

PORT OF OLYMPIA
CITIZENS ADVISORY COMMITTEE (POCAC)
REPORT ON *MULTI-NIGHT FERRY / HOUSING TO SEATTLE*

A. BACKGROUND

The Port Commissioners requested that POCAC report on the feasibility of a commuter ferry with small cabins serving Thurston County residents working in Seattle. In essence, this concept envisions a marine vessel departing from the Port of Olympia docks at the beginning of the work week, docking at the Port of Seattle, housing the commuters through the work week, and then returning to Olympia at the end of the work week. Refer to Exhibit C for the Port Commissioners' task assigned to POCAC.

This once-a-week ferry would accommodate about 150 persons who would otherwise commute daily via Interstate 5 in cars, vans and buses between Thurston and King counties, but would sleep and live on a vessel moored in Seattle. This innovative and creative solution offers these desirable outcomes to an otherwise long, unpredictable, expensive commute:

- Reduces carbon footprint of commuter cars
- Improves the quality of a long commute
- Reduces congestion to local access roads and the interstate
- Creates an affordable commuting alternative for certain taxpayers
- Encourages partnering between two local ports

This report critically examines the likelihood of achieving the above favorable objectives. It also reviews a list of considerations implicit in the development and operation of such a ferry service:

1. Passenger Market Demand
2. Passenger Costs
3. Ferry Vessel Cost & Availability
4. Moorage Considerations
5. Housing & Security
6. Investment & Operating Costs
7. Return on Investment

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B. DISCUSSION & ANALYSIS

1. Passenger Market Demand. According to the most recent census data (2015), nearly 2% (or 4,589) of the almost 300,000 Thurston County residents work in King County. Assuming that most of these commuters work Monday through Friday, a work week commuter ferry service with a capacity of 150 passenger rooms would need to capture about 3% of these King County workers. Currently, Intercity Transit manages 24 commuter vanpools commuting from Thurston to King County which accommodates about 153 daily commuters. Some vans have some excess capacity to add additional riders and there are vans available for new vanpool groups to form. As such, there is still is a potential commuter ferry market for a limited number of Thurston County residents. Demand for services should consider not only available customers but convenience and value (price and quality factors). These numbers require considerable discounting due to the inconvenience of a single vessel leaving and returning on a fixed weekly schedule. The intangible considerations of inconvenience include the amount of time away from home, family, emergencies, doctor appointments, pets and friends during the work week. In short, the commuters to King County exist, but it would require a robust survey to begin to estimate the reasonable demand for this specific overnight commuter ferry service. The issue of convenience becomes less problematic with the flexibility offered by a daily commuter ferry service. A daily ferry would be more apt to attract both commuters and day tourists to fill the ferry in which no boarding rooms would be necessary.
2. Passenger Costs. In a simple cost analysis, using some basic assumptions, it appears that the overnight ferry weekly cost is significantly greater than commuting daily by car. Our example assumes a ferry rider pays 4 components of his stay: the ferry ride, room rental, meals and local transportation. Exhibits A and B calculate the cost of driving based on driving round trip 110 miles a day, 5 days a week with two different assumptions. The annual cost of ferrying would be \$31,250 versus either \$8,520 (Exhibit A) or \$16,500 (Exhibit B) for driving. It's hard to imagine with a cost difference ranging between \$14,750 and \$22,730 per year that many commuters could or would choose the overnight ferry service.

The example in Exhibit A assumes the commuter who takes the ferry would still keep his car and still pay annual license fees, insurance and maintenance for his car. Therefore, the incremental cost to commute by car would only include gas and parking. This cost estimate assumed a car with 25 miles/gallon at \$3.20 / gallon.

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The example in Exhibit B is an alternative comparison of the cost of driving to Seattle, assuming the ferry commuter would not keep his car if he didn't drive, which would increase the cost of driving to include gas, parking, annual license fees and maintenance. This cost estimate assumed a cost of \$0.60/mile.

3. Ferry Vessel Cost & Availability. This overnight ferry would likely need to be a custom vessel. There may be some yacht or small cruise ship vessels that might be suitable but our research was unable to identify one. Market analysis (as discussed above) will also be important to determine the right sizing of this custom vessel. A naval architect might be able to conduct a survey for any suitable vessels. The vessel would have to be seaworthy for Puget Sound conditions and capable of traveling at speeds necessary to make the trip to and from Seattle within a reasonable commute travel time. The build cost would be much higher than your typical passenger-only ferry to accommodate the infrastructure for cabins and common areas. No vessel cost is offered in this report due to the prerequisite of a scope study determining its customized size and attributes.

4. Moorage Considerations. Moorage in downtown Seattle is scarce, and with the exception of occasional seasonal availability, it is very difficult to find and likely expensive. Current operators such as Kitsap Transit and potential operators such as Pierce County have identified the development or expansion of commuter service docking facilities in Seattle as a top regional priority. The described service would require extended moorage through the week and would not be compatible with other “touch & go” passenger-only ferries. It appears that there may be an opportunity for strategic partnering with other ferry services in the sharing of a daily commuting ferry, but weekly docking is not compatible with daily dock space or amenities. For the overnight vessel with rooms, a fully outfitted (i.e., power, potable water, sewage pumping and secured access) long-term moorage dock would be required that is sheltered from heavy wake wash and weather. Weekend moorage with similar facilities in Olympia would also be required.

5. Housing & Security. With passengers staying aboard the vessel while in Seattle you are effectively establishing a hotel. With a hotel comes another level of administration including staffing to manage reservations and check-in; responding to guest needs; cleaning and securing the boat; and possibly preparing food. The Coast Guard would need to be consulted to determine how their regulations would be interpreted for a stay-aboard operation. Typically, licensed staff is aboard a vessel anytime passengers are on board. This requirement could considerably increase the labor cost of the operation. The City of Seattle may have permitting requirements and regulations for a live aboard marine vessel similar to or even more stringent than those regulating houseboats.

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It's not clear how basic services to the passenger rooms like food, laundry, garbage and local transportation will be provided. Security concerns around ports may challenge the availability of services to the moored vessel even though it is in a major metropolitan city. Security concerns extend to the identification of passengers and their guests.

6. Investment & Operating Costs. Most, if not all, public transportation is based on subsidies from government grants, tax increases, or corporate subsidies. Unlike commuter based public transportation, it is unlikely that a local tax revenue source would be appropriate or available to subsidize this service for the Port. As such, the Port of Olympia would be at risk for the shortfall between revenues and operating expenses. This is a unique ferry service and the currently available ferry travel forecast models are not applicable to this sort of analysis of investment and operational costs. Overall staffing costs would be much higher than a typical commuter operation. It is unlikely that this service will be a breakeven proposition but as previously mentioned, a specific market analysis would be required to confirm the breakeven point or to estimate the extent of any planned shortfalls.

7. Return on Investment. Port enterprise projects are reviewed with consideration for a return on investment. Based on our review, this ferry service would operate in a deficit without the support of significant subsidies. To the extent that tax dollars are used to subsidize, it seems that the number of ferry users would be relatively very small compared to the number of taxpayers, thereby making passage of a county tax subsidy very unlikely. In addition, the low number of users may not be considered the best use of Port funds to the average taxpayer.

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C. COMMENTS & RECOMMENDATION

This multi-night ferry and housing concept is a variant of the POCAC ferry option report issued last year. It is recommended that the Commissioners review the 2018 ferry report for the more viable feasibility of a daily commuter ferry, rather than an overnight stay commuter ferry service. The costs of a custom vessel alone appear to be a prohibitive factor, as does the projected cost to the overnight ferry commuter. Future consideration of this concept would require resolving numerous cost, technical, regulatory and administrative issues discussed herein, such as safety, insurance and hospitality services. Foremost, a robust study of actual demand from Thurston County commuters is needed to appreciate the ultimate feasibility of any ferry service, especially one with a fixed weekly schedule. A daily ferry project would gain more traction with greater participation with commuter stakeholders such as the Department of Transportation, Thurston County and Intercity Transit. The Port of Olympia should cooperate with key strategic partners, such as other Puget Sound ports, for any future ferry project.

In conclusion, this report recommends that a daily ferry service -- which has a proven track record around the country, if not the world -- be considered for further consideration over the risk of an unproven, untested overnight ferry service concept.

D. ACKNOWLEDGMENTS

The writers of this report wish to acknowledge and thank the contributions of the following individuals who added their expertise and insight into this report:

- Len Faucher, Marine Terminal Director, Port of Olympia
- Michael Anderson, Director of Marine Transportation, KPFF Consulting Engineers
- Gene Angel, Research Manager, Thurston County EDC
- Cindy Fisher, Interim Vanpool Manager, Intercity Transit
- Carla Sawyer, Progressions

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EXHIBIT A: ANALYSIS OF COST TO PASSENGER: FERRY VERSUS DRIVING

Annual Cost to Ferry

1. Round Trip Ferry Ride. \$60/week x 50 weeks	= \$	3,000
2. Room Rental. \$75/night x 5 nights/week	= \$	18,750
3. Meals. \$35/day x 4 days	= \$	7,000
4. Local Transportation. \$10/day x 5 nights/week	= \$	2,500

Total Estimated Annual Ferry Cost	= \$31,250	FN 1, FN 2

Less: Annual Cost to Drive

1. Auto Fuel. 110 miles/day/25mpg =4.4g/day x 5/day=22g/week		
22g/week x \$3.20/g=\$70.40/week x 50 weeks	= \$	3,520
2. Seattle Parking. \$20/day x 5 days x 50 weeks	= \$	5,000

Total Estimated Annual Driving Cost	= \$8,520	FN 3

Equals: Ferry Cost In Excess of Driving Cost = \$22,730
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FN 1. Does not include cost to drive to the ferry or the cost of the weekly parking at ferry terminal

FN 2. Costs are based on projected subsidized rates that do not cover full cost of ferry operations.

FN 3. Assumes ferry commuters will keep their vehicle.

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EXHIBIT B: ANALYSIS OF COST TO PASSENGER: FERRY VERSUS DRIVING

Annual Cost to Ferry

5. Round Trip Ferry Ride. \$60/week x 50 weeks		= \$ 3,000
6. Room Rental. \$75/night x 5 nights/week		= \$ 18,750
7. Meals. \$35/day x 4 days		= \$ 7,000
8. Local Transportation. \$10/day x 5 nights/week		= \$ 2,500

Total Estimated Annual Ferry Cost		= \$31,250

Less: Annual Cost to Drive

110 miles/day x \$0.60/mile = \$66.00/day		
\$66/day x 5 days/week = \$330/day		
\$330/week x 50 weeks/year =		\$16,500 FN 1

<u>Equals: Ferry Cost In Excess of Driving Cost</u>		= \$14,750
=====		

FN 1. Assumes ferry commuters will NOT keep their vehicle.

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**EXHIBIT C: PORT COMMISSION TASK ASSIGNED TO POCAC:
 MULTI-NIGHT FERRY/HOUSING TO SEATTLE**



PORT of OLYMPIA

Citizens Advisory Committee

Multi-night Ferry/Housing to Seattle

Staff Lead:
Commissioner Downing
Background:
<p>A variant on the ferry idea is to have a ferry that would travel to Seattle on a Sunday night/Monday morning, and stay at least until Thursday night, with the unusual feature of having very small cabins wherein passengers would stay on the ferry as it remained tied to a dock Monday-Wednesday night.</p> <p>A combined ferry/ housing concept would put <i>just as many</i> people in Seattle as a once/day ferry, for a fraction of the cost and a fraction of the environmental impact. A brief analysis would look like this:</p> <p>ONE FERRY ONLY 149 people/day, over five days, is 745 work days Best case, 149 people x 3 travel hours/day x 5 days = 2,235 travel hours Revenue at \$60 round trip = \$44,700/week Cost = fuel, \$5,000, ferry labor \$8,000, maint. \$1,000, moorage, ? = \$14,000/week Net income = \$44,700 - \$14,000 = \$30,700/week (both options require same devoted dock space)</p> <p>FERRY/HOUSING OPTION This ferry twice as big as ferry above, as more space for cabins 149 people/day, with overnight cabins for three nights = 596 10-hour days Best case, 149 people x 3 hours = 450 travel hours/week Revenue, \$60 round trip, \$300/week/person housing = \$8,940 + \$44,700 = \$53,640/week Cost = fuel, \$2,000, ferry labor \$8,000, maint. \$1,000, moorage ? = \$11,000/week Net income = \$53,640 - \$11,000 = \$42,640/week</p> <p>** additional benefit is 1/5 of the travel up and down the sound ** also, each person would have travel 3 hours/week instead of 15 ** less infrastructure needed for once/week departure/arrival at each end ** downside of ferry/housing option is people would not be home every night of the week. ** both options allow ferry for weekend events and routes</p>
Scope of Work:
Similar to Ferry option of 2018
Timeline:

Source>

<http://www.portolympia.com/DocumentCenter/View/3346/Multi-night-Ferry-housing-option-2019-02?bidId=#page=1>

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