Washington State Department of Transportation

Travel Times Continue to Level Off on Major Central Puget Sound Freeways

WSDOT Congestion Relief Projects Make Contributions As Well

This semi-annual analysis provides up-to-date information on central Puget Sound travel trends and ongoing congestion relief strategies and projects under WSDOT's Moving Washington program to fight congestion. Specifically, this report focuses on a sample of 18 key commute routes across the central Puget Sound, listed in the table on page 25. These results supplement the annual Congestion Report, which takes a more comprehensive look at the state's congestion trends as well as the central Puget Sound. The next annual Congestion Report will be published to coincide with the September 2010 edition of *Gray Notebook* (published in November 2010).

This travel trends analysis compares traffic conditions in the first six months of 2010 to the same time period in 2009. These two time periods represent evolving economic conditions and trends in the Seattle area. From January through June 2010, travelers in the central Puget Sound continued to feel the effects of the economic recession, while experiencing system wide benefit from WSDOT's congestion relief projects on I-405. Travel times were mostly flat compared to their 2009 times, reflecting the continued slow recovery of the regional economy. Peak period traffic volumes and daily traffic volumes both increased slightly on the majority of routes.

Travel times show little change from 2009 to 2010

The trend toward flat or reduced travel times seen in previous six-month intervals continued in the first six months of 2010, with six of 18 major commute routes showing reduced travel times, while eight were unchanged, year-on-year. The trend continues the leveling-off pattern already seen in previous Travel Time Trends reports: 15 of 16 trips showed reduced times in 2008 vs. 2007, and 10 of 16 were lower in 2009 vs. 2008.

The durations of all morning commutes were either unchanged or within one to two minutes of their 2009 travel times. Most evening commutes also showed little or no change; some routes did show slightly larger drops, with two decreased by three minutes: Seattle to Federal Way and Bellevue to Tukwila, discussed on page 26.

Peak period volumes increased slightly compared to 2009

Peak period volumes show some slight growth in the first six months of 2010, with 10 of 18 locations showing higher volumes compared to the first half of 2009. Most changes were within a variance of +/- 2%, a relatively inconsequential change which is within the margin of error of the roadway traffic detectors.

Three morning commutes – Tukwila to Bellevue, Auburn to Renton, and Everett to Seattle – all showed increases of more than 2% in volume; the first two are addressed on pages 25-26.

Daily volumes also show growth in the first six months of 2010, with the data from 11 of 14 commute routes shown in the table on page 25 demonstrating higher volumes. (The 14 commute routes reflect the fact that daily volumes on I-90 and SR 520 remain the same for both morning and evening commutes.) The pattern of growth does not deviate significantly from that shown in previous Travel Time Trends reports:

- 4 of 14 locations showing volume growth in 2008 vs. 2007
- 6 of 14 for 2009 vs. 2008
- 9 of 14 for 2010 vs. 2009

The Gray Notebook

GNB 38 Excerpt

August 25, 2010

Washington State Department of Transportation

Driving Forces: Collision rates, light rail, unemployment, and gas prices

New Link Light Rail draws over three million passengers in the first half of 2010

Nearly 3.2 million passengers boarded the new Link Light Rail trains between SeaTac International Airport and Seattle. This almost certainly drew some drivers away from I-5, north and southbound. The annual Congestion Report will explore the effect of the new light rail trains on the I-5 routes in more depth.

Puget Sound region transit ridership

January-June 2010

Year	Bus[1]	Sounder Train	Central Link Light Rail
2007	5,179,487	973,582	n/a
2008	5,882,975	1,260,110	n/a
2009	6,215,183	1,232,607	n/a
2010	6,321,103	1,205,255	3,195,454

Data source: Sound Transit.

[1] Boardings from Sound Transit Express bus routes, which run along the central Puget Sound freeway network

Meanwhile, Sounder train ridership dropped to 1.21 million boardings between the first halves of 2009 and 2010, down about 2%, and down from a peak of 1.26 million in 2008.

Bus ridership along the freeway network increased slightly, up 1.7% from the first half of 2009 to the first half of 2010. This slow but steady growth in bus ridership could be having a small effect on commuter traffic in the central Puget Sound.

Economic conditions continue to affect travel demand in the Puget Sound area

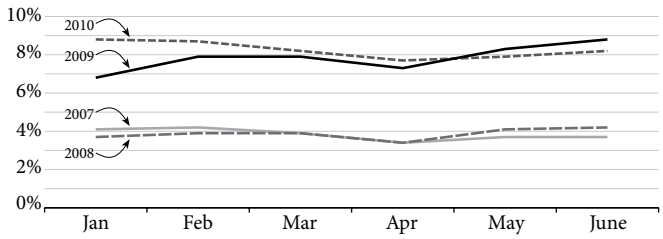
It is clear that the economic recession is affecting travel times in the central Puget Sound region. The past four years represent very different economic conditions in this region. 2007 saw low unemployment and largely stable gas prices; 2008 was marked by a gas price spike and the start of the economic recession. In 2009, although gasoline prices had returned to more consistently lower levels, the recession held back the economy from growth. Numerous indicators show that the local and statewide economy in 2010 still hasn't recovered to pre-recession levels. King County's taxable sales revenue, a proxy for consumer confidence, is down by 4.2% for Quarter 1 of 2010, and down 18.9% from Q1 of 2008. In addition, WSDOT examined the unemployment rate and gas prices to determine what effect these indicators might be having on travel times.

Unemployment remains high

The unemployment rate in King County began rising in mid-2008, doubling from about 4% in the first half of 2008 to about 8% in the first half of 2010.

King County unemployment rate

January-June 2007, 2008, 2009, 2010



Data source: Washington State Employment Security Department, Labor Market and Economic Analysis (LMEA).
Notes: Data is not seasonally adjusted. June 2010 data is preliminary.

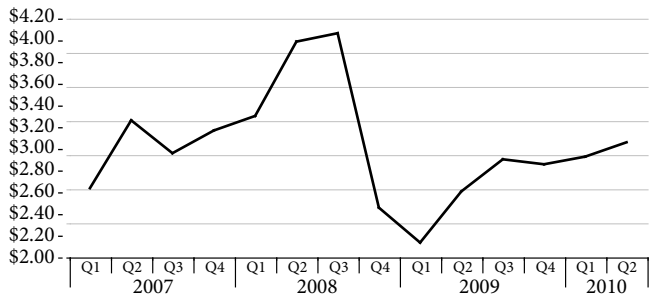
The unemployment rate indicates two things for traffic: first, that fewer people are on the road heading to work, and second, that economic activity is likely down due to sustained unemployment, resulting in fewer trips to purchase or deliver goods and services.

Gasoline prices more stable than in previous comparison periods

Gasoline has stabilized at lower prices than were seen during the 2008 spike that kicked off the downward trends in travel times in the Puget Sound region. Prices for the first half of 2010 had a half-year average of $2.99, roughly equivalent with prices in the first half of 2007. Given the slow pace of price increases since the start of 2009, it is unlikely that gas prices are causing a considerable change in travel times.

Statewide gas prices

January 2007-June 2010



Data source: U.S. Energy Information Administration.

The annual Congestion Report, issued in conjunction with the September 2010 *Gray Notebook* (published in November 2010), will continue to examine both the external drivers and the effects of WSDOT's projects on improved travel times across the state.

Washington State Department of Transportation

Travel times improved on 6 of 18 commute routes January-June 2010

Comparing changes in average travel times and volumes during peak periods: January-June in 2007-2010

		Average travel time in minutes							Peak volume change		Daily volume change	
		2007	2008	2009	2010	2010 vs. 2009	2010 vs. 2008[&]	2009 vs. 2008[&]	2010 vs. 2009	2009 vs. 2008	2010 vs. 2009	2009 vs. 2008
Peak direction – Morning commutes												
I-5	Federal Way - Seattle	43	39	31	**31**	**0**	-8	-8	+1%	+5%	0%	+1%
I-5	Everett - Seattle	41	36	35	**36**	**+1**	0	-1	+3%	0%	+1%	+3%
I-405	Everett - Bellevue	41	36	35	**37**	**+2**	+1	-1	0%	-3%	+1%	-2%
I-405	Tukwila – Bellevue	35	34	22	**22**	**0**	-12	-12	+6%	+29%	+2%	+6%
SR 167	Auburn – Renton[2]	17	15	14	**14**	**0**	-1	-1	+4%	+8%	0%	+4%
I-90	Bellevue – Seattle[3]	–*	–*	12	**12**	**0**	–*	–*	0%	0%	0%	+1%
SR 520	Bellevue – Seattle[3]	15	14	14	**14**	**0**	0	0	0%	-2%	+1%	-1%
I-90	Seattle – Bellevue[3]	15	14	14	**13**	**-1**	-1	0	-2%	-7%	-1%	-2%
SR 520	Seattle – Bellevue[3]	17	16	15	**15**	**0**	-1	-1	-1%	-2%	+1%	-2%
Peak direction – Evening commutes												
I-5	Seattle- Federal Way	32	30	29	**26**	**-3**	-4	-1	+2%	+1%	0%	0%
I-5	Seattle - Everett	37	34	34	**33**	**-1**	-1	0	+1%	-2%	+1%	-1%
I-405	Bellevue - Everett	38	35	34	**35**	**+1**	0	-1	+1%	+4%	+1%	+1%
I-405	Bellevue - Tukwila	30	29	27	**24**	**-3**	-5	-2	+2%	+1%	+1%	-0%
SR 167	Renton - Auburn[2]	16	14	13	**14**	**+1**	0	-1	0%	+2%	+3%	-2%
I-90	Bellevue - Seattle[3]	–*	–*	18	**18**	**0**	–*	–*	-1%	-1%	0%	+1%
SR 520	Bellevue - Seattle[3]	23	22	22	**21**	**-1**	-1	0	+1%	-1%	+1%	-1%
I-90	Seattle - Bellevue[3]	14	13	14	**13**	**-1**	0	+1	0%	+1%	-1%	-2%
SR 520	Seattle - Bellevue[3]	16	16	16	**15**	**-1**	-1	0	+2%	-1%	+1%	-2%

Data source: Washington State Transportation Center (TRAC).

[1] Travel time and volume data for weekdays only; peak periods in this report are 6-9 AM and 3-7 PM.

[2] General purpose lane volumes only, HOT lane volumes not included.

[3] Daily volumes are duplicates in both the AM and PM routes.

* Data not available for westbound I-90 due to construction.

[&] Comparison with 2008 data is provided to show the travel time drop in 2009 and 2010 from congestion relief projects.

The central Puget Sound's small increase in traffic volume was slightly above the trend seen more widely in Washington; the average monthly traffic for the state during the first six months of 2010 was unchanged compared to the baseline average for January through June of 2003-2007. Projects on I-405 appear to be benefitting drivers on I-5 and SR 167, along with I-405.

Several routes benefit from WSDOT's congestion relief projects

Several WSDOT congestion relief projects have produced reduced travel times for commuters in both morning and evening commute periods.

Northbound I-405 sustains 12-minute improvement

Drivers on the I-405 morning trip from Tukwila to Bellevue continue to enjoy shorter travel times – 12 minutes shorter – following completion of the auxiliary lane in January 2009. Peak period volumes continue to be high into the first half of 2010, continuing the increase seen between January-June 2009 compared to 2008, but daily volumes have seen smaller growth over the same time period.

Steep decrease in Federal Way to Seattle morning commute times now levels off

After an 11-minute drop in peak period travel times between 2007 and 2009, travel times on the I-5 northbound morning trip

Results from WSDOT congestion relief projects

from Federal Way to Seattle have now leveled off. A preliminary investigation of the data seems to demonstrate some correlations. Factors include:

- May 2008 opening of HOT lanes on the parallel SR 167
- gas price spike in 2008
- economic recession
- 2009 opening of the central Link light rail running alongside I-5 between SeaTac airport and downtown
- opening of the auxiliary lane on I-405 in January 2009, which likely diverted some traffic from I-5 to I-405.

The 2010 Congestion Report will contain a more in-depth analysis of this route.

Three-minute improvement on Seattle to Federal Way in the evening

As with the Federal Way to Seattle morning route, several factors are likely to be affecting the return trip: the evening route from Seattle to Federal Way. Although WSDOT has not had any major congestion relief projects along this route, it is possible that it has seen indirect benefit from the improvements on I-405 and SR 167. Traffic improvements may also be due to a reduction in travel during the economic recession and a shift of some commuters into the central Link light rail (see page 26-27). A combination of these factors likely contributed to the travel time improvement during the evening peak. Additionally, HOV lane volumes during this time showed an 11% drop, indicating that traffic is moving freely enough that carpool vehicles are traveling in the general purpose lanes.

Three-minute improvement on Bellevue to Tukwila in the evening

Two recent WSDOT projects have improved the experience of travelers on I-405 southbound, accounting for the three-minute drop on the Bellevue to Tukwila evening commute in the first half of 2010.

First, in September 2009, WSDOT completed the I-405 South Bellevue Widening project (also known as the 112th Avenue SE to SE 8th Street project). The project added a general purpose lane northbound from 112th Ave SE to SE 8th Street and southbound from NE 4th Street to I-90, as well as a southbound HOV lane from SE 8th Street to I-90. The new general purpose auxiliary lane creates a longer section for drivers to merge on from NE 4th Street or SE 8th Street, helping keep traffic moving.

Then, in December 2009, WSDOT completed the I-405 – I-5 to SR 169 Stage 1 Widening project, which added a lane in both directions to I-405 between I-5 and SR 167. The project eliminated congestion between SR 167 and I-5, further improving the Bellevue to Tukwila travel time.

Peak-period volume increases 4% on Auburn to Renton morning route

The volume for this route was generally flat through most of the SR 167 corridor, but increased at the north end near Renton, where the 4% volume increase was recorded. This may be due to the improvements from the I-405 – I-5 to SR 169 Stage 1 Widening project, which added a lane and eliminated congestion in both directions of I-405 between I-5 and SR 167.

Peak-period volume increases on Tukwila to Bellevue morning route

The two projects that WSDOT has recently completed along I-405, I-405 – I-5 to SR 169 Stage 1 Widening project and I-405 South Bellevue Widening project, have helped improve traffic on I-405 between Renton and Bellevue. Although general purpose volume is up 6% between 6 am and 9 am, total volume (including the HOV lane) is only up 3%. The HOV lane volume is down, which may indicate that more carpools are traveling in the general purpose lanes. Meanwhile, WSDOT has observed a 15% drop in total volume between 4 am and 6 am at this location. These dramatic changes during the early morning hours may be related to recent employment trends.

Other driving forces impact commute times on major routes

Collisions continue to drop

As noted in several past Travel Time Trends reports, collisions have been dropping across the state and in King County since 2006. This improvement in public safety also has another benefit: fewer collisions mean less disruption to traffic, thus reducing congestion and improving travel times. Preliminary King County collision figures for Q1 2010 show an encouraging start to the year: a 1.5% decrease in total collisions, as well as a 29.8% decrease in serious injury and fatal collisions, which are far more disruptive to traffic.

Traffic collisions in King County
Quarter 1 (January-March) of 2007, 2008, 2009, and 2010

First quarter of	Total collisions	Q1 2010 is lower by	Fatal and serious collisions	Q1 2010 is lower by
2007	9538	-18.1%	172	-26.2%
2008	9389	-16.8%	147	-13.6%
2009	7934	-1.5%	181	-29.8%
2010[1]	7816	n/a	127	n/a

Data source: WSDOT Collision Analysis Branch.

[1] Preliminary collision data for March 2010 is included in Q1 2010 data.