

Travel Time Trends Semi-Annual Report

Travel Time Trends in the Seattle Area: July–December 2011 vs. 2009–2010

Travel Time Trends Highlights

- ▶ The second half of 2011 saw modest changes in travel times and volumes compared to same time periods in 2009 and 2010.
- ▶ 14 out of 18 commute routes showed little to no change in travel times in 2011 when compared to 2010.
- ▶ Peak period and daily traffic volumes have not changed significantly in the second half of 2011 compared to the same time period in 2010.
- ▶ The five-year trend from 2007 to 2011 for travel times shows a similar increasing trend for both travel time and volume changes.
- ▶ King and Snohomish county employment levels have not changed significantly in 2011 compared to 2010.
- ▶ WSDOT began variable time-of-day tolling on SR 520 on December 29, 2011.

Washington's economic vitality and renowned livability depend on reliable, responsible, and sustainable transportation. *Moving Washington* is WSDOT's proven approach for creating an integrated, 21st century transportation system. The objectives are clear and measurable and rely on partnerships that invest for the long term. It is WSDOT's framework for making transparent, cost-effective decisions that keep people and goods moving and support a healthy economy, environment, and communities. *Moving Washington* reflects the state's transportation goals and objectives for planning, operating and investing. This semi-annual analysis provides up-to-date information about central Puget Sound region travel trends affected by changes in the economy, ongoing congestion relief strategies and projects implemented by the state's *Moving Washington* program. Specifically, this report focuses on a sample of 18 key commute routes in the central Puget Sound region. The trends described in this article are based on a comparison of traffic conditions in the second half of 2011 to those in the second half of 2009 and 2010. Longer-term trends are also described to provide additional context for the short-term patterns.



Modest travel time and volume changes in second half of 2011, consistent with changes in 2010

The table on page 23 summarizes the travel time and volume changes that occurred in the central Puget Sound region in the second half of 2011 (July–December) compared to the same periods in 2009 and 2010. Travel times in 2011 in both the morning and evening commute periods changed only slightly from 2009 and 2010.

Comparing travel times between 2011 and 2010

Of the 18 key commute routes sampled for this analysis, 14 routes showed no significant change in travel times – less than two minutes. The morning commute travel times changed slightly on the Federal Way to Seattle via I-5, and Tukwila to Bellevue via I-405 routes, each showing two minute increases. The Bellevue to Tukwila via I-405 route showed a similar increase in travel time during the afternoon commute. A two-minute improvement in travel time was observed on the afternoon commute route from Seattle to Everett via I-5.

Comparing peak period and daily traffic volumes between 2011 and 2010

Peak period and daily traffic volumes did not change significantly during the second half of 2011 compared to the second half of 2010. During the peak period, 15 out of 18 spot locations showed either a slight increase or decrease – 2% or less – or no change in traffic volume. Similarly, nine out of 14 spot locations (refer to table notes on page 23) showed a slight change or no change in daily weekday traffic volumes. Despite these minimal changes, traffic volumes appear to be increasing. Traffic volumes increased slightly at 12 out of 18 spot locations for peak period volumes and at nine out of 14 locations for daily volumes when comparing the second half of 2011 to the same time period in 2010. Fewer locations had volume increases between the same time period in 2009 and 2010: traffic volume increases occurred at only three out of 18 locations during the peak period, and three out of 14 locations for daily volumes.

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July-December, 2009-2011: Modest Changes in Travel Times and Volumes

Travel time performance for July-Dec in 2009-2011 on a sample of 18 high demand commute routes

Morning (AM) peak is between 5 am and 10 am; Evening (PM) peak is between 2 pm and 8 pm; Length of route in miles; all travel times in minutes

Route name (route length in miles)	Direction of travel	Average travel time in minutes during peak period			Peak average travel time change in minutes			Peak volume change		Daily volume change	
		2009	2010	2011	2010 vs. 2009	2011 vs. 2010	2011 vs. 2009	2010 vs. 2009	2011 vs. 2010	2010 vs. 2009	2011 vs. 2010
Morning commutes											
I-5 Federal Way to Seattle (22)	NB	29	31	33	2	2	4	-2%	1%	-1%	-2%
I-5 Everett to Seattle (24)	SB	31	33	32	2	-1	1	-5%	1%	-7%	0%
I-5/I-405 Everett to Bellevue (24)	SB	32	35	36	3	1	4	-2%	1%	0%	1%
I-405 Tukwila to Bellevue (13)	NB	19	20	22	1	2	3	-2%	1%	1%	2%
SR 167 Auburn to Renton (10)	NB	13	14	14	1	0	1	-2%	2%	-1%	4%
I-405/I-90/I-5 Bellevue to Seattle (10)	SB/WB/NB	12	12	12	0	0	0	7%	2%	7%	1%
I-405/SR 520/I-5 Bellevue to Seattle (10)	NB/WB/SB	13	14	14	1	0	1	-3%	-3%	-2%	-5%
I-5/I-90/I-405 Seattle to Bellevue (11)	SB/EB/NB	12	13	13	1	0	1	1%	1%	0%	2%
I-5/SR 520/I-405 Seattle to Bellevue (10)	NB/EB/SB	14	15	15	1	0	1	-2%	-7%	-2%	-6%
Evening commutes											
I-5 Seattle to Federal Way (22)	SB	27	26	27	-1	1	0	1%	0%	-2%	-2%
I-5 Seattle to Everett (23)	NB	33	32	30	-1	-2	-3	0%	2%	0%	1%
I-405/I-5 Bellevue to Everett (23)	NB	33	31	31	-2	0	-2	0%	2%	0%	3%
I-405/I-5 Bellevue to Tukwila(13)	SB	24	23	25	-1	2	1	-1%	1%	0%	2%
SR 167 Renton to Auburn (10)	SB	13	14	14	1	0	1	-1%	2%	2%	3%
I-405/I-90/I-5 Bellevue to Seattle (10)	SB/WB/NB	15	16	17	1	1	2	6%	0%	7%	1%
I-405/SR 520/I-5 Bellevue to Seattle (10)	NB/WB/SB	20	20	21	0	1	1	-1%	-2%	2%	-5%
I-5/I-90/I-405 Seattle to Bellevue (11)	SB/EB/NB	12	13	13	1	0	1	-3%	1%	0%	2%
I-5/SR 520/I-405 Seattle to Bellevue (10)	NB/EB/SB	15	16	15	1	-1	0	-1%	-4%	-2%	-6%

Data source: WSDOT Northwest Region and the Washington State Transportation Center (TRAC) at the University of Washington.

Note: Travel time and volume data for weekdays only. General purpose lane volumes only, HOV/HOT lane volumes not included. Trips on I-90 and SR 520 are shown for both directions, in both AM and PM periods; daily volumes are duplicates in both the AM and PM routes. Travel time table values are based on six month comparison (July thru December 28 for 2009, 2010, 2011). A negative change in travel times indicates faster travel times. Beginning with this report, peak period definitions will match the definitions used in the annual Congestion Report. Travel time and volume data for older comparison years were adjusted accordingly; therefore, values in this table are not directly comparable to those published in previous semi-annual reports.

Reduced traffic volumes on SR 520 in second half of 2011 compared to 2010

The most significant year-over-year changes in volume were at a spot location on SR 520, just east of the floating bridge. Unlike most locations in the sample, volumes east of the bridge were down in the second half of 2011 compared to 2010, for both peak periods and daily volumes. In this case, construction on the SR 520 corridor appears to be a factor; the project involves significant construction in the median and alongside the roadway, as well as overhead girder installations, for a 2.1-mile segment of the corridor. Construction began in the spring of 2011, impacting the second half of the year. This change is not due to SR 520 tolling, see page 24 for more information.

Five years of travel time and volume data trends

In the five years prior to 2007, travel times gradually increased as regional congestion grew. In 2007 and 2008, region-wide improvements in travel times were observed on nearly every key route monitored in this analysis; the magnitude of these reductions ranged from modest to significant. Factors contributing to the reduction during that period included rising gas prices and deteriorating economic conditions that affected travel demand. WSDOT construction projects and congestion relief strategies were also factors by strategically adding capacity at key locations. The new projects contributed to efficient roadway use, and managed demand. In 2009, travel times continued to

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Factors Affecting Travel Trends: 2007-2011

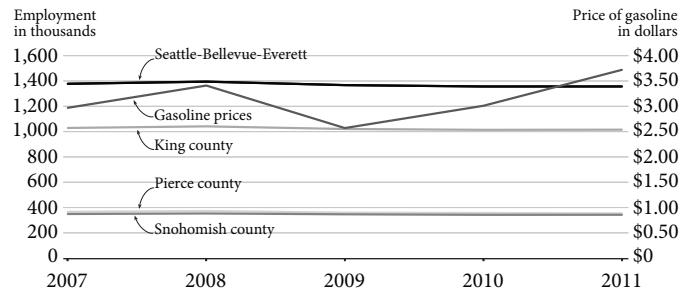
trend downward on most routes. By 2010, travel time changes had leveled off, with only small up or down fluctuations. These trends continued in 2010. Travel time patterns during the past two years also show that while most routes have not shown significant travel time changes, most routes appear to show some upward trend in travel times. However, the five year trend shows that on 14 of 18 sampled routes, 2011 conditions have not returned to 2007 levels.

For example, the Tukwila to Bellevue morning commute via I-405 saw a significant drop in travel time from a high of 30 minutes in 2007, to a low of 19 minutes in 2009. These results are attributed, in large part, to a WSDOT construction project that strategically added capacity on the approach to the I-90 interchange. In 2011, peak period travel times on that route averaged 22 minutes, somewhat higher than the 2009 low, but still significantly lower than before the construction project.

During the past five years, traffic volumes have followed a similar pattern as travel times. From 2007 to 2008, while travel times were dropping on routes across the region, traffic volumes were dropping as well; nearly every spot location surveyed showed a reduction in general-purpose lane traffic volume both for peak periods and all day periods. There was some rebound in volumes in 2009 at most locations. Also small volume changes occurred at most locations in 2010 and 2011 (generally down in 2010, generally up in 2011). At most locations, traffic volumes have not yet returned to 2007 levels; 12 of 18 spot locations have lower peak period volumes in 2011 compared to 2007, while nine of 14 locations have lower daily volumes in 2011. Other factors that influence travel trends

Five year trend for annual Puget Sound regional employment and gasoline prices

2007 - 2011; Employment in thousands, Gasoline prices in dollars



Data source: Washington State Employment Security Department; US Department of Energy - Energy Information Administration (EIA)

Other factors that influence travel trends

During 2011, employment conditions in the region did not change significantly from 2010. Employment levels were essentially unchanged in King and Snohomish counties in 2011 compared to 2010 (+0.1%), while in Pierce County employment dropped by about one percent. For the Seattle-Bellevue-Everett metropolitan region, employment levels remained unchanged in 2011. Reviewing the past 5 year trend puts the employment picture in perspective. In 2007 and 2008, employment was still growing. By 2009 region wide employment was in decline with drops ranging from 1.9% in Snohomish County, 2% in the Seattle-Bellevue-Everett areas to 3.4% in Pierce County. Employment continued to drop in 2010 across the region, though the change was smaller than 2009, ranging from 0.6% to 1.2%, depending on the county. Except for Pierce County, 2011 saw even smaller changes than 2010.

Another factor that influences travel demand is the price of gasoline. Statewide, the annual average gas price for 2011 was \$3.72 per gallon, over 23% higher than in 2010. This represents the highest annual average gas price seen during the past five years. However, there was considerable fluctuation in gas prices during the course of the year, ranging from \$3.25 a gallon in January, to \$4.01 a gallon in May. The highest average monthly gas price during 2011 was still lower than those seen during the summer of 2008, when the statewide average reached over \$4.30 a gallon. While the average price for 2011 was a new annual five-year high, the monthly trend in the second half of the year showed a gradual drop in price, with an average price of \$3.51 per gallon in December 2011.

A new factor: Tolling on SR 520

On December 29, 2011, variable time-of-day tolling was initiated on SR 520 in both directions. While drivers continue to adjust to the changing traffic conditions, WSDOT expects that it will take six months or more before traffic completely settles into its new patterns. In the meantime, WSDOT is monitoring the effects of tolling on the transportation system and works with local jurisdictions and agencies to track and document changes. (the latest traffic reports are available at www.wsdot.wa.gov/Tolling/publications.htm)

During January 2011, WSDOT observed drivers changing routes, trip time, and travel mode. Parallel routes have seen increased volume, particularly during off-peak times, and added congestion during peak times. One month into tolling, the daily volume on SR520 has been 60 to 70% of pre-toll levels. Traffic volumes on I-90 have increased 10 to 15%. Travel time and trip reliability has improved on SR 520, with average peak period travel times decreasing by 10 to 25 minutes. Average peak period travel times on I-90 have increased by five to ten minutes and the peak periods are between 45 and 60 minutes longer.