

Travel Time Trends Semi-Annual Report

Travel Trends in the Seattle Area: January-May 2011 vs. 2009-2010

Travel Time Trends Highlights

The first five months of 2011 have seen modest changes in travel times compared to similar time frames in the previous years.

Evening commutes showed more variance in travel times compared to the morning commutes.

The five-year trend from 2007 to 2011 shows major travel time improvements along with increased throughput on I-5 Federal Way to Seattle and I-405 Tukwila to Bellevue. SR 167 also showed a modest increase in traffic volumes.

The five-year trend for evening commutes fluctuates year-to-year with overall modest improvements in average travel times. Traffic volumes on I-5 Federal Way to Seattle and I-405 Bellevue to Everett show a consistently increasing trend.

This semi-annual analysis provides up-to-date information about central Puget Sound region travel trends due to changes in the economy, as well as ongoing congestion relief strategies and projects under the state's Moving Washington program to fight congestion. Specifically, this report focuses on a sample of 18 key commute routes in the central Puget Sound region, listed on page 23. These results supplement the annual Congestion Report, which takes a more comprehensive look at the state's congestion trends, as well as those of the central Puget Sound region. See pages 16-20 for an executive summary of the 2011 Congestion Report.

The trends described in this article are derived from a comparison of traffic conditions in the first five-months of 2011 to those from the same time periods in 2009 and 2010. This report also looks at a five-year trend for some routes.

Travel time changes in first five months of 2011 were modest

The trends shown on page 23 summarize the travel time and volume changes that occurred in the central Puget Sound region in the first five months of 2011 (January-May) compared to the same period in 2009 and 2010. Taken as a whole, travel times in both the morning and evening commute periods have changed only modestly compared to both 2009 and 2010.

The morning commute shows very little change from 2010, with the largest change measured to be a one minute change on the Bellevue to Seattle via SR 520. Traffic volumes along the key routes have also stayed mostly flat, with only the SR 520 corridor showing a peak period volume reduced by almost 3% from 2010.

In the afternoon commute, travel times changed slightly, with two routes – Bellevue to Everett via I-405 and I-5, and Bellevue to Seattle via SR 520 – showing improvements of more than two minutes. Only three other routes changed by more than a minute. Peak period traffic volumes on those routes have not changed significantly, but they have dropped more than 3% on the commute back to the Eastside from downtown Seattle across the two floating bridges.

Five years of travel time and volume data show trends with more substantial changes

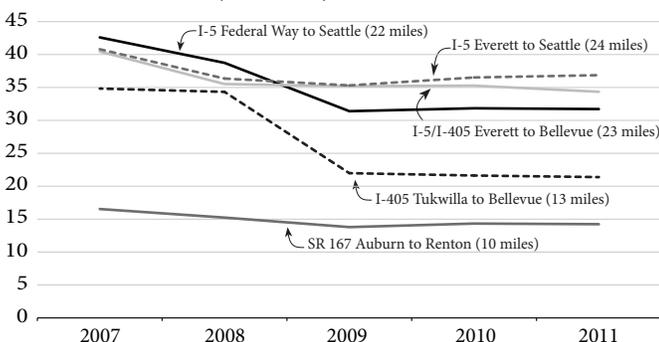
Examining five years of data (January-May, 2007-2011) for the morning peak period gives a more complete picture of recent trends. The longer time frame shows modest improvements in travel times across all routes, with major improvements occurring on I-5 from Federal

Way to Seattle and on I-405 from Tukwila to Bellevue. The I-405 improvements are due largely to the addition of capacity on I-405 approaching the I-90 interchange. To learn more about this improvement, see the 2010 Congestion Report, pages 57-58, which includes the results of a detailed Before and After analysis on this project.

The improvements on I-5 can not be attributed to a specific construction project occurring between 2007 and 2009. In both cases, travel times have remained constant since those improvements took place. For all routes, a minor amount of fluctuation in travel time has occurred from year to year, but the overall trend is toward slightly faster travel. For a detailed analysis on the I-5 travel time improvements please refer to the 2010 Congestion Report, pages 24-26.

Travel time trends on select Puget Sound morning commute routes

First half of 2007 - 2011; Posted speed 60 mph;
Travel time in minutes (6am - 9am)



Data source: Washington State Transportation Center (TRAC).

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January-May, 2009-2011: Travel time changes were modest

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

Morning (AM) peak is between 6 am and 9 am; Evening (PM) peak is between 3 pm and 7 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			Δ 2010 vs. 2011	Peak average travel time percent 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	31.7	31.8	31.7	-0.1	0.5%	-0.4%	0.2%	1.1%	-0.6%	0.1%	-2.8%
I-5 Everett to Seattle (24)	SB	35.4	35.3	34.3	-0.9	-0.2%	-2.7%	-2.9%	2.5%	-1.5%	0.9%	-2.1%
I-5/I-405 Everett to Bellevue (23)	SB	35.2	36.5	36.9	0.3	3.7%	1.0%	4.7%	-0.1%	-0.6%	0.6%	-1.3%
I-405 Tukwila to Bellevue (13)	NB	21.6	21.6	21.4	-0.2	0.1%	-1.1%	-1.0%	5.7%	-1.4%	1.7%	-0.1%
SR 167 Auburn to Renton (10)	NB	13.8	14.3	14.2	-0.1	3.9%	-0.7%	3.2%	3.8%	-1.8%	-0.4%	-1.0%
I-405/I-90/I-5 Bellevue to Seattle (11)	SB/WB/NB	12.3	12.4	12.2	-0.2	0.7%	-1.6%	-0.9%	n/a	0.3%	n/a	0.1%
I-405/SR 520/I-5 Bellevue to Seattle (10)	NB/WB/SB	13.6	14.3	13.3	-1.0	5.5%	-7.2%	-2.1%	0.6%	-2.9%	0.7%	-4.7%
I-5/I-90/I-405 Seattle to Bellevue (11)	SB/EB/NB	12.4	11.9	12.7	0.8	-3.8%	6.8%	2.7%	-2.3%	1.5%	-1.4%	-1.2%
I-5/SR 520/I-405 Seattle to Bellevue (10)	NB/EB/SB	15.2	15.4	14.6	-0.8	0.9%	-5.1%	-4.2%	-0.4%	-3.2%	0.8%	-5.4%
Evening commutes												
I-5 Seattle to Federal Way (22)	SB	28.8	26.8	26.5	-0.4	-6.9%	-1.3%	-8.2%	2.4%	-1.7%	0.4%	-3.7%
I-5 Seattle to Everett (24)	NB	34.6	32.8	31.3	-1.6	-5.2%	-4.8%	-9.8%	0.5%	0.0%	1%	-0.8%
I-405/I-5 Bellevue to Everett (23)	NB	33.3	34.8	32.6	-2.3	4.6%	-6.5%	-2.2%	1.1%	-1.7%	1.4%	-1.5%
I-405/I-5 Bellevue to Tukwila(13)	SB	27.1	24.9	26.0	1.1	-8.2%	4.4%	-4.2%	1.9%	-1.1%	1.0%	-0.1%
SR 167 Renton to Auburn (10)	SB	12.6	13.4	12.9	-0.4	6.0%	-3.2%	2.6%	0.2%	-0.4%	2.9%	1.0%
I-405/I-90/I-5 Bellevue to Seattle (11)	SB/WB/NB	15.5	17.1	17.4	0.4	10.3%	2.1%	12.6%	n/a	0.2%	n/a	0.1%
I-405/SR 520/I-5 Bellevue to Seattle (10)	NB/WB/SB	21.4	23.2	20.4	-2.8	8.1%	-11.9%	-4.7%	0.6%	-0.6%	0.7%	-4.7%
I-5/I-90/I-405 Seattle to Bellevue (11)	SB/EB/NB	14.0	12.4	14.0	1.6	-11.1%	12.7%	0.1%	-1.1%	-3.2%	-1.4%	-1.2%
I-5/SR 520/I-405 Seattle to Bellevue (10)	NB/EB/SB	15.7	16.3	15.2	-1.1	4.1%	-6.9%	-3.0%	1.7%	-3.3%	0.8%	-5.4%

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. Daily volumes are duplicates in both the AM and PM routes. n/a indicates data not available for westbound I-90 due to construction. Travel time table values are based on five month comparison (January thru May for 2009, 2010, 2011). A negative value in percent change indicates improvements in travel times.

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Factors Affecting Travel Trends: 2007-2011

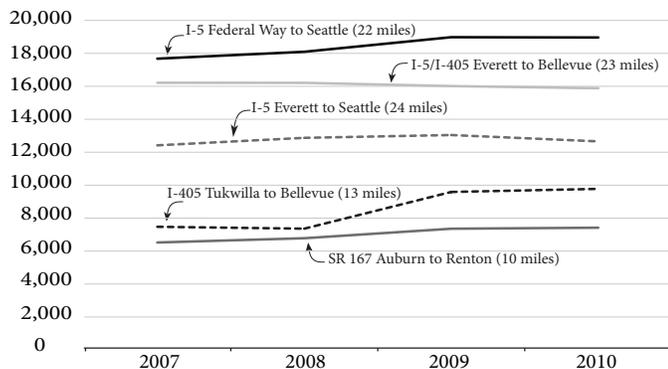
Morning commute traffic volumes have been less consistent than the travel times. The peak period traffic volumes on I-5 and I-405 (the two corridors that had significant travel time improvements) have increased markedly as improved traffic flow has allowed greater throughput in the peak periods. On the remaining corridors, the trends are more mixed. SR 167 (Auburn to Renton) shows a modest increase in traffic while volumes on the other corridors have either remained stable or declined slightly.

Afternoon commute travel time trends see a year-to-year fluctuation from positive to negative. The overall trend of the north/south routes is toward modest improvement in the average travel time. In contrast, the cross-lake routes show no continuing trend: instead, travel times on these routes have fluctuated from year-to-year, due at least in part to the effects of construction activity on I-90. Afternoon volume trends are quite flat, with only the southbound I-5 trip from Seattle to Federal Way and the

Traffic volume trends on select Puget Sound morning commute routes

2007 - 2010; Posted speed 60 mph;

Annual average weekday traffic volume between 6am - 9am



Data source: Washington State Transportation Center (TRAC).

northbound I-405 trip from Bellevue to Everett showing consistently increasing trends. The other four routes show essentially constant weekday peak period volumes.

Effect of economic factors on travel time trends

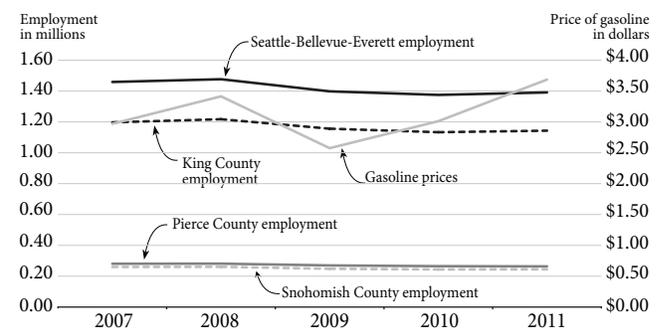
These trends (or lack of a change) are quite interesting, given the significant changes in gasoline prices and economic conditions that have occurred in the region. The graph below shows average annual employment by county and the average annual gas price for the 2007–2011 period.

The general decline in employment is likely to be the cause of

the modest traffic volume decreases seen in the morning on several corridors. However, it appears that on several corridors, decreased peak period congestion has facilitated pent-up travel demand that is larger than the travel reduction caused by the tight economy. That is, when additional capacity has been provided on a very congested freeway, as on I-405 northbound

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

2007 - 2011



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

approaching I-90, travel that had previously taken place outside of the peak period has shifted into the peak to take advantage of that capacity. (Travelers who previously used I-405 at 5:30 AM are now using it at 6:00 AM, and those using it at 6:00 AM now use it at 6:15 because decreased traffic congestion allows them to leave for work later in the morning.) Those volume changes are larger than the traffic volume reduction caused by lower employment in the region.

In the afternoon, neither the changing employment market nor gas prices appear to have caused significant changes in peak period traffic volumes.