

Fifth 144-Car Ferry Estimate

Roger Millar
Secretary of Transportation

Amy Scarton
Assistant Secretary, WSDOT Ferries Division

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FOR THE DEPARTMENT OF TRANSPORTATION—WASHINGTON STATE FERRIES
CONSTRUCTION—PROGRAM W

(15) The department shall submit a cost estimate to procure a fifth 144-car vessel to the governor and the transportation committees of the legislature by June 30, 2017. The estimate must include, but is not limited to, construction costs, estimated operating costs, and any potential savings from replacing a currently operating vessel with a fifth 144-car vessel.

Estimated cost for fifth Olympic class vessel under the current contract: \$142.5 million (see notes below)

| Project Element | Vessel #4 | Vessel #5 (est) | % change | Notes: |
|---------------------------------|------------------|------------------------|-----------------|--|
| Construction Engineering | \$1,320,000 | \$1,320,000 | 0 | |
| OFE & Support/Storage | \$19,882,246* | \$18,100,000 | -9% | 1. *Vessels 1-4 Initial OFE purchased separately and not reported in routine construction status reports. For vessel five WSF would have to initiate a new procurement. |
| Shipyard Cost | \$111,561,532 | \$119,761,000 | +7.3% | 2. This cost reflects the shipyard cost as of 1 April 2017. It reflects the same labor hours as vessel #4, but a higher labor rate, material and subcontractor costs. 3. Since April, the shipyard has begun demobilization, and a number of key individuals, including engineers and planners were laid off. As a result, an updated cost estimate is unavailable. However, we anticipate higher cost. |
| Final Outfitting | \$500,000 | \$500,000 | 0 | |
| Capital Spares | \$500,000 | \$500,000 | 0 | |
| Unallocated Risk and Escalation | \$236,222** | \$2,395,220 | +7.3% | ** Initially 2% of Shipyard costs |
| Total | \$134,000,000 | \$142,576,220 | +6% | 4. Again, this number is WSF's best estimate effective April 2017. We anticipate shipyard costs will be higher due to the need to reverse recent demobilization actions. |

If the *Tillikum*, our current service relief vessel, were replaced by a fifth Olympic Class vessel, the difference in operating cost and capability/capacity would be as follows:

| Summary | 5th Olympic | <i>Tillikum</i> |
|--------------------------|--------------------|------------------------|
| Operating Cost (\$/Hour) | \$447 | \$406 |
| Vehicle Capacity | 144 | 87 |
| Passenger Capacity | 1500 | 600 |
| Speed | 17 knots | 13 knots |
| Preservation Backlog | \$0 | \$10.5M |
| End of Life | 2080 | 2021 |

In this scenario, it is assumed that the estimated delivery date would be spring of 2020 and that vessel could enter service by summer 2020. The vessel would be utilized as follows:

Maintenance Relief Vessel: Replace other vessels in the ferry system to facilitate planned preservation and maintenance. An Olympic Class vessel could replace the other 4 Olympic Class, the 3 remaining Super Class and the 6 Issaquah class ferries without a service reduction.

Service Relief Vessel: Replace other vessels in the event of an unplanned vessel breakdown. An Olympic Class vessel could replace the other four Olympic Class, the 3 remaining Super Class and the 6 Issaquah class ferries without a service reduction.

Risk Mitigation for Aging Super Class vessels: The 50 year old Super Class Vessels *Elwha*, *Hyak*, and *Kaleetan* have been underfunded for the past 10 years and are not likely to attain their target service life of 60 years. A major hull or equipment failure would jeopardize service and greatly destabilize the preservation program for the remainder of the fleet.

The cost savings of reduced boat moves is estimated at approximately \$20,000 per year.

A significant operating cost difference is fuel consumption. The Olympic class burns approximately 122 gallons/hour compared to the *Tillikum*, which burns 89 gallons/hour. The total difference in operating cost for one biennium would be approximately \$492,000 based on an assumed usage of 12,000 operating hours.

This additional cost buys greater capability and higher level of service. The limited speed of the *Tillikum* makes it unable to keep a schedule on any route other than the San Juan Islands interisland route. Its limited vehicle and passenger capacity inevitably results in downsizing to whatever route to which it is assigned. These limitations are not consistent with WSF's standards of service and result in delays to the passengers it serves. Replacing *Tillikum* with an Olympic Class would help decrease service reductions for the Anacortes-San Juan Islands, Clinton-Mukilteo, Seattle-Bremerton, Fauntleroy-Vashon-Southworth routes.

The crew would be reallocated to the Olympic Class vessel. The net increase in crew would be four (three deck and one engine).