

**2003 WSF BOAT WAIT MEASUREMENTS**  
**WASHINGTON STATE FERRIES**  
**SEPTEMBER 2003**

**A. Boat Wait Measurement Background**

1. Boat-wait is WSF's official vehicle delay measurement for Cross Sound routes. It covers the PM peak period for vehicle traffic in the peak Cross Sound direction on a typical day. In practice, it is taken as a mid-week day in May. The Transportation Commission sets each route's boat-wait standard, which serves as that route's level-of-service under the Growth Management Act. It is the official service standard that WSF seeks to maintain. We have been measuring boat waits since 2000. This is the 4<sup>th</sup> year that we have been taking the measurement.

2. A specific requirement under the Growth Management Act, often referred to as "concurrency", also applies to WSF's boat wait measurement. "Concurrency" is the mechanism for ensuring an adequate level of public services – including transportation – in support of continued urban development. In the main, State facilities are exempt from the concurrency requirement. Uniquely though, SHB-1487, passed several years ago, requires Counties that are comprised of islands to create and implement a concurrency management program for designated Highways of Statewide Significance. While there are two Counties in the State that can be identified as "island" Counties - San Juan County & Island County – only Island County with Whidbey Island is served by "Highways of Statewide Significance", which include the ferry routes. In effect, SHB-1487 ties continuing development on Whidbey Island to WSF's ability to meet the respective level-of-service standards for Mukilteo/Clinton and Port Townsend/Keystone.

**B. 2003 Measurement Exercise**

1. Measurements in 2003 were taken on Tuesday May 20 & Wednesday May 21, from 3 to 7 PM, for the peak-traffic direction. The routes included were:

Seattle – Bremerton  
Seattle – Bainbridge Island  
Fauntleroy – Vashon  
Fauntleroy – Southworth  
Vashon – Southworth  
Point Defiance – Tahlequah  
Edmonds – Kingston  
Mukiltero-Clinton  
Port Townsend – Keystone

A total of 83 sailings were surveyed, producing 8,175 vehicle boat-wait records.

### C. 2003 Boat Wait Summary & Observation

1. Table 1 summarizes average boat waits and average wait times for 2003, as compared with 2000, 2001 & 2002.
2. Results show that: a) Average boat waits remained relatively steady over the 3-year period, dropping moderately in 2001 (-10%); b) Average wait times followed a similar pattern; and c) Only the Point Defiance / Tahlequah route experienced a consistent increase by both measures.

**Table 1: VEHICLE DELAY BY BOAT-WAIT – Weekday PM Peak, 3-7 PM, May 2000-2003**

Route	Average Boat Wait				Adopted B.W. Standard	Average Wait Times			
	2003	2002	2001	2000		2003	2002	2001	2000
Seattle - Bremerton	0.5	0.5	0.5	0.6	1	00:36	00:42	00:37	00:45
Seattle - Bainbridge	0.8	0.9	0.7	1.1	2	00:38	00:40	00:33	00:52
Fauntleroy - Vashon	0.9	0.8	1.0	1.0	1	00:25	00:24	00:31	00:26
Fauntleroy - Southworth	0.8	0.8	0.9	0.9	1	00:35	00:31	00:38	00:39
Vashon - Southworth	0.3	0.4	0.4	0.4	1	00:24	00:26	00:27	00:22
Point Defiance - Tahlequah	0.6	0.6	0.5	0.4	1	00:34	00:33	00:23	00:21
Edmonds - Kingston	0.6	0.6	0.7	0.6	1	00:22	00:25	00:27	00:26
Mukilteo - Clinton	0.9	1.0	0.8	1.2	2	00:27	00:29	00:25	00:35
Port Townsend - Keystone	0.6	0.4	0.5	0.5	1	00:30	00:22	00:28	00:32

### D. Supplementary Measurements

1. Tables 2 & 3 are included to provide supplementary aspects of vehicle waits on Cross Sound routes.
2. Table 2 shows, by route, the number of sailings that exceed one boat-wait during the measurement period for 2003, as compared to 2002 & 2001. Again, the results are comparable over a 3-year period. It should be emphasized that the number of sailings varies widely by route, with average headways ranging from 30 minutes (Mukilteo/Clinton) to 1 hour 18 minutes (Seattle Bremerton).

**Table 2: SAILINGS EXCEEDING 1 BOAT-WAIT WITHIN 4-HOUR PM PEAK, by Route**

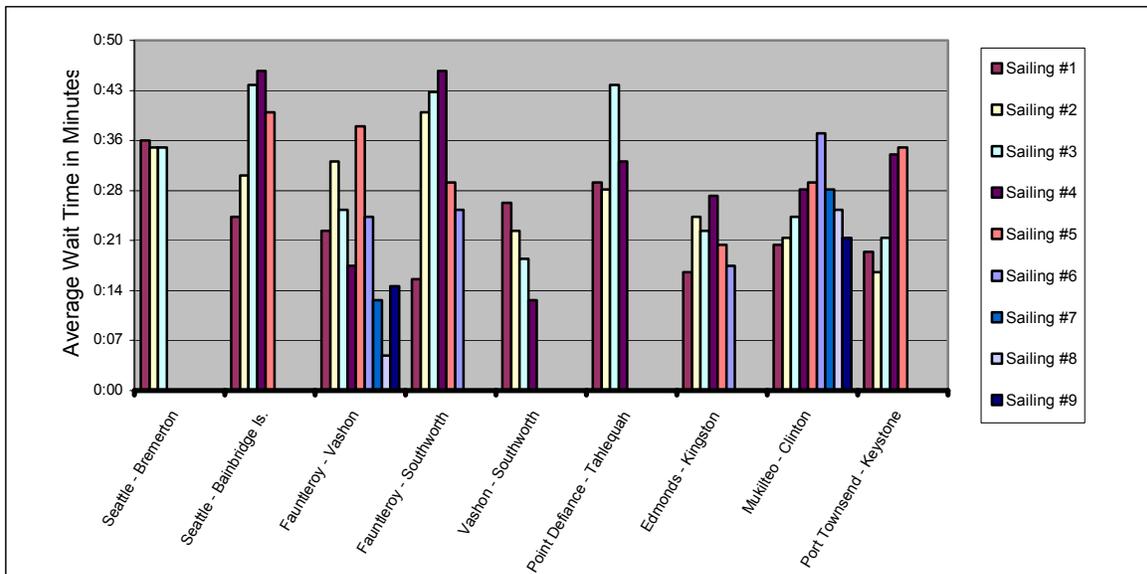
Route	Sailings Exceeding 1 B.W.			Total No. PM Peak Sailings	Average Headways
	2003	2002	2001		
Seattle - Bremerton	0	0	0	3	1:18
Seattle - Bainbridge	0	2	0	5	0:51
Fauntleroy - Vashon	2	3	4	9	0:28
Fauntleroy - Southworth	2	1	2	6	0:42
Vashon - Southworth	0	0	1	4	1:11
Point Defiance - Tahlequah	1	0	1	4	0:56
Edmonds - Kingston	0	0	0	6	0:40
Mukilteo - Clinton	3	3	1	9	0:30
Port Townsend - Keystone	1	0	0	5	0:54

3. Table 3 shows vehicle wait times in minutes by route and by sailing. Chart 1 presents the same data.

**Table 3: VEHICLE WAIT TIMES by Route & by Sailing**

Route	Average Wait Time in Minutes								
	Sailing #1	Sailing #2	Sailing #3	Sailing #4	Sailing #5	Sailing #6	Sailing #7	Sailing #8	Sailing #9
Seattle - Bremerton	0:36	0:35	0:35						
Seattle - Bainbridge Is.	0:25	0:31	0:44	0:46	0:40				
Fauntleroy - Vashon	0:23	0:33	0:26	0:18	0:38	0:25	0:13	0:05	0:15
Fauntleroy - Southworth	0:16	0:40	0:43	0:46	0:30	0:26			
Vashon - Southworth	0:27	0:23	0:19	0:13					
Point Defiance - Tahlequah	0:30	0:29	0:44	0:33					
Edmonds - Kingston	0:17	0:25	0:23	0:28	0:21	0:18			
Mukilteo - Clinton	0:21	0:22	0:25	0:29	0:30	0:37	0:29	0:26	0:22
Port Townsend - Keystone	0:20	0:17	0:22	0:34	0:35				

**Chart 1: AVERAGE VEHICLE WAIT TIMES, by Route & by Sailing**



### E. Conclusions

2003 vehicle wait times during the weekday PM peak continue a steady trend, despite a general drop in vehicle traffic over the same period on all the Cross Sound routes.

Boat wait measurements are conducted to meet specific institutional needs. They are one-time measurements for each year. When analyzing for year-to-year traffic trends, it is advisable to focus on WSF's Rider Segment Reports.

#### **F. Acknowledgements**

The annual boat-wait measurement task is very much a collaborative effort. The Planning staff in the Finance Department would like to thank Terminal managers, agents and attendants; Operations Special Projects staff; Corporate Communications staff; and State Patrol. Thanks too to the Planning Secretary, who distributed survey materials and entered all the records.