

**Transportation Revenue  
Forecast Council  
September 2010 Transportation  
Economic and Revenue Forecasts**

**Volume IV: Alternative Forecast Tables**

Transportation Revenue  
Forecast Council  
September 2010

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# Motor Fuel Pessimistic Forecast September 2010

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## Summary of the Alternative Gasoline Fuel Price Pessimistic Scenario for September 2010 Forecast

- WSDOT was asked to perform an alternative pessimistic gasoline fuel price scenario to the September 2010 baseline forecast
- WSDOT ran the gasoline consumption model using the pessimistic oil/gas price index – see the attached graph illustrating the different price indices scenarios and the table illustrating the revenue impact from having a more pessimistic economy and higher gas prices than under the baseline price scenario.

- **Pessimistic economy scenario:**

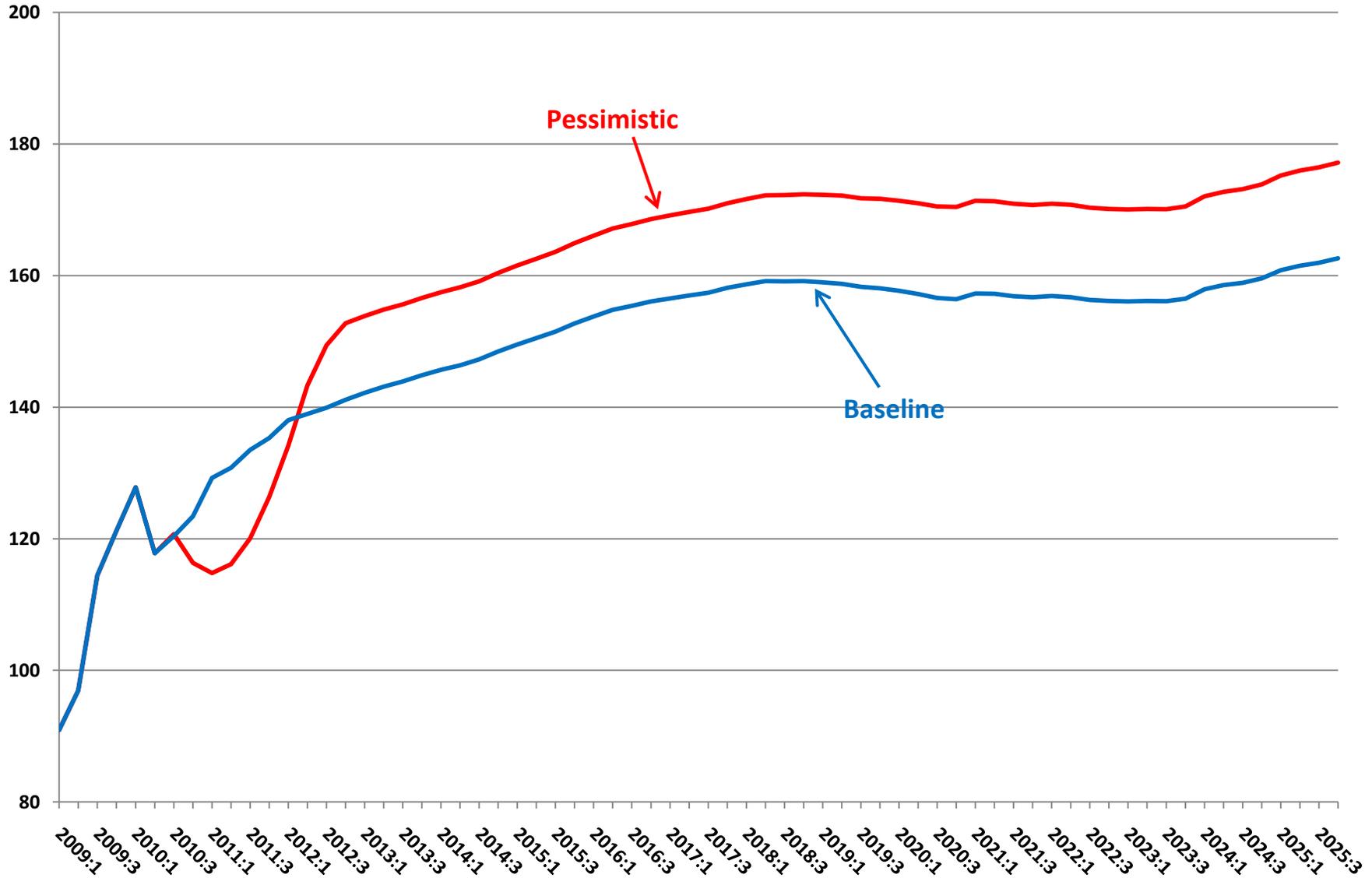
*Prior to 2012Q2*

- Pessimistic oil prices lag baseline prices in the third and fourth quarter of 2010 through the first quarter of 2012 due to wavering confidence in the strength of economic recovery, the global economic outlook, and, excess crude oil stocks.
- The lower gas prices result in higher gasoline consumption and tax collections through fiscal year 2012.
- In the 2009-11 biennium gasoline fuel tax revenues are projected to be up \$5.6 Million and up by \$6 Million in the 2011-13 biennium due to lower gas prices in the pessimistic economy scenario

*2012Q1 and beyond*

- Beyond the first quarter of 2012 as the economy strengthens, oil supply begins to tighten, demand rises and gas price index rapidly. The pessimistic gas price index remains above the baseline index through the end of the forecast horizon.
- This results in **less** projected gasoline tax collections in future biennia beyond 2011-13. The percent decline in revenues ranges from 1.31% in the 2013-15 biennium to 1.40% in the 2019-21 biennium, the reduction gets slightly bigger in the 2025-27 biennium at 1.44%.

# Global Insight Oil Price Index (September) 2010) Baseline & Pessimistic



## Gross Gasoline Fuel Tax Revenue

### Fiscal Year & Biennial Comparison Between Baseline September 2010 and Pessimistic Gasoline Prices

Fiscal Year	September 2010 Forecast	Revenue Loss	% Change from Baseline Forecast
2011	\$ 1,013,434,900	\$ 5,680,000	
2009-11 Biennium	\$ 2,014,872,000	\$ 5,680,000	0.28%
2012	\$ 1,016,869,600	\$ 14,060,000	
2013	\$ 1,024,366,200	\$ (7,760,000)	
2011-13 Biennium	\$ 2,041,235,800	\$ 6,300,000	0.31%
2014	\$ 1,035,443,100	\$ (13,670,000)	
2015	\$ 1,046,999,900	\$ (13,690,000)	
2013-15 Biennium	\$ 2,082,443,000	\$ (27,360,000)	-1.31%
2016	\$ 1,057,892,600	\$ (13,720,000)	
2017	\$ 1,069,503,800	\$ (13,880,000)	
2015-17 Biennium	\$ 2,127,396,400	\$ (27,600,000)	-1.30%
2018	\$ 1,082,664,100	\$ (14,220,000)	
2019	\$ 1,097,167,500	\$ (14,650,000)	
2017-19 Biennium	\$ 2,179,831,600	\$ (28,870,000)	-1.32%
2020	\$ 1,113,600,400	\$ (15,320,000)	
2021	\$ 1,130,396,200	\$ (16,110,000)	
2019-21 Biennium	\$ 2,243,996,600	\$ (31,430,000)	-1.40%
2022	\$ 1,145,997,600	\$ (16,530,000)	
2023	\$ 1,161,942,000	\$ (16,760,000)	
2021-23 Biennium	\$ 2,307,939,600	\$ (33,290,000)	-1.44%
2024	\$ 1,176,959,400	\$ (16,970,000)	
2025	\$ 1,189,745,400	\$ (17,160,000)	
2023-25 Biennium	\$ 2,366,704,800	\$ (34,130,000)	-1.44%
2026	\$ 1,202,120,400	\$ (17,340,000)	
2027	\$ 1,214,456,500	\$ (17,510,000)	
2025-27 Biennium	\$ 2,416,576,900	\$ (34,850,000)	-1.44%

This scenario represents gas tax revenue reductions due to pessimistic gasoline prices. In fiscal years 2011 and 2012 pessimistic oil prices are lower than baseline prices as the economy continues to experience a slow recovery from the recession. After 2012Q1 gas prices rise rapidly as the economy gains momentum causing pessimistic oil prices to be higher than baseline prices and stay higher for the rest of the forecast horizon. Initially, in the 2009-11 biennium gas tax revenues increase by 0.28% and 0.31% in the 2011-13 biennium. With higher pessimistic gas prices in fiscal year 2013 and beyond, gas tax revenue reductions range from 1.31% in the 2013-15 biennium and increase to 1.44% in the 2025-27 biennium.

**REVENUE AND RIDERSHIP PROJECTIONS  
JUNE 2010 FORECAST  
FISCAL YEARS 2011-2027**

Prepared for  
**Washington State Ferries**  
for Presentation to the  
**Transportation Revenue  
Forecast Council**

Prepared by  
Parsons Brinckerhoff

**September 15, 2010**



Adopted

IV - 7

September 16, 2010



# Washington State Ferries

## September 2010 Revenue and Ridership Forecasts — Fiscal Years 2011-2027

### SEPTEMBER 2010 FORECAST NOTES

The fare revenue and ridership forecasts for Washington State Ferries (WSF) are completed in four stages. First, monthly ridership projections by six fare categories are prepared for each route using time series analysis methods, with a forecast horizon from the present through fiscal year (FY) 2027.

The second stage of the process generates system-wide ridership projections. Econometric models combine ferry fare scenarios and state economic variables to produce system-wide unconstrained ridership forecasts by six fare categories through FY 2027. Within each fare category, the individual route forecasts are then calibrated to match the system-wide forecast totals from the econometric models.

The third stage of the process consists of adjusting the calibrated passenger and vehicle ridership by route to reflect seasonal vehicle capacity constraints, changes in service hours, and/or the net impacts from adding or eliminating service.

Last, the appropriate fares and average fare realizations are applied to the calibrated, capacity-constrained ridership forecasts for each route by fare category. This yields monthly and annual revenue forecasts by route for six fare categories

A total of two scenarios differing in fare assumptions were prepared for the September 2010 Forecast:

- **Baseline Forecast (Scenario #1)** – no changes in the posted fares through the forecast horizon, resulting in declining real fares over time due to inflation; and
- **Alternative Forecast (Scenario #2)** – a 2.5% fare increase on January 1, 2011, followed by consecutive 2.5% increases each October through 2026 (FY 2027), with fares rounded up to the nearest nickel.

The September 2010 Forecast results for FY 2010 include actual revenue collections through August 2010 and ridership counts through July 2010. In addition, they also reflect:

- Reduced Port Townsend-Keystone service in the 2009/11 biennium; and
- Reduced Mukilteo-Clinton service due to terminal construction closures during three weekends in the late winter / early spring of 2011.

### Ridership Impacts

The September 2010 ridership demand forecasts reflect the latest ridership data and updated economic variable projections produced by the State and Global Insight. Generally, overall ridership is projected to be slightly lower throughout the forecast horizon than predicted in June. This remains the case for the current biennium, as the predicted economic outlook for FY 2011 is more pessimistic than in June, notwithstanding that actual revenue and ridership has begun to pick up. The following points summarize the updated ridership forecast.

- Real personal income has been revised downward throughout the forecast horizon, which pulls the ridership forecasts down.
- The forecast for employment has also been lowered throughout the forecast horizon relative to June, with the largest decreases occurring in FY 2011 through 2015. This puts downward pressure on the ridership forecasts.
- The September forecast for inflation is lower through the forecast horizon, which results in higher real fares over time. Higher real fares contribute to the decrease in the demand projections.
- Real gasoline prices and vehicle operating costs per mile are both predicted to be higher throughout the forecast horizon, which tends to reduce the forecasts for higher-fare, vehicle travel by ferry.
- In the outer years of the forecast period, projected demand will exceed the available vessel space for vehicles on several routes, especially in the summer.

### Revenue Impacts

- Revenue for FY 2010 came in at \$147.0 M, or about \$0.1 M (0.1%) higher than most recently forecasted in June.
- The Baseline Forecast fare revenue for the 2009/11 biennium is projected to be \$292.9 M, or \$0.1 M (0.03%) higher than in June. For the Alternative Forecast, current biennium fare revenue is projected to be \$294.2 M, or \$0.5 M (0.2%) lower than in June. Most of this decrease is attributable to delaying the October 1, 2010 fare increase until January 1, 2011.
- Baseline fare revenue projections range from 1.3% lower in the 2011/13 biennium to 0.2% lower by the 2017/19 biennium, compared with June. Thereafter, the revenue projections are slightly higher than projected in June.
- Alternative fare revenue projections are lower through the 2021/23 biennium and essentially unchanged thereafter.

# Washington State Ferries

## REVENUE PROJECTIONS ~ BASELINE FORECAST (SCENARIO #1)

### No Changes in the Current Posted Fares<sup>1</sup>

### September 2010 Forecast – Fiscal Years 2011-2027

Fiscal Year	September 2010 Capacity-Constrained Revenue Forecast	Fiscal Year Annual Growth Rate	September Biennium Total	September vs. June Forecast			June 2010 Scenario #)	
				% Change by Fiscal Year	\$ Change and % Change by Biennium		Capacity-Constrained Revenue Forecast	Biennium Total
<b>2008<sup>2</sup></b>	\$148,379,626	1.1%						
<b>2009<sup>2</sup></b>	\$144,540,455	(2.6%)	\$292,920,081					
<b>2010<sup>2</sup></b>	\$147,009,545	1.7%		0.1%			\$146,852,000	
<b>2011<sup>3</sup></b>	\$145,882,000	(0.8%)	\$292,891,545	(0.0%)	\$101,545	0.0%	\$145,938,000	\$292,790,000
<b>2012</b>	\$149,492,000	2.5%		(1.3%)			\$151,389,000	
<b>2013</b>	\$154,245,000	3.2%	\$303,737,000	(1.4%)	(\$4,072,000)	(1.3%)	\$156,420,000	\$307,809,000
<b>2014</b>	\$159,180,000	3.2%		(1.2%)			\$161,156,000	
<b>2015</b>	\$162,892,000	2.3%	\$322,072,000	(1.0%)	(\$3,684,000)	(1.1%)	\$164,600,000	\$325,756,000
<b>2016</b>	\$165,987,000	1.9%		(0.9%)			\$167,453,000	
<b>2017</b>	\$168,949,000	1.8%	\$334,936,000	(0.6%)	(\$2,494,000)	(0.7%)	\$169,977,000	\$337,430,000
<b>2018</b>	\$171,438,000	1.5%		(0.3%)			\$172,014,000	
<b>2019</b>	\$173,869,000	1.4%	\$345,307,000	(0.1%)	(\$790,000)	(0.2%)	\$174,083,000	\$346,097,000
<b>2020</b>	\$176,117,000	1.3%		0.1%			\$175,979,000	
<b>2021</b>	\$178,215,000	1.2%	\$354,332,000	0.2%	\$513,000	0.1%	\$177,840,000	\$353,819,000
<b>2022</b>	\$180,269,000	1.2%		0.3%			\$179,670,000	
<b>2023</b>	\$182,209,000	1.1%	\$362,478,000	0.5%	\$1,459,000	0.4%	\$181,349,000	\$361,019,000
<b>2024</b>	\$183,967,000	1.0%		0.6%			\$182,789,000	
<b>2025</b>	\$185,869,000	1.0%	\$369,836,000	0.8%	\$2,732,000	0.7%	\$184,315,000	\$367,104,000
<b>2026</b>	\$187,529,000	0.9%		0.8%			\$186,004,000	
<b>2027</b>	\$189,252,000	0.9%	\$376,781,000	0.9%	\$3,227,000	0.9%	\$187,550,000	\$373,554,000

<sup>1</sup> Scenario #1 included the 2.5% fare increase in October 2009, but assumes no further changes to the current nominal fares thereafter. This leads to declining real fares over the forecast horizon, and reflects the current programmed level of service subject to capacity constraints.

<sup>2</sup> Reflects/includes historical data.

<sup>3</sup> Includes the effects of reduced ridership and revenue due to the Mukilteo terminal construction closures over 3 weekends in late winter/early spring 2011.

**Washington State Ferries**  
**REVENUE PROJECTIONS ~ ALTERNATIVE FORECAST (SCENARIO #2)**  
**2.5% Annual Fare Increases FY 2011-27<sup>1</sup>**  
**September 2010 Forecast – Fiscal Years 2011-2027**

Fiscal Year	September 2010 Capacity-Constrained Revenue Forecast	Fiscal Year Annual Growth Rate	September Biennium Total	September vs. June Forecast			June 2010 Scenario #)	
				% Change by Fiscal Year	\$ Change and % Change by Biennium		Capacity-Constrained Revenue Forecast	Biennium Total
<b>2008<sup>2</sup></b>	\$148,379,626	1.1%						
<b>2009<sup>2</sup></b>	\$144,540,455	(2.6%)	\$292,920,081					
<b>2010<sup>2</sup></b>	\$147,009,545	1.7%		0.1%			\$146,852,000	
<b>2011<sup>3</sup></b>	\$147,186,000	0.1%	\$294,195,545	(0.5%)	(\$532,455)	(0.2%)	\$147,876,000	\$294,728,000
<b>2012</b>	\$154,202,000	4.8%		(1.4%)			\$156,344,000	
<b>2013</b>	\$162,074,000	5.1%	\$316,276,000	(1.6%)	(\$4,720,000)	(1.5%)	\$164,652,000	\$320,996,000
<b>2014</b>	\$170,410,000	5.1%		(1.6%)			\$173,240,000	
<b>2015</b>	\$177,767,000	4.3%	\$348,177,000	(1.7%)	(\$5,822,000)	(1.6%)	\$180,759,000	\$353,999,000
<b>2016</b>	\$185,241,000	4.2%		(1.4%)			\$187,851,000	
<b>2017</b>	\$192,717,000	4.0%	\$377,958,000	(1.1%)	(\$4,763,000)	(1.2%)	\$194,870,000	\$382,721,000
<b>2018</b>	\$199,865,000	3.7%		(1.0%)			\$201,860,000	
<b>2019</b>	\$207,470,000	3.8%	\$407,335,000	(0.8%)	(\$3,615,000)	(0.9%)	\$209,090,000	\$410,950,000
<b>2020</b>	\$214,971,000	3.6%		(0.7%)			\$216,428,000	
<b>2021</b>	\$222,634,000	3.6%	\$437,605,000	(0.5%)	(\$2,603,000)	(0.6%)	\$223,780,000	\$440,208,000
<b>2022</b>	\$230,447,000	3.5%		(0.4%)			\$231,298,000	
<b>2023</b>	\$238,357,000	3.4%	\$468,804,000	(0.2%)	(\$1,367,000)	(0.3%)	\$238,873,000	\$470,171,000
<b>2024</b>	\$246,504,000	3.4%		(0.1%)			\$246,637,000	
<b>2025</b>	\$254,975,000	3.4%	\$501,479,000	0.1%	\$184,000	0.0%	\$254,658,000	\$501,295,000
<b>2026</b>	\$263,178,000	3.2%		0.0%			\$263,049,000	
<b>2027</b>	\$271,907,000	3.3%	\$535,085,000	0.1%	\$404,000	0.1%	\$271,632,000	\$534,681,000

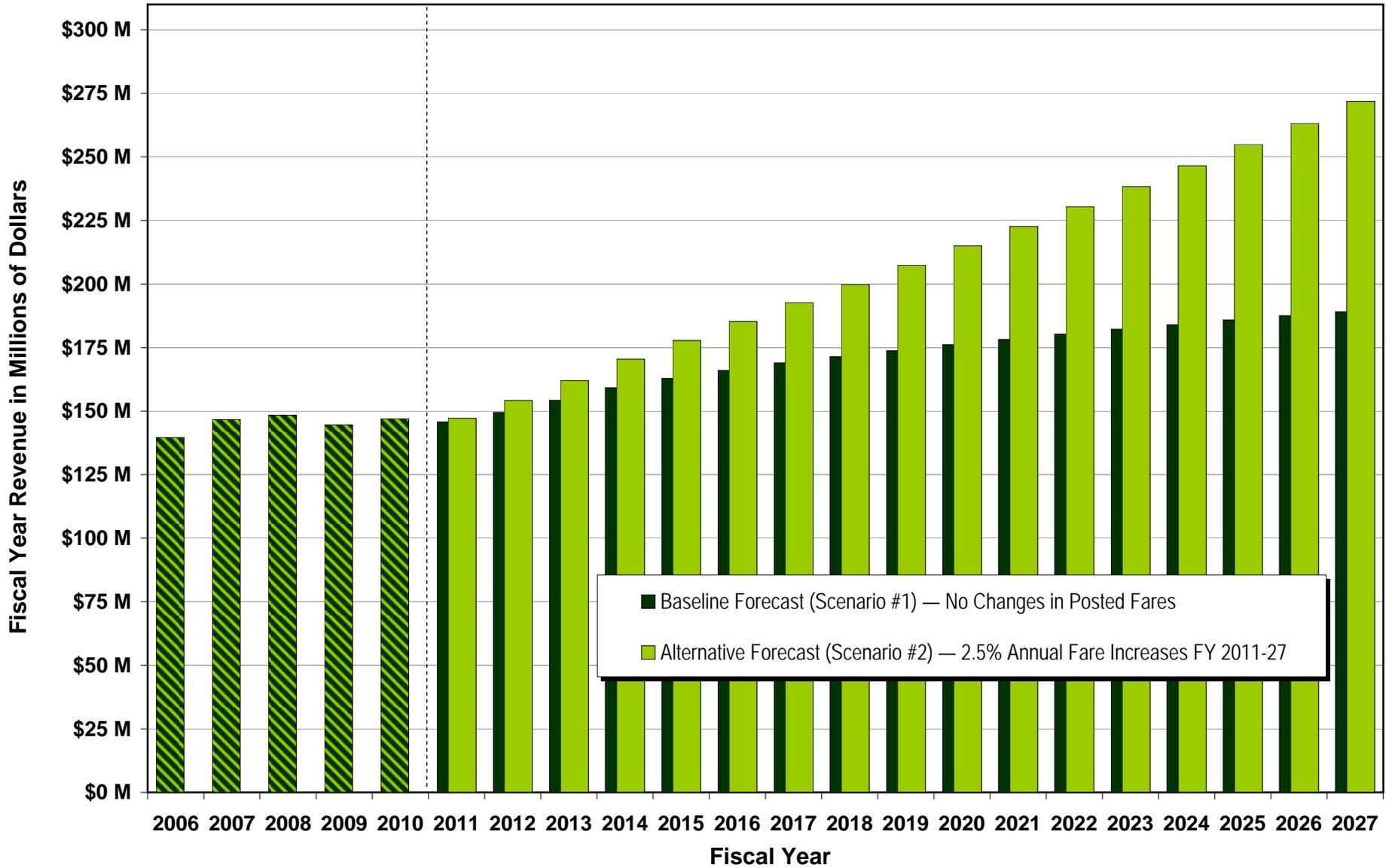
<sup>1</sup> Scenario #2 incorporates annual 2.5% fare increases with nickel rounding each October, 2009 through 2026 excepting the October 2010 increase, which is to be delayed until January 1, 2011. This yields increasing real fares under the current inflation projection and reflects the current programmed level of service subject to capacity constraints.

<sup>2</sup> Reflects/includes historical data.

<sup>3</sup> Includes the effects of reduced ridership and revenue due to the Mukilteo terminal construction closures over 3 weekends in late winter/early spring 2011.

# Washington State Ferries — Revenue History and Forecast Trends

## September 2010 Forecast Scenarios – Fiscal Years 2006-2027



**Washington State Ferries**  
**RIDERSHIP PROJECTIONS ~ BASELINE FORECAST (SCENARIO #1)**  
**No Changes in the Current Posted Fares<sup>1</sup>**  
**September 2010 Forecast – Fiscal Years 2011-2027**

Fiscal Year	September 2010 Unconstrained Demand Forecast	September 2010 Capacity Constrained Projections				June 2010 Projections	
		Passenger Ridership	Vehicle/Driver Ridership	Total Ridership*	Annual Rate of Growth	Total Ridership	Sep. % Chg from Jun.
2008 <sup>2</sup>	23,281,551	12,889,403	10,392,148	23,281,551	(2.9%)		
2009 <sup>2</sup>	22,477,473	12,572,707	9,904,766	22,477,473	(3.5%)		
2010 <sup>2</sup>	22,587,537	12,453,226	10,134,311	22,587,537	0.5%	22,589,000	(0.0%)
2011 <sup>3</sup>	22,710,000	12,604,300	10,047,300	22,652,000	0.3%	22,856,000	(0.9%)
2012	23,477,000	13,071,300	10,379,000	23,450,000	3.5%	23,808,000	(1.5%)
2013	24,331,000	13,536,700	10,742,000	24,279,000	3.5%	24,628,000	(1.4%)
2014	25,212,000	14,013,100	11,110,100	25,123,000	3.5%	25,426,000	(1.2%)
2015	25,911,000	14,398,600	11,362,400	25,761,000	2.5%	26,054,000	(1.1%)
2016	26,624,000	14,817,800	11,542,900	26,361,000	2.3%	26,642,000	(1.1%)
2017	27,347,000	15,243,500	11,712,400	26,956,000	2.3%	27,180,000	(0.8%)
2018	27,994,000	15,616,700	11,849,400	27,466,000	1.9%	27,628,000	(0.6%)
2019	28,673,000	16,010,200	11,967,700	27,978,000	1.9%	28,088,000	(0.4%)
2020	29,358,000	16,398,200	12,078,800	28,477,000	1.8%	28,532,000	(0.2%)
2021	30,051,000	16,784,400	12,177,500	28,962,000	1.7%	28,971,000	(0.0%)
2022	30,740,000	17,174,100	12,261,600	29,436,000	1.6%	29,396,000	0.1%
2023	31,450,000	17,574,000	12,339,900	29,914,000	1.6%	29,817,000	0.3%
2024	32,179,000	17,990,100	12,397,900	30,388,000	1.6%	30,226,000	0.5%
2025	32,929,000	18,433,100	12,449,000	30,882,000	1.6%	30,654,000	0.7%
2026	33,674,000	18,882,500	12,488,800	31,371,000	1.6%	31,088,000	0.9%
2027	34,432,000	19,340,900	12,525,400	31,866,000	1.6%	31,531,000	1.1%

<sup>1</sup> Scenario #1 included the 2.5% fare increase in October 2009, but assumes no further changes to the current nominal fares thereafter. This leads to declining real fares over the forecast horizon, and reflects the current programmed level of service subject to capacity constraints.

<sup>2</sup> Reflects/includes historical data.

<sup>3</sup> Includes the effects of reduced ridership and revenue due to the Mukilteo terminal construction closures over 3 weekends in late winter/early spring 2011.

\* Ridership totals may differ from the sum of fare categories due to rounding to the nearest 1,000.

**Washington State Ferries**  
**RIDERSHIP PROJECTIONS ~ ALTERNATIVE FORECAST (SCENARIO #2)**  
**2.5% Annual Fare Increases FY 2011-27<sup>1</sup>**  
**September 2010 Forecast – Fiscal Years 2011-2027**

Fiscal Year	September 2010 Unconstrained Demand Forecast	September 2010 Capacity Constrained Projections				June 2010 Projections	
		Passenger Ridership	Vehicle/Driver Ridership	Total Ridership*	Annual Rate of Growth	Total Ridership	Sep. % Chg from Jun.
<b>2008<sup>2</sup></b>	23,281,551	12,889,403	10,392,148	23,281,551	(2.9%)		
<b>2009<sup>2</sup></b>	22,477,473	12,572,707	9,904,766	22,477,473	(3.5%)		
<b>2010<sup>2</sup></b>	22,587,537	12,453,226	10,134,311	22,587,537	0.5%	22,589,000	(0.0%)
<b>2011<sup>3</sup></b>	22,644,000	12,571,200	10,018,900	22,590,000	0.0%	22,762,000	(0.8%)
<b>2012</b>	23,145,000	12,875,400	10,252,200	23,128,000	2.4%	23,508,000	(1.6%)
<b>2013</b>	23,768,000	13,200,500	10,530,900	23,731,000	2.6%	24,112,000	(1.6%)
<b>2014</b>	24,410,000	13,532,500	10,823,400	24,356,000	2.6%	24,731,000	(1.5%)
<b>2015</b>	24,865,000	13,769,300	11,020,700	24,790,000	1.8%	25,188,000	(1.6%)
<b>2016</b>	25,327,000	14,035,900	11,184,300	25,220,000	1.7%	25,587,000	(1.4%)
<b>2017</b>	25,784,000	14,295,400	11,327,800	25,623,000	1.6%	25,937,000	(1.2%)
<b>2018</b>	26,144,000	14,483,200	11,428,600	25,912,000	1.1%	26,191,000	(1.1%)
<b>2019</b>	26,526,000	14,685,100	11,533,400	26,219,000	1.2%	26,455,000	(0.9%)
<b>2020</b>	26,911,000	14,880,300	11,633,900	26,514,000	1.1%	26,718,000	(0.8%)
<b>2021</b>	27,301,000	15,072,100	11,734,100	26,806,000	1.1%	26,967,000	(0.6%)
<b>2022</b>	27,686,000	15,266,900	11,824,700	27,092,000	1.1%	27,212,000	(0.4%)
<b>2023</b>	28,075,000	15,466,900	11,894,700	27,362,000	1.0%	27,434,000	(0.3%)
<b>2024</b>	28,474,000	15,677,900	11,962,500	27,640,000	1.0%	27,658,000	(0.1%)
<b>2025</b>	28,882,000	15,900,300	12,022,900	27,923,000	1.0%	27,891,000	0.1%
<b>2026</b>	29,271,000	16,113,300	12,067,900	28,181,000	0.9%	28,115,000	0.2%
<b>2027</b>	29,661,000	16,330,600	12,109,500	28,440,000	0.9%	28,342,000	0.3%

<sup>1</sup> Scenario #2 incorporates annual 2.5% fare increases with nickel rounding each October, 2009 through 2026 excepting the October 2010 increase, which is to be delayed until January 1, 2011. This yields increasing real fares under the current inflation projection and reflects the current programmed level of service subject to capacity constraints.

<sup>2</sup> Reflects/includes historical data.

<sup>3</sup> Includes the effects of reduced ridership and revenue due to the Mukilteo terminal construction closures over 3 weekends in late winter/early spring 2011.

\* Ridership totals may differ from the sum of fare categories due to rounding to the nearest 1,000.

# Washington State Ferries — Ridership History and Forecast Trends

## September 2010 Forecast Scenarios – Fiscal Years 2006-2027

