the 21-vessel fleet recommended by the consultant. The renovated MV Hyak (144-auto, completed in 2011) would serve as the stand-by vessel. It would have a reduced crew, be fully maintained and provide great flexibility in responding to nearly every route when needed. Maintaining this stand-by capability would require funding the vessel for maintenance and preservation in the biennial budgets unlike what was done in the past for stand by vessels (e.g. MV Nisqually & MV Evergreen State). The vessel would be recalled into active service on short notice as long as it is maintained regularly and properly under the oversight of the Port Engineer and supported by Eagle Harbor.

**64-Auto Ferry Construction:** WSF understands it is important to construct new 64-Auto ferries as soon as possible to replace the lost service on Pt. Townsend-Keystone route and to replace the 61-year old MV Rhododendron. WSF thus proposes to build three 64-Auto ferries as quickly as possible. This will enable the local shipbuilding sector to develop and refine the necessary skills for new ferry construction and afford the state the benefits of a strong learning curve and its attendant cost savings.

**144-Auto Ferry Construction:** WSF recommends that construction of the 144-Auto ferries commence as soon as possible after completion of the three 64-Auto ferries. WSF has already invested nearly \$50M in the design and the purchase of Owner Furnished Equipment for the 144-Auto ferry. It is also important to capitalize on the newly developed new construction skills the local shipyard industry will gain during the building of the three smaller ferries. Constructing the 144-Auto ferries immediately after completing the 64-Auto vessels will afford the State of Washington the most efficient construction processes at the most affordable costs. Delaying construction of the 144s until the 2020-2030 time frame will result in a decline in that capability and a significant increase in costs due to the loss in shipbuilding efficiency. It is also likely that the current 144-Auto ferry design will not be a viable design, as it currently exists, in the 2020-2030 period due to anticipated changes in air and water emissions regulations plus the expected mandate for further fuel savings through the implementation of currently emerging technologies. Starting construction of the currently designed 144-Auto Ferry as soon as possible will enable a steady, systematic evolution of the design to meet evolving requirements and provide necessary service and capacity improvements.

Making a commitment to a long term, consistent shipbuilding program will encourage local shipyards to make important capital investments. Such investments could allow the shipyards to improve shipbuilding efficiency and production rates and reduce vessel construction costs. This would also enable the shipyards to invest in the workforce through training to develop necessary skills and the establishment of long term collective bargaining agreements.



These four issues are interdependent. The maintenance strategy directly affects, and is affected by the number of stand-by vessels that are maintained in the system. Reducing the number of stand-by vessels directly impacts the scheduling and completion of essential maintenance and preservation of the vessels. With fewer stand-by vessels, the risk of a reduction of service increases due to the unpredictability of equipment failures and other events that result in vessels being removed from service. The fleet size and the condition of the vessels certainly are key in determining the fleet recapitalization strategy.

The attached document provides specific substantive comments to the subject report including addressing the critical concerns noted above.

Sincerely,



David H. Moseley  
Assistant Secretary, WSDOT – Ferries Division

Encl: WSF Substantive Comments Dated 23 Dec 2008

Cc:

Paula Hammond, Secretary of Transportation  
Jill Satran, Governor's Executive Policy Advisor  
Jean Baker, Deputy Chief of Ferries, Administration and Finance  
Paul Brodeur, Director of Maintenance, Preservation and Engineering  
Steve Rodgers, Director of Operations  
Marta Coursey, Director of Communications  
Ray Deardorf, Director of Planning  
Kathy Scanlan, Cedar River Group  
John Boylston, Naval Architect  
Janice Baumgardt, Senate Fiscal Analyst  
Teresa Berntsen, House Research Analyst



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IV. Fleet Size	D. Fleet Size Recommendations	44 (also on page 3 of executive summary)	#1: Ferries should reduce average planned out-of-service time from seven weeks per vessel per year to six weeks. This can be achieved by consolidating Eagle Harbor work with other shipyard work, focusing on reducing time spent on topside painting, designing vessels with aluminum superstructures and other features that reduce required maintenance, and requesting the Coast Guard to allow underwater inspection in lieu of dry docking.	Concur with modification.	<ul style="list-style-type: none"> <li>• (page 40) WSDOT Ferries Division concurs that a target of 6 weeks maintenance can be established for vessels. Reducing the average out of service time from 7 weeks to 6 weeks does reduce the need for standby vessel time from the maintenance perspective and thus reduces the apparent need for standby vessels (see discussion reg. recommendation #3). However, out of service time is driven by external forces such as unanticipated regulatory mandates and the time it takes to complete top-side repainting projects. For example, USCG mandated security installations have taken 8-10 weeks for smaller vessels and 14 weeks for the largest ferries which have driven up out of service times from the “normal” requirement for maintenance time. Normal drydocking periods (2-4 weeks) are much shorter and Eagle Harbor (EH) maintenance periods are usually just 1-2 weeks.</li> <li>• Future regulatory mandates, such as meeting the recently revised Clean Air Act rules, are anticipated. These mandates will require changes to the vessels, most likely resulting in significant out of service time.</li> <li>• The ferry system relies on a limited workforce in different critical trades within the Puget Sound region. The limited workforce can affect the ability to complete work within desired time frames. For example, there were too few pipe fitters to install U.S. Coast Guard required remotely operated bilge valves during Elwha’s routine drydock in Anacortes. This required a second dockside contract be awarded to a different contractor essentially doubling Elwha’s time out of service from 8 to 16 weeks. Similar challenges have been identified with completing security system installations.</li> <li>• (page 40) Combining Eagle Harbor time w/shipyard work is being done to some extent. However, the ability to do this is driven by the nature of the shipyard work and the contractual requirement for their work to be completed on a “not-to-interfere basis.” For example, EH specializes in generator and propulsion motor cleaning. This cannot be done when there is significant shipyard work taking place in the vicinity of the generators and/or propulsion motors due to the risk of contaminating these critical propulsion components. A recent illustration includes steel replacements in the vicinity of the main engineering spaces, which precluded completion of any significant EH maintenance work in those areas. Furthermore, EH staff is prohibited by state law from completing hotwork on vessels at commercial facilities. The cost of EH work is not prohibitive when vessels are docked at Todd Shipyards; however, when at Everett, Anacortes or Bellingham shipyards there is significant travel time for EH crew and sometimes the cost of a hotel for the farthest sites.</li> <li>• The 64-auto “Island Home” ferry already has an aluminum super structure. Ferries Division concurs</li> </ul>

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					<p>with the recommendation to conduct a cost benefit analysis to change the 144-auto ferry design to a lighter aluminum deckhouse. It is anticipated that it would not require changes to the already purchased propulsion system and would have some cost impact and little to no schedule impact.</p> <ul style="list-style-type: none"> <li>• (page 40) Ferries Division already works closely with the shipyards having drydock capacity to match the system’s drydock needs with shipyards’ drydock availability. The result is a good match between the system’s needs, including maintaining operational schedules and shipyards’ ability to effectively blend other work with WSDOT Ferries Division contracts.</li> <li>• (p. 41) Underwater Inspection in Lieu of Drydocking (UWILD) is applicable only to vessels that are 15 years of age and younger. The program will be pursued for new construction vessels. Ferries Division will investigate costs associated with incorporating for the Jumbo Mk II class to determine the cost benefit of making required changes associated with UWILD to these vessels given their current age (10+ years old).</li> <li>• (p. 41-43) Ferries Division already paints the curtain plates (outboard sides of the deckhouse) while the vessels are in drydock due to containment requirements. All other topside painting is done while dockside so that valuable and expensive drydock time is not tied up with this work. Currently, Ferries is using polyurethane paints as a means to improve paint durability. Although the current Life Cycle Cost Model indicates that topside paint will be renewed every 5 years, the reality is that Ferries repaints the vessels every 7-10 years. For instance, the Jumbo Mark IIs recently underwent their first topside paint job in over 10 years. Budget and schedule constraints are the key drivers to the actual completion of vessel painting as compared to the planned schedule as identified in the LCCM. Ferries division will investigate modifying the LCCM to reflect painting the vessels every 7 years.. Ferries will investigate going to a sole source paint supplier/ contractor. Further investigation of design &amp; construction techniques that will require less paint maintenance will be conducted particularly with the new 144-auto ferry. Design changes were minimized for the new 64-auto ferry to minimize design and construction contract costs.</li> </ul>
IV. Fleet Size	D. Fleet Size Recommendations	44 (also on page 3 of	#2: The legislature should recognize that in order to reduce out-of-service time and reduce the fleet size,	Concur	

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		executive summary)	the per-vessel expenditure on maintenance and preservation may increase, and therefore, it will be necessary to provide adequate maintenance and preservation funding for each vessel in the fleet in order to minimize service disruption.		
IV. Fleet Size	D. Fleet Size Recommendations	44 (also on page 3 of executive summary)	#3: Assuming a six-week annual maintenance period, Ferries should plan on a 21-vessel fleet to provide the baseline 2030 service hours. This size fleet will provide adequate maintenance relief and 46 weeks of crewed vessel emergency response capacity. Additional vessel acquisitions could then be used to expand service, not to	Do not concur	<ul style="list-style-type: none"> <li>• This is an important policy issue that merits additional consideration by policy makers.</li> <li>• WSDOT Ferries Division concurs that reducing the fleet size would save considerable costs. Further more, WSF concurs that the size of the fleet is linked in large part to the amount of time vessels have to be removed from service for maintenance as is discussed in conjunction with recommendation #1. However, in order to maintain the expected level of ferry service, the system cost savings have to be balanced against the operational need to maintain an appropriate level of readiness to respond when a vessel is unexpectedly removed from service.</li> <li>• WSF recommends maintaining one partially crewed (reduced crew) vessel as an emergency spare. Reducing the fleet size or not having a back-up vessel significantly increases the risk of service interruption or reduced level of service in the case of vessel problems. The consultant’s proposed fleet would leave no reserve capacity during the summer schedule when 2 vessels are normally in a shipyard for major maintenance (up to 3 vessels during winter &amp; shoulder months). As noted elsewhere in Ferries Division response, the ability to pull a vessel out of maintenance contracts for emergency relief is highly dependent upon the nature of the maintenance and it will be costly to do so. Recent examples of major vessel problems illustrate the challenges of having minimal reserve vessels. Elwha was out of service for a year due to problems with a main motor and Yakima was out of service for 6 months due to an allision with a jetty. The level of service would have been</li> </ul>

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			deliver the baseline service.		<p>significantly affected if there had not been a back up vessel available of adequate capacity, to cover the routes these large ferries operate on.</p> <ul style="list-style-type: none"> <li>On p. 43 the consultant indicates that a fully crewed vessel can respond 12 to 18 hours faster than a de-crewed vessel. It should be noted that WSDOT Ferries Division has used the strategy of successfully calling out a partially crewed vessels on a 12 hour stand-by in the past. As a result of this previous success, WSDOT Ferries Division believes that fully crewing the stand by vessel is not necessary.</li> </ul>
IV. Fleet Size	D. Fleet Size Recommendations	44 (also on page 3 of executive summary )	#4: Ferries should implement a system to use vessels that are in maintenance for emergency response.	Concur when possible	<ul style="list-style-type: none"> <li>Ferries Division already practices this recommendation where possible. Ferries pulls vessels early from Eagle Harbor maintenance periods to cover for other vessel problems. Cathlamet’s recent quick return to service from an EH maintenance period when Walla Walla had thrust bearing problems illustrates this practice.</li> <li>The ability to pull vessels out of maintenance for emergency response is dependent on the nature of maintenance. For example, it will be more difficult and will take much more time to restore a vessel to operation that is undergoing controllable pitch propeller maintenance while in drydock than a vessel that is undergoing a routine drydock inspection and painting.</li> <li>Maintenance and sparing philosophies may require modification to enable quicker completion of maintenance/preservation contracts. This may include investment in increased sparing levels of major component, to improve readiness during maintenance periods; and a shift in approach from “maintain &amp; repair in place” to “remove &amp; replace”.</li> <li>The North Carolina ferries cited in the report are significantly smaller (maximum length of 220’) and are simpler (single ender hull form/propulsion, only Subchapter K or T) ferries than those built by WSDOT Ferries Division (double ender hull form/propulsion, Subchapter H). There is a significant difference, cost and schedule wise, in how maintenance can be accomplished between the different ferry fleets.</li> <li>The consultant cites North Carolina ferries pulling vessels from maintenance to make up lost service when the need arises. North Carolina ferries are pulling vessels from their own maintenance facilities, which comes at significantly less cost than pulling vessels from commercial maintenance facilities under state contract as in the case of the Ferries Division. An example of what it takes to accelerate completion of a commercial contract: In June 2008, the Ferries Division paid a significant amount of overtime (30% of contract cost) to a drydock contractor to accelerate Yakima’s steel</li> </ul>

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					repair in order to return the vessel to service as quickly as possible to meet peak season demands.
V. Fleet Composition	J. Recommended Vessel Sizes for Route Deployments, Maintenance, and Emergency Relief 1. Recommendation for Route Deployment	60 (also on page 4 of executive summary)	#5. Ferries should plan on the following active vessel deployments by route for the delivery of the baseline service: [see table for complete set of recommendations] For Bainbridge / Bremerton, the recommendation is to move one large Bremerton route vessel to Bainbridge for 8 hours at night while the other Bremerton vessel operates for 24 hours allowing Jumbo Bainbridge vessels to tie up for 8 hours nightly	Concur with exception of the Bainbridge/Bremerton route recommendations	<p>If only smaller vessels are operated at night there will be no time to perform needed maintenance on those two large vessels. The vessels must be alternated so that adequate time is provided to conduct maintenance.</p> <ul style="list-style-type: none"> <li>(p. 47) Assignment of the 24-hour and 16-hour vessels on four routes: This is done by necessity for part of the week currently for vessel maintenance purposes at night. It is undesirable to leave any one particular vessel on a 24 hour schedule as that vessel would get very little or no routine maintenance during the course of the week. Currently, on most routes with a 24 hour and a 16 hour vessel, the vessels alternate to more evenly spread the time available for maintenance.</li> <li>(p. 49) Bainbridge/Bremerton route recommendation: Although desirable from a matching capacity-to-demand standpoint as well as a cost savings perspective, running graveyard crews on both of the 144 car vessels on the Bremerton route so one can provide night service to the Bainbridge route in lieu of a jumbo ferry would create a maintenance issue on the two 144 car vessels. It is likely that the Jumbo ferry would need to run the late night schedule on the Bainbridge three or more nights per week to allow sufficient down time for the 144 car vessels; this would reduce the cost savings of that particular recommendation.</li> </ul>
V. Fleet Composition	J. Recommended Vessel Sizes for Route	61 (also on page 4 of executive	#6. Ferries should plan for a 21-vessel fleet composed of: five jumbo (188-202 auto), six large (144-auto), five medium (124- auto), one mid	Concur with modifications	<ul style="list-style-type: none"> <li>This is an important policy issue that merits additional consideration by policy makers.</li> <li>See responses to recommendations #1, #3 and #10</li> <li>WSDOT Ferries Division recommends a 22-vessel 2030 fleet composed of five jumbo (188-202 auto), eight large (144-auto), five medium (124-auto), one mid-size (90-auto) and three small (64-auto) vessels for delivery of baseline services (includes the 144-auto Hyak as a stand by vessel). This is a reduction from the current 23-vessel baseline fleet.</li> <li>As the vessels continue to age, maintenance and repair needs will increase, not decrease.</li> </ul>



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	Deployment s, Maintenance , and Emergency Relief 2. Maintenance and Crewed Emergency Reserves	summary )	size (90-auto), and four small (64-auto) vessels for the delivery of the baseline services.		Furthermore, incorporation of the mandated hull inspection and documentation program may result in increased maintenance needs and repair. More preservation work will be necessary.
V. Fleet Composition	O. Fuel Conservation 1. Vessel Speed	68 (also on page 6 of the executive summary )	#7: Ferries should analyze the potential for slowing vessel speeds an average of 0.5 to 1.0 knots in order to reduce fuel consumption. This analysis should include a route-by-route review, including the impact on the number of sailings.	Concur	WSDOT Ferries Division has already started to save fuel through a number of fuel conservation initiatives including: <ul style="list-style-type: none"> <li>• <b>Jumbo Mk II ferries:</b> Started running Jumbo Mk IIs on two engines, except during landings, in May-June 2007. When all 3 Mk IIs are running, we are saving 45K gallons per month from what they used to consume</li> <li>• <b>Jumbo Mk I ferries:</b> Will be incorporating changes into the engine control system that will enable the vessels to run on 3 engines instead of the normal in 2009. Doing so provides a potential savings of 142,000 gallons of fuel per year total for the two vessels.</li> <li>• <b>Super ferries:</b> Upgrading engines and generators for Kaleetan &amp; Yakima that will enable running on 2 engines instead of the normal 4. Kaleetan to be completed in late 2009 and Yakima planned for 2010. Doing so provides a potential savings of 387,000 gallons of fuel per year per vessel.</li> <li>• <b>Issaquah ferries:</b> Will be changing the heating system from oil-burning boilers to one that uses waste heat from the engines. Changes to be made to each vessel starting with Issaquah in early</li> </ul>

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					<p>2009. Incorporating this change provides a potential to save 80,000 gallons of fuel per year per vessel.</p> <ul style="list-style-type: none"> <li>• <b>Positive Restraint:</b> (also see recommendation #8). WSF is currently evaluating alternatives for holding the vessels in dock while loading/unloading that will enable slowing down shaft speeds or enabling stopping of the shaft entirely to determine the most cost beneficial approach to pursue.</li> <li>• <b>Slowing vessels:</b> WSDOT Ferries Division has already identified the potential savings from slowing vessels on the Edmonds-Kingston route with the intention of implementing a new schedule in Spring 2009 which could potentially save up to 800 gallons of fuel per day total for the route. WSF is studying potential savings for other routes.</li> </ul>
		70 (also on page 7 of executive summary)	#8. Ferries should assess the feasibility of slowing at-dock RPMs from 60 to 30 in order to conserve fuel.	Concur.	
V. Fleet Composition	O. Fuel Conservation 3. Vessel Design	71 (also on page 7 of executive summary)	#9. As part of the pre-design process for constructing 144-auto vessels in the 2021-2030 time period (four (4) vessels in the baseline fleet or six (6) in the recommended fleet), Ferries should provide	Do not concur with completing a re-design of the 144-auto ferry but Concur with the recommendation to complete a cost benefit analysis of changing to an aluminum	<ul style="list-style-type: none"> <li>• (page 71) The current 144-auto ferry design has been optimized to save fuel through the hull form development plus the use of two diesel engines, wake adapted controllable pitch propellers and high lift rudders as compared to other propulsion system and hull form options that were available to meet the full set of design requirements. Changing any of the vessel requirements or one of these design elements will require significant redesign of the vessel.</li> <li>• Changing the 144-auto ferry to a design that has a longer length to beam ratio will result in a significantly longer vessel if capacity is expected to remain the same. The beam (width) of the 144-auto ferry is driven to its current dimensions primarily by ADA (American's with Disabilities Act) guidelines for accessibility while maintaining the ability to have three full size truck lanes. The beam also was driven, to a degree, by the size of the reduction gears. Changing the length to beam ratio for</li> </ul>

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			the legislature with a cost-benefit analysis of an aluminum superstructure and other design modifications that might increase fuel efficiency.	superstructure	<p>the 144 would require significant change to the already purchased propulsion system.</p> <ul style="list-style-type: none"> <li>Regarding lighter aluminum structure on the 144-auto ferry design, reference response to recommendation # 1.</li> </ul>
VI. Timing	N/A	72 (also on page 8 of executive summary)	<p><b>#10.</b> Ferries should acquire vessels in two waves:</p> <ul style="list-style-type: none"> <li>2009–2012: Four (4) new 64-auto vessels; and</li> <li>2020–2030: Six (6) new 144-auto vessels<sup>1</sup>.</li> </ul>	Concur with modification	<p>This is an important policy issue that merits additional consideration by policy makers. The number and type of new vessels constructed is also affected by issues addressed in recommendations #1, #3 and #6.</p> <p>Regarding sequencing of vessels as addressed in the Draft Report:</p> <ul style="list-style-type: none"> <li>Concur with the need to commence construction of 64-auto ferries as soon as possible to replace the lost service on the Pt. Townsend-Keystone route. Recommend an eventual third Island Home-type ferry as well to replace the Rhododendron.</li> <li>WSDOT Ferries Division also believes it is essential to commence construction of the 144-auto ferry in a manner that is affordable, complements the 64-auto ferry in maintaining a steady rate of production in the shipbuilding community, and utilizes the 144-auto ferry design as a highly effective medium to large capacity resource that can be used nearly anywhere in the existing system while it is still viable.</li> <li>WSDOT Ferries Division recommends a build sequence of 64, 64, 64, 144, 144, 144, 144, 144, 144, and 144-auto ferries as addressed in the Revised WSDOT Ferries Division Long Range Plan.. This sequence does affords: <ul style="list-style-type: none"> <li>the maximum learning curve and attendant cost savings associated with building a flight of 64-Auto ferries followed by a flight of 144-auto ferries</li> <li>keeping the shipbuilding sector operating steadily, and thus more efficiently (this should</li> </ul> </li> </ul>

<sup>1</sup> Ferries' retirement range for the four (4) Super class vessels extends to 2033. It is possible that not all six (6) new 144s would need to be on-line by 2030. For this analysis, the consultants have assumed that all Super class vessels would be retired by 2030, which is the mid-point of the 2025-2033 retirement range for these vessels. The two (2) Evergreen State class vessels that are also being replaced by these new 144-auto vessels are due for retirement in the 2022-2028 time period.

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					<p>encourage capital investment by the shipyards to improve shipbuilding capacity and efficiency plus the establishment of long term collective bargaining agreements)</p> <ul style="list-style-type: none"> <li>○ renewal of the existing fleet (50+ year old 87-auto Evergreen State Class and 40+ year old 144-auto Super class) in a steady fashion effectively bridging the gap in end of service life periods for these two classes.</li> <li>○ replacement of lost ferry system capacity soonest while also ensuring the nearly \$50M already invested in the 144-program is not lost.</li> </ul> <p>Doing this will result in modest increases in capacity in the 2015-2023 time frame and will provide important benefits in the form of cost savings and improved regional shipbuilding capability.</p> <p>In executing this strategy, WSDOT Ferries Division will have to address bonding challenges where surety companies won't bond a shipyard for building any more than 2 vessels at a time. This requirement will necessitate the use of smaller 1-2 vessel build contracts. Doing so will also preclude the ability to obtain any significant learning curve benefits from the shipyards.</p> <p>Regarding 144-auto ferries as addressed in the Draft Report:</p> <ul style="list-style-type: none"> <li>• Approximately \$15.5 M of the \$49.5 M total project costs to date were paid for with federal funds provided in grants from the FTA and FHWA. The FTA will allow equipment to be used as spares, but FHWA expects the equipment to be installed in new vessels. Initial discussions with FTA and FHWA indicated that Ferries may be able to stockpile the equipment and defer use of the equipment for new boats to be constructed at a later date. While FTA may allow the use of some federal funding allocated for new vessels for spare parts, FHWA federal aid agreements would not allow this.</li> <li>• Assuming reuse of the parts named above, a 144-auto ferry built in the 2020-2030 timeframe would have to be nearly identical version of the current design and would be limited to 2009 technology. Changes expected to USCG and ADA regulatory requirements in the interim would require substantial re-design should construction of the vessels be delayed until 2020-2030. Also,</li> </ul>

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					<p>anticipated technological improvements in propulsion systems, including emerging fuel efficiency initiatives, may become available. This would render the current propulsion system obsolete. WSDOT Ferries Division believes that in beginning construction of the 144-auto ferry as soon as is financially viable that new regulatory changes can be incorporated in systematic, step like fashion that capitalizes on the current design and purchased Owner's Furnished Equipment rather than requiring a complete re-design which will take longer and cost more to complete.</p> <ul style="list-style-type: none"> <li>Two 144-auto ferries can be built in a continuation of the hull construction process at Todd Shipyard, the builder of the 144-auto ferry and the builder of the first 64-auto ferry. Doing this sooner, rather than in the 2020-2030 time frame will enable the movement of both an existing large size ferry into the reserve roll providing the greatest flexibility for meeting any and all route demands when other ferries are out of service for maintenance, preservation and repair.</li> </ul>
VII. Long-Term Ferry Finances	A. Capital Budget (Program W) Cost 1. Vessel Acquisition Costs a. Vessel Construction Cost Estimates	79 (also on page 10 of executive summary)	#11. Ferries should review the estimated cost of the 144-auto vessels as it finalizes its long-range plan.	Concur	

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	A. Capital Budget (Program W) Cost 1. Vessel Acquisition Costs  b. National Bidding for Vessel Construction	80 (also on page 10 of executive summary)	<b>#12.</b> The legislature should consider opening vessel construction to national competition by determining the appropriate balance between Ferries' new vessel construction costs, the potential for federal funding, and the policy goals of the State.	Neutral	<ul style="list-style-type: none"> <li>• This is an important policy issue that merits additional consideration by policy makers.</li> <li>• WSF is working closely with local shipyards to enable competition on all vessel construction contracts.</li> </ul>
	C. Ferry Service 2. Improved Service	83 (also on page 11 of executive summary)	<b>#13.</b> Ferries should consider additional sailings and/or modification to vessel service hours as ways to improve service before considering adding vessels to the fleet to improve service.	Concur	