



Washington State
Department of Transportation

The Gray Notebook

WSDOT's quarterly performance report
on transportation systems, programs,
and department management

Paula J. Hammond, P. E.
Secretary of Transportation



GNB 45

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In this edition

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- Ferries Vessel & Terminal Preservation
- Travel Information
- Wetlands Protection
- Water Quality
- Freight/CVISN

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Executive Summary



On this quarter's cover (from top):

The very first metal plates of the state's newest ferry being welded in place in February. Photo by Stuart Isett/Vigor.

Crews verify the position of one of the steel micropiles that are being driven next to the Alaskan Way Viaduct to protect the structure during boring of the SR 99 tunnel.

The 2012 Worker Memorial display in the Transportation Building on the Capitol Campus in Olympia. Empty vests recognize the 59 WSDOT workers killed on the job since 1950.

Workers dangle over the edge to construct a catwalk on the existing SR 520 Bridge east approach.

The Vernita Safety Rest Area, located on SR 24 in Benton County, underwent renovation recently, incorporating sustainable features to reduce WSDOT's environmental impact and lower ongoing maintenance costs.

This page: An example of the flora growing at the Springbrook Creek Wetland and Habitat Mitigation Bank.

About the photos in the Gray Notebook: Most of the photos appearing in these pages were taken by WSDOT staff and can be found on the WSDOT's photostream at www.flickr.com/photos/wsdot/.

Performance highlights from this edition of the Gray Notebook

Since 2001, WSDOT's quarterly *Gray Notebook* has served as one of the agency's primary accountability reporting tools. It contains quarterly, semi-annual, and annual updates on a wide range of agency activities, programs, and capital project delivery.

The *Gray Notebook* is in its second decade as WSDOT's primary transportation system performance report. The public expects and deserves a return on the investment they have made in our transportation system, and WSDOT will continue to be transparent and accountable, reporting on the results of the services it provides.

The following pages present information on WSDOT's performance for the quarter ending March 31, 2012, as well as seven annual reports. Selected highlights from this edition include:

- **Washington State Ferries continues to show strong on-time performance, with 98.1% of trips on time in the quarter ending March 31, 2012.** Ridership numbers and farebox revenue were both very close to projections. (*Washington State Ferries Quarterly Update*; pp. 20-23)
- **Eighty-six percent of ferry terminal systems are in fair or better condition.** WSDOT estimates that 16 percent of the value of the terminal systems and 28 percent of the value of the vessel systems will need preservation by the end of the 2011-2013 biennium. Future terminal and vessel preservation needs will compete against operations, maintenance, and preservation needs for the entire transportation system. Compounding this problem is the additional shortfall in ferry operating and maintenance funds. (*Washington State Ferries Ferry Terminal and Preservation Report*; pp. 12-16)
- **WSDOT's Commercial Vehicle Information Systems & Networks (CVISN) technologies saved the trucking industry more than \$12 million in 2011** and increased the efficiency, safety and security of truck freight movement through Washington. (*CVISN Annual Report*; pp. 45-46)
- **WSDOT aims for zero traffic fatalities and zero serious injuries by 2030. Safety rest areas provide tired motorists stopping opportunities** and are one of the many ways WSDOT is striving to meet the target. Three years after WSDOT's newest safety rest areas opened, fatigue-related collisions are down as much as 57 percent in their vicinity. (*Safety Rest Areas Annual Report*; pp. 9-10)
- **WSDOT continues to reduce worker incidents.** The rate of recordable incidents improved 21% between the first quarters of 2011 and 2012, from 5.8 to 4.6 incidents for every 100 full-time employees. (*Worker Safety Quarterly Update*; pp. 2-4)
- **WSDOT's Incident Response (IR) program saved travelers and businesses about \$10.67 million in the first quarter of 2012** by reducing the time and gas they would have wasted in travel delay due to congestion. IR teams responded to 10,588 incidents. (*Incident Response Quarterly Update*; pp. 24-26)
- **Amtrak Cascades on-time performance was 68.3% for the first quarter of 2012, up 14.6% from the same period a year ago.** This continued the upward trend in on-time performance of the past several years. (*Rail: Amtrak Cascades Quarterly Update*; pp. 18-19)
- **In March 2012, WSDOT secured the last of 18 permits required to begin construction on the new SR 520 floating bridge.** Construction began on Lake Washington in April 2012. (*Mega-project report: SR 520 Bridge Replacement*; pp. 63-64)

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2 • WSDOT reduced worker injury rates 21% and made progress toward Target Zero, reports the **Worker Safety Quarterly Update**.

10 • Ridership and service reliability are up on Washington State Ferries in the third quarter of FY 2012 (January 1 - March 31, 2012).

24 • Incident Response Teams assisted with 10,588 incidents in the first quarter of 2012.

27 • Traffic and travel information website pages set a new record of 4.6 million unique users during the 2012 winter storm.

38 • The Trucks, Goods and Freight Annual Report features information on truck bottleneck research. It also addresses rail, marine and air freight.

63 • The Capital Project Delivery Programs Quarterly update includes reports on three mega-projects: the SR 520 Bridge Replacement and HOV Program, SR 167 Extension, and I-90 Snoqualmie Pass East.

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Linking Performance Measures to Strategic Goals

This table illustrates the alignment of WSDOT's performance measures with the six state transportation policy goals and the WSDOT strategic business plan, *Business Directions*. For more information on navigating the WSDOT information stream, please see pages 88-89.

State policy goal: Safety To provide for and improve the safety and security of transportation customers and the transportation system.

WSDOT business direction Vigilantly reduce risks and increase safety on all state-owned transportation modes; reduce fatalities and serious injuries; assist local communities in identifying effective solutions to transportation safety needs.

Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
Number of traffic fatalities	annual	GNB 42, p. 4
Rate of traffic fatalities per 100 million vehicle miles traveled	annual	GNB 42, p. 5
Percent reduction in collisions before and after state highway improvements	annual	GNB 45, p. 5
Number of recordable workplace injuries and illnesses	quarterly	GNB 45, p. 3

State policy goal: Preservation To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.

WSDOT business direction Catch up with all necessary maintenance and preservation needs on existing highways, bridges, facilities, ferry vessels, airports, and equipment, while keeping pace with new system additions.

Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
Percent of state highway pavement in fair or better condition	annual	GNB 44, p. 10
Percent of state bridges in fair or better condition	annual	GNB 42, p. 8
Percent of targets achieved for state highway maintenance activities	annual	GNB 44, p. 17
Number of ferry vessel life-cycle preservation activities completed	annual	GNB 45, p. 16
Percent of ferry terminals in fair or better condition	annual	GNB 45, p. 14

State policy goal: Environment Enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.

WSDOT business direction Protect and restore the environment while improving and maintaining Washington's transportation system.

Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
Conformance of WSDOT projects and programs with environmental legal requirements	annual	GNB 44, pp. 38-40
Number of fish passage barriers fixed and miles of stream habitat opened up	annual	GNB 44, pp. 36-37
Percent of WSDOT stormwater outfalls inventoried by 2014	annual	GNB 45, p. 33
Number of vehicle miles traveled	annual	GNB 42, p. 16

Transportation-related greenhouse gas emissions (measure to be developed)

State policy goal: Mobility (Congestion Relief) To provide for the predictable movement of goods and people throughout the state.

WSDOT business direction Move people, goods, and services reliably, safely, and efficiently by adding infrastructure capacity strategically, operating transportation systems efficiently, and managing demand effectively.

Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
Travel times and hours of delay on the most congested state highways	annual	GNB 42, p. 17
Reliable travel times on the most congested state highways around Puget Sound	annual	GNB 42, p. 17
Percentage of commute trips while driving alone	annual	GNB 38, p. 31
Average length of time to clear major incidents lasting more than 90 minutes on key highway segments	quarterly	GNB 45, p. 25
Ferry ridership	quarterly	GNB 45, p. 20
Ferry trip reliability	quarterly	GNB 45, p. 21
Percent of ferry trips on time	quarterly	GNB 45, p. 22
Amtrak Cascades ridership	quarterly	GNB 44, p. 33
Percent of Amtrak Cascades trips on time	quarterly	GNB 45, p. 18

State policy goal: Stewardship To continuously improve the quality, effectiveness and efficiency of the transportation system.

WSDOT business direction Enhance WSDOT's management and accountability processes and systems to support making the right decisions, delivering the right projects, and operating the system efficiently and effectively in order to achieve the greatest benefit from the resources entrusted to us by the public.

Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
Capital project delivery: on time and within budget	quarterly	GNB 45 pp. 48-50
Recovery Act-funded project reporting	quarterly	GNB 44, pp. 44-45

State policy goal: Economic Vitality To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.

WSDOT business direction and key performance measures Performance measures and strategic business directions for the new policy goal "Economic Vitality" are in development as part of the 2011-13 strategic planning process. Information will be added to this table in a future edition of the *Gray Notebook*.

Gray Notebook report on Freight	GNB 45, pp. 38-44
Gray Notebook report on Rail Freight	GNB 45, pp. 42-44
Gray Notebook report on Transportation Economic Indicators	GNB 44, pp. 42

Performance Dashboard



Goal has been met.



Performance is trending in a favorable direction.



Trend is holding.



Performance is trending in an unfavorable direction.

Policy goal/Performance measure	Previous reporting period	Current reporting period	Goal	Goal met	Progress	Comments
Safety						
Rate of traffic fatalities per 100 million vehicle miles traveled (VMT) statewide (annual measure, calendar years: 2009 & 2010)	0.87	0.80	1.00			The rate of highway fatalities continues to decline (a lower rate is better)
Rates of recordable incidents and DART for every 100 WSDOT workers ¹ (calendar quarterly measure: Q1 2011 & Q1 2012)	5.8 2.6	4.6 2.7	N/A	N/A		The rate of worker injuries improved; incidents requiring days away from work worsened slightly
Preservation						
Percentage of state highway pavements in fair or better condition (annual measure, calendar years: 2009 & 2010)	93.0%	92.7%	90.0%			Slight reduction from previous year, as Recovery Act projects wrap up
Percentage of state bridges in fair or better condition ² (annual measure, fiscal years: 2010 & 2011)	98.0%	95.0%	97.0%	–		Deck code ratings added to criteria contributed to the change
Mobility (Congestion Relief)						
Highways: annual weekday hours of delay statewide at maximum throughput speeds ³ (annual measure: calendar years 2008 & 2010)	34.8 million	31.7 million	N/A	N/A		Reduction of 21% driven by both reduced demand due to the economy and increased capacity
Highways: Average clearance times for major (90+ minute) incidents on nine key western Washington corridors (calendar quarterly measure: Q4 2011 & Q1 2012)	149 minutes	163 minutes	155 minutes			Average clearance time worsened for the quarter, and did not meet the goal
Ferries: Percentage of trips departing on time ^{2, 4} (quarterly, year to year: FY11 Q3 & FY12 Q3)	95.1%	98.1%	95%			Performance is higher than the same quarter a year ago
Rail: Percentage of Amtrak Cascades trips arriving on time ^{2, 5} (quarterly, year to year: FY11 Q3 & FY12 Q3)	53.7%	68.3%	80%	–		WSDOT and Amtrak continue to evaluate projects and other means to improve on-time performance
Environment						
Percent of stormwater outfalls inventoried in the 2009 NPDES municipal stormwater permit area ⁶ (annual measure: fiscal years 2011 & 2012)	17%	58%	100%	–		WSDOT must inventory 100% of stormwater outfalls within the permit area by March 2014
Cumulative number of WSDOT fish passage barrier improvements constructed since 1990 (annual measure: calendar years 2010 & 2011)	245	258	N/A	N/A		Eleven fish passage corrections were completed in 2011
Stewardship						
Cumulative number of Nickel and TPA projects completed, and percentage on time ^{2, 7} (quarterly: FY12 Q2 & FY12 Q3)	325/ 87%	325/ 87%	90% on time	–		Performance held steady this quarter and did not meet goal
Cumulative number of Nickel and TPA projects completed and percentage on budget ^{2, 7} (quarterly: FY12 Q2 & FY12 Q3)	325/ 91%	325/ 91%	90% on budget			Competitive bidding and construction environment contribute to controlling costs
Variance of total project costs compared to budget expectations ^{6, 7} (quarterly: FY12 Q2 & FY12 Q3)	under budget by 1.3%	under budget by 1.4%	on budget			Total Nickel and TPA construction program costs are within 1.4% of budget

Notes: N/A means not available: new reporting cycle data not available or goal has not been set. Dash (–) means goal was not met in the reporting period.

1 Recordable Incident Rate (RIR) reported as the number of incidents for every 100 full-time employees; the Days Away, Restricted, or Transfer (DART) rate is a subset of RIR, reporting the number of incidents requiring time off or affecting on-the-job duties for every 100 full-time employees.

2 Washington's fiscal year (FY) begins on July 1 and ends on June 30. FY12 Q3 refers to the quarter ending March 31, 2012.

3 Compares actual travel time to travel time associated with 'maximum throughput' speeds, where the greatest number of vehicles occupy the highway system at the same time (defined as 70%-85% of the posted speeds).

4 'On-time' departures for Washington State Ferries includes any trip recorded by the automated tracking system as leaving the terminal within 10 minutes or less of the scheduled time.

5 'On-time' arrivals for Amtrak Cascades are any trips that arrive at their destination within 10 minutes or less of the scheduled time.

6 WSDOT's 2009 NPDES municipal stormwater permit area includes many cities and counties throughout Washington, including King, Pierce, and Clark counties.

7 Budget and schedule expectations are defined in the last approved State Transportation Budget. See page 48 for more information on capital projects in the current 2011 Legislative Transportation Budget. As of this quarter, WSDOT now reports on completed on time and on budget for the whole program, including projects completed in earlier biennia.

Safety

State policy goal

To provide for and improve the safety and security of transportation customers and the transportation system.

WSDOT's business direction

To vigilantly reduce risks and improve safety on all state-owned transportation modes; reduce fatalities and serious injuries; assist local communities in identifying effective solutions to transportation safety needs.



S
safety

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Highway System Safety	
Programs: Focus on Before &	
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GNB 43	
Highway System Safety	
Programs: Focus on Traffic	
Fatalities/Target Zero,	
GNB 42	

Worker Safety Quarterly Update

WSDOT reduces worker injury rates 21%, makes progress toward Target Zero

Worker Safety Highlights

The Recordable Incident Rate declined 21% from the same quarter one year ago.

The Q1 2012 Days Away, Restricted, or Transfer (DART) rate worsened by 4% from first quarter 2011; it improved by 36% compared to the 2011 cumulative rate.

The Ferries DART rate decreased by 79% since 2008.

The number of workdays lost due to workplace injuries by the Ferries system employees decreased 46% from the same quarter one year ago.

WSDOT Recordable Incident Rates¹ by organizational unit

Number of recordable incidents for every 100 full-time employees

Organizational unit	CY 2011	Q1 2011	Q1 2012	YTD ² 2011-2012 % change
Northwest Region	6.6	5.9	4.7	-20%
North Central Region	8.9	11.9	6.0	-50%
Olympic Region	5.2	5.6	5.9	5%
Southwest Region	6.6	1.7	4.1	141%
South Central Region	7.8	6.2	4.7	-24%
Eastern Region	9.9	8.4	4.9	-42%
Headquarters	2.2	1.5	4.3	187%
All Regions combined	5.8	4.9	4.8	-2%
Ferry System	7.5	8.9	3.8	-57%
Agency-wide	6.2	5.8	4.6	-21%

Data source: WSDOT Safety Office.

Note: 1 The Recordable Incident Rate is calculated as the count of recordable incidents multiplied by 200,000 hours (approximate number of hours worked by 100 employees in one year), divided by the total hours worked. 2 Year to date percent change for first quarter 2011 compared to first quarter 2012.

WSDOT has a strong commitment to improve the safety of its employees as they perform their job duties. In 2006, the agency established a goal of zero workplace injuries by 2019. Since then, WSDOT has embarked on a program to transform its employee safety, guided by a core value that every employee should leave at the end of their shift just as healthy as when they started. WSDOT has made progress toward this goal: there were 467 Occupational Safety and Health Administration (OSHA) recordable incidents in 2006, while in 2011 there were 395 recordable incidents. WSDOT continues to focus on safety in the workplace to achieve the Target Zero goal.

WSDOT introduces new measures for worker injuries, injury severity

Starting on January 1, 2012, WSDOT began focusing on the agency's overall recordable incident rate (RIR) as the primary measure to gauge employee safety. This incident rate is the number of OSHA recordable incidents reported for every 100 full-time employees. "OSHA-recordable incidents" is a standard measure that includes all work related illnesses and injuries which result in death, loss of consciousness, days away from work, days of restricted work, or medical treatment beyond first aid. The incident rate provides information on the overall performance of WSDOT's safety program and allows the agency to better address employee safety and identify problem areas and progress in preventing work-related injuries and illnesses.

The second new measure for WSDOT employee safety is the DART rate, for "days away/restricted duty or transfer." DART is a subset of the overall incident rate, and it measures the rate of recordable incidents that keep employees away from work, on restricted duty, and/or require a job transfer. DART serves as an indicator of the relative severity of incidents; if two regions have equal RIR but one has a lower DART rate, it shows which regions is experiencing more severe injuries that require longer times for employees to recover. The U.S. Coast Guard requires maritime employees to be 100% fit for duty before they may return to work. Therefore, some Washington State Ferries (WSF) employees are not able to return to work either part-time or in a limited capacity following an injury. This stipulation typically leads to higher DART rates for WSF employees compared to other WSDOT employees. Measuring these two incident rates allow WSDOT to compare its safety performance to other organizations performing similar work.

Six organizational units decrease Q1 incident rates

During the first quarter (Q1) of 2012, WSDOT made progress toward the goal of zero OSHA recordable workplace incidents; the incident rate decreased to 4.6 incidents for every 100 full-time employees, an improvement of 21% from Q1 2011, when it was 5.8. Five of the WSDOT organizational units each improved their incident rates by 20% or more in this time frame, and WSF lead the way with a 57% decrease. See page 4 for a discussion of WSF safety initiatives, and page 82 for WSF safety training information.

Three organizational units had higher incident rates in Q1 2012 compared to Q1 2011. Southwest Region and Headquarters had the lowest incident rates in Q1 2011; while their higher incident rates this quarter are undesirable, the rates for these two organizational units are not out of the norm compared to the other regions in the same time frame. WSDOT is evaluating and monitoring the causes of the increased incident rates.

DART rates and lost workdays decline from the first quarter of 2011

Ferries reduces rate of incidents with days away by 79% from 2008

The Q1 2012 DART, or “days away” rate was 2.7, 4% worse than Q1 2011 when it was 2.6. However, Q1 2012 is 36% better than the calendar year 2011 “days away” rate of 4.2. Southcentral and Eastern regions, WSF, and Headquarters improved their Q1 2012 “days away” rates by more than 22% compared to Q1 2011.

While the incident rate for Headquarters was worse for Q1 2012 compared to Q1 2011, the rate of incidents involving days away, restricted activities, or job transfer was better during the same time frame. This difference is likely due to reduced injury severity.

WSDOT “days away” rates by organizational unit

Number of recordable incidents involving days away, restricted work activity, and/or job transfer for every 100 full-time employees

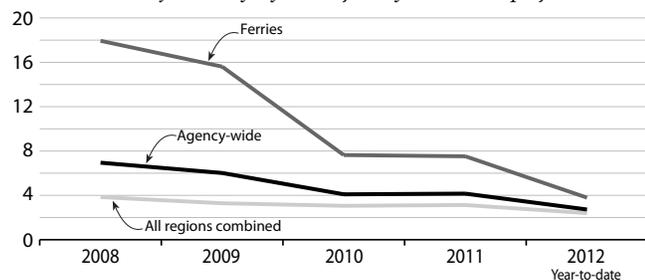
Organizational unit	CY 2011	Q1 2011	Q1 2012	YTD ² 2011-2012 % change
Northwest Region	2.6	1.2	2.8	133%
North Central Region	6.5	1.5	6.0	300%
Olympic Region	2.0	0.6	3.6	500%
Southwest Region	7.2	1.7	4.1	141%
South Central Region	4.4	3.8	2.4	-37%
Eastern Region	3.0	0.9	0.0	-100%
Headquarters	1.6	0.9	0.7	-22%
All Regions combined	3.1	1.3	2.4	85%
Ferry System	7.5	7.2	3.8	-47%
Agency-wide	4.2	2.6	2.7	4%

Data source: WSDOT Safety Office, WSF, Labor and Industries (L&I).

Note: 1 The DART or “days away” rate is the count of recordable incidents involving days away, restricted activities, or transfer, multiplied by 200,000 hours, and divided by the total hours worked. 2 Year to date percent change for first quarter 2011 compared to first quarter 2012.

WSDOT “days away” rate trends from 2008 to 2012

Number of recordable incidents involving days away, restricted work activities, and/or job transfer for every 100 full-time employees



Data source: WSDOT Safety Office, WSF, Labor and Industries (L&I).

Note: The 2008-2009 Northwest Region DART or “days away” rates include the Urban Corridors Office (UCO) incidents and employee hours; the WSF DART rates are based on data from the Jones Act claims and L&I databases.

The longer term trend for the “days away” rates is illustrated in the graph below left. The DART rate for Ferries showed a 79% improvement from 17.9 incidents involving days away, restricted activities, and/or job transfers for every 100 full-time employees in 2008, to 3.8 in the first quarter of 2012. The five WSDOT regions and Headquarters combined improved more than 37%, from 3.8 in 2008 to 2.4 in Q1 2012.

Workdays lost down 9% from 2011

WSDOT has made progress in its efforts to reduce the number of days that employees are unable to report to work from work-related incidents. During Q1 2012, WSDOT employees lost 755 workdays to work-related incidents. This is 9% less than in Q1 2011, when employees lost 834 workdays. Highway maintenance workers lost 409 workdays, while engineers reported 41 lost workdays. Administrative workers lost nine days to work related incidents. Ferries maintenance employees lost 296 workdays, a 46% decrease from Q1 2011.

OSHA-recordable injuries sustained and workdays lost by category of worker

January 1 - March 31, 2012 and comparable calendar quarters

	Number of injuries	% of all injuries	Days away from work	Number of injuries for comparison	
	Q1 2012	Q1 2012	Q1 2012	Q4 2011	Q1 2011
Highway maintenance	36	50%	409	48	39
Highway engineering	16	22%	41	9	14
Admin. staff	6	8%	9	5	2
Ferry system	14	19%	296	32	26
Total	72	100%	755	94	81

Data source: WSDOT Safety Office.

Note: The U.S. Coast Guard requires maritime employees to be 100 percent fit for duty before they may return to work. Therefore, some WSF employees are not able to return to work either part-time or in a limited capacity following an injury.

Safety Champions launch new safety initiative, lead by Secretary Paula Hammond

In April 2012, WSDOT debuted its new Safety and Health Champions Team, bringing together 14 staff from around the state to set vision, establish goals and objectives, and provide the resources and education to ensure employees understand WSDOT’s Employee Safety and Health Program. Secretary of Transportation Paula Hammond is leading the Safety and Health Champions Team; the other members are workers, managers, and executives representing the breadth of work WSDOT performs, including highway design, construction, and maintenance; ferries operations; and office administration.

Worker Safety Quarterly Update

Safety officers implement root cause analysis of incidents

The Safety Champions team's main objectives are to provide agency leadership and policy direction for the WSDOT Safety and Health Program by setting expectations for performance, measurement, and change management efforts. The team will be active role models, and make sure basic processes are in place that align with WSDOT's safety commitment. They will review the agency's safety performance, and make recommendations for ongoing improvements. This is the next step in enhancing the WSDOT safety program, integrating safety into each and every WSDOT workplace every day, every action, every employee.



WSDOT's workplace safety culture is highlighted by the new banner displayed in WSDOT workplaces around the state.

Incident root cause analysis identifies underlying issues

WSDOT evaluates the common types of incidents not only at the regional level, but also for each office and team across the state. WSDOT safety officers meet with teams to determine the root cause of leading incident types, and to collectively identify and implement safety improvements. The efforts aim to identify systemic issues that lead to repeated incidents, and to raise awareness at all levels of the agency. Best practices for improving safety and reducing workplace injuries will be shared across the agency.

As an example of a root-cause analysis, the safety officers may be called to evaluate why a WSDOT employee was involved in a motor vehicle collision. The following levels may be identified: 1) The employee fell asleep behind the wheel; 2) The employee was fatigued by working 70 hours in the past week; 3) The employee worked 70 hours because he was one of only four people qualified to do specific types of work that was in high demand; 4) The team of 25 needs to train additional employees in this type of work.

Ferries safety initiatives

WSF continues to achieve success in reducing its OSHA recordable incident rates. There are many factors that may contribute to this success. WSF has dedicated resources to investigate every reported employee incident, regardless of severity. These investigations are critical opportunities to teach employees about safer ways to do their jobs. The investigations also identify needs for broader workforce training in specific subjects. Senior managers review statistics from investigations and use them to conduct formal risk assessments that help better identify potential opportunities for improvement.

Sustaining wellness at WSDOT work sites

WSDOT continues to support employee wellness through a monthly newsletter, wellness web page, activities, and events, and to educate employees on the importance of completing their health assessment.

Health assessment completion rate ranking rose to new peak of 54 out of 81 state agencies

The employee health assessment is a questionnaire that employees take every calendar year to find out more about their own health. Every year, all state employees who have health benefits through the Public Employees Benefits Board (PEBB) are encouraged to take their health assessment online through their PEBB health plan.

The Washington Wellness initiative ranks state agencies according to how many of their employees completed their health assessments each year. For 2011, WSDOT improved its rank to 54 out of 81 state agencies, up from the previous highest completion rank of 24 achieved in 2010. This new ranking represents 21.2% of all WSDOT employees completing their health assessment. WSDOT remains the highest ranked large agency. At the end of March 2012, 10% of employees had completed their health assessment for the new calendar year.

Community Supported Agriculture drop-off sites return to WSDOT for spring and summer 2012

Over the past two years WSDOT offices have been delivery sites for weekly pre-paid and pre-packaged local farm produce to be picked up by employees who choose to use the service. This is WSDOT's third year participating in the Community Supported Agriculture program. Currently WSDOT has five drop-off sites across the state in the Olympic, North Central, and Eastern regions, and at two Headquarters locations. This gives employees and their families a convenient and healthy source for purchasing fruits and vegetables.



WSDOT employees in the Southwest Region that participated in the Community Supported Agriculture program picked up their boxes of locally-grown produce from their WSDOT worksite.

Highway System Safety Programs Quarterly Focus

Rumble strips reduce run-off-the-road and intersection collisions

Combination rumble strips reduce fatal and serious injury collisions by 56%

WSDOT has studied the collision reduction benefits of installing centerline rumble strips (CLRS) in combination with shoulder rumble strips (SRS) to address collisions caused by driver behavior issues such as inattention, drowsiness, and distraction. The study, which will be published in late spring 2012, shows a 66% reduction in lane departure collision rates of all injury severities and a 56% reduction in fatal and serious injury collision rates. Lane departure collisions include cross-centerline collisions and run-off-the-road to the right collisions.

WSDOT has installed or is programmed to install 267.57 miles of combination rumble strips on two-lane state highways. This study examines over 135 miles of two lane rural highways where WSDOT had installed combination rumble strips. The study analyzes collision records from 2002 through 2009, comparing related crash data before and after rumble strip installation. The Before period represents a roadway without rumble strips, while the After period represents a roadway with both shoulder and centerline rumble strips installed. Highway segments included in the study have a minimum of one year of crash history prior to the installation of rumble strips and a minimum of one year after rumble strips were installed. The Before and After periods for individual highway segments may be dissimilar.

The table below shows that the combination rumble strips reduced cross centerline collision rates by 71.0% for all injury severities, and by 57.5% for fatal and serious injury collisions. Run-off-the-road to the right collision rates declined by 61.6% for all injury severities, and by 53.7% for fatal and serious injury collisions.

WSDOT's approach to installing combination rumble strips

With a focus on driver behavior, the combined installation of centerline and shoulder rumble strips is a relatively new technique in the application of low cost safety features. WSDOT is now analyzing the effectiveness of these combined installations in reducing run-off-the-road to the right collisions and cross-centerline collisions.

Because bicycle use is more prevalent along the shoulders of two-lane roadways, placing shoulder rumble strips on these highways demands strategic application. The vibration created by rumble strips affects the comfort and control of bicycle riders. Consequently, the use of shoulder rumble strips targets only those highway corridors that experience high levels of run-off-the-road collisions. The WSDOT Design Manual provides guidance on the installation of rumble strips on Washington highways.



Combination rumble strips help reduce the potential for cross over crashes related to driver inattention, falling asleep, distracted driving, etc.

Highway System Safety Highlights

Combination rumble strips reduce fatal and serious injury collisions by 56%.

Counties and cities receive \$45 and \$50 million, respectively in Highway Safety Program funds for safety projects.

The goal of the Governor's Strategic Highway Safety Plan, Target Zero, is to reduce statewide fatalities and serious injuries to zero by year 2030.

Performance of combined centerline and shoulder rumble strips by collision type and injury severity

Collision data from at least one year prior to and one year following rumble strip installation

Collision type	Injury type	Before crash rate	After crash rate	Difference in rate	% Change in rate	Miles	Before crash count	After crash count
Cross centerline	all ¹ F&S ²	0.131 (2.159)	0.038 (0.917)	-0.093 (-1.241)	-71.0% (-57.5%)	135.88	176 (29)	29 (7)
Run off the road (right shoulder)	all ¹ F&S ²	0.147 (1.414)	0.056 (0.655)	-0.090 (-0.759)	-61.6% (-53.7%)	135.88	197 (19)	43 (5)
Total lane departure	all ¹ F&S ²	0.278 (3.573)	0.094 (1.573)	-0.183 (-2.000)	-66.0% (-56.0%)	135.88	373 (48)	72 (12)

Data source: WSDOT Headquarters Design Office.

Note: 1 All injury severity rates by million vehicle miles traveled (mVMT). 2 Fatal and serious injury (F&S) rates per 100 mVMT.

Highway System Safety Programs

Quarterly Focus

Cities and counties receive highway safety improvement funds

WSDOT and local agency safety efforts

Counties receive \$45 million for safety modifications

From 2006 to 2010, there were 3,624 fatal and serious injury crashes on county roads in Washington state. Of those, 1,984 (55%) were run-off-the-road crashes and 812 (22%) were intersection-related. Reducing the risk of these types of crashes remain a top priority for local agencies across the state. It is also the top priority in the Strategic Highway Safety Plan: Target Zero. WSDOT works closely with local agencies in prioritizing projects that involve federal and state safety dollars.

WSDOT uses fatal and serious injury crash rates per mile as its performance measure in allocating funds to the local agencies. Based on this criterion, \$45 million in federal Highway Safety Improvement Program (HSIP) funds are delivering projects in all 39 counties across the state. These projects are low-cost, widespread modifications that will reduce the potential for collision on hundreds of miles of county roads. Work on some of these projects began in summer 2011, with many additional projects being constructed in summer 2012. All projects are scheduled to be completed by the end of 2013. For more detailed information on the county safety program, see *Gray Notebook 41*, p. 7.

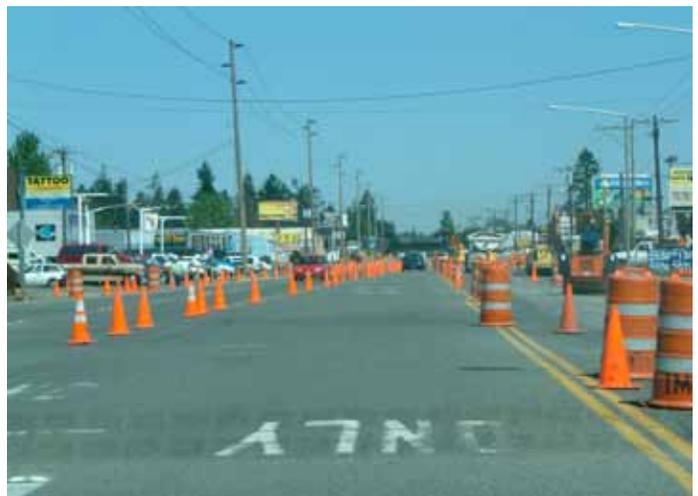
Cities receive \$50 million for safety improvements

For Target Zero goals, intersection-related collisions are priority level two, while run-off-the-road crashes are the top priority. For cities intersection-related crashes are the number one issue. From 2006-2010, there were 5,503 fatal or serious injury crashes on city responsible roads in Washington state. Of those, 2,785 (51%) were intersection-related. Based on an analysis of the data, including crashes mapped using GIS, several methods were identified to reduce the potential for collisions within cities, using both crash history and crash risk.

Cities were invited to apply for competitive safety funding to address the highest priority intersections and corridors. Projects will be analyzed using a performance based benefit/cost methodology; the highest (benefit-to-cost ratio) value projects will receive funding. Statewide, \$35 million in federal HSIP funds will build these projects. City safety program plans are being finalized this spring, with projects to be underway starting in 2013.

Crash history: The locations with crash history were addressed using two approaches. The first approach identified individual intersections with the combined five-year highest frequency of fatal or serious injury crashes on city streets. The second approach identified high priority corridors within a single (or multiple) jurisdiction(s) with high numbers of intersection-related fatal or serious injury crashes. This could be a corridor with clusters of closely spaced intersections on an urban arterial. Because there may be frequent name changes for roads within a city or crossing city boundaries, these corridors were identified by mapping the collisions using Geographic Information Systems (GIS).

Crash risk: In addition to addressing crash history, \$15 million in federal HSIP funds will address city streets based on crash risk. HSIP funds will be disbursed to the cities that have the highest number of fatal and serious injury crashes that are related to intersections. These funds will support the cities' efforts to address system-wide intersection safety with low-cost modifications. These modifications will be made to a large number of intersections within each jurisdiction receiving funds. Low-cost countermeasures can be as simple as making basic upgrades to traffic signals, such as installing 12-inch lenses in place of older 8-inch versions, adding retro-reflective tape to the borders of back plates (and adding the back plates if needed), or providing pedestrian countdown signals.



Safety project in Lakewood to reduce access point crashes due to sudden driver entrance and slowing on the highway.

WSDOT continues focus on safety innovations

WSDOT safety innovations during the past decade

Over the past decade, WSDOT's collision analysis has been refined to identify high accident locations and corridors, with greater than average numbers of fatal and serious injury collisions. Concurrently, the Governor began a highway strategic safety plan called Target Zero that emphasized the use of proven low cost strategies.

Target Zero's primary goal is to reduce statewide fatalities and serious injury collisions to zero by 2030. Additional new network-wide collision reduction strategies were introduced in 2005 to focus on the top three Target Zero priorities:

- For head-on collisions, WSDOT installed cable median barriers statewide, and centerline rumble strips on rural two-lane highways.
- For run-off-the-road collisions, WSDOT constructed shoulder rumble strips on rural highways, two new rural rest areas, \$50 million worth of new guardrail on rural two-lane highways, and put up larger warning signs on curves.
- Intersection-related collisions were potentially improved by configuring low-cost, left-turn pockets at selected intersections.

The graph below illustrates safety investment funding levels and fatalities in Washington state. The reduction in fatalities is a result of combined efforts through engineering, education, enforcement, and emergency services.

Other steps WSDOT is taking over the next decade include the use of Geographic Information System (GIS) as a tool for spatial analysis, and the loading and testing of SafetyAnalyst,

a new software program. SafetyAnalyst was developed by the American Association of State Highway and Transportation Officials (AASHTO) to predict locations with a higher risk of serious injury collisions. GIS helps in visually analyzing the accident clusters while designing the safety counter measures.

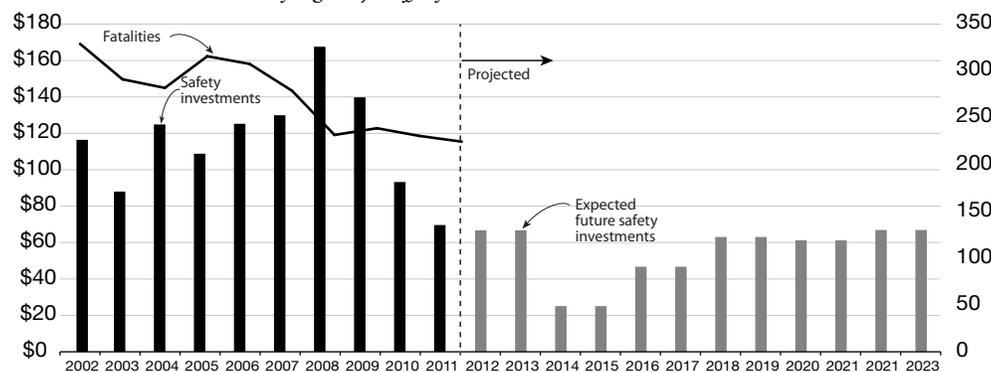
WSDOT's ten-year Safety Investment Plan to achieve Target Zero goals

Washington is building traffic safety partnerships throughout the state to align priorities and leverage resources to improve traffic safety. The Strategic Highway Safety Plan: Target Zero is the outgrowth of that partnership, setting forth a vision to reduce traffic fatalities and serious injuries to zero by the year 2030. It identifies Washington's highway needs, helping to guide investments to achieve significant reductions in traffic fatalities and serious injuries on all public roads. WSDOT executives have adopted a ten year safety investment plan valued at \$678 million with a goal to further improve collision reduction performance and achieve Target Zero. This plan will implement a three phase approach to identify priorities within the safety sub-program. The first two phases total \$528 million at a base level of investment funding, continuing WSDOT's prior highly successful approach. The third phase is based on the anticipated enhanced level of investment funding for an additional \$150 million and complements the other two by identifying potential risks.

Through this ten-year safety investment plan, WSDOT will work with local communities to identify cost effective countermeasures and scope project proposals within the limits of existing and future funding availability. The PDF version of the future ten-year safety investment plan can be found at www.wsdot.wa.gov/Accountability/Publications/PerformanceDocuments.htm#graynotebook

Safety investment funding levels and fatalities

Dollars in millions; Number of highway traffic fatalities



Data source: WSDOT Capital Program Development and Management Office.
 Note: Projections as of May 2012. Reduction in fatalities is a result of combined efforts through engineering, education, enforcement, and emergency services.

www.wsdot.wa.gov/Accountability/Publications/PerformanceDocuments.htm#graynotebook

Phase 1 (Reduce risk at locations with known collisions):

During this phase WSDOT continues the traditional approach to reduce safety risk by evaluating the locations with the largest concentrations of known collisions. The analysis will identify factors that are increasing the risk potential and provide a basis for identifying cost effective solutions to reduce the risk.

Highway System Safety Programs

Quarterly Focus

WSDOT continues focus on safety innovations

Phase 2 (Implement network-wide cost-effective measures for reducing collision risk): This phase will complete initiatives that WSDOT has worked on for almost a decade such as the highly effective centerline rumble strips on rural two-lane highways, upgrading three-strand cable median barrier to four-strand, protecting re-directional landforms, and installing curve warning signs. In addition, new strategies will be initiated such as upgrading existing non-standard American Disability Act (ADA) needs and installing more guardrails on roadways with side slopes steeper than two-to-one (horizontal to vertical).

Phase 3 (Implement a new approach to identify locations with future collision risk): As mentioned on page 7, the Federal Highway Administration (FHWA) and American Association of State Highway and Transportation Officials (AASHTO) have released a new tool called SafetyAnalyst. The recommendations from SafetyAnalyst will allow WSDOT to program projects that would address the future collision risk locations.

WSDOT's safety initiatives reduce run-off-the-road collisions, such as:

Shoulder rumble strips WSDOT installed 1,237 miles of shoulder rumble strips since May 2003.

Centerline rumble strips WSDOT installed or is programmed to install 2,691.64 miles of centerline rumble strips since May 1996.

Combination rumble strips WSDOT installed 267.57 miles of centerline and shoulder rumble strips in combination since July 1999. These combination rumble strip miles are also counted individually under the above two categories. All the three forms of rumble strips notify drivers that they are leaving their lane through sound and vibration.

Cable median barrier WSDOT installed over 229 miles (1,210,900 linear feet) of cable median barrier since March 2001. These barriers reduce the potential for head-on collisions along divided highways.

Guardrail infill WSDOT installed additional guardrail worth \$50 million, as part of the Transportation Partnership Act (TPA).

Eliminating non-standard guardrail Non-standard guardrail refers to an older system using concrete posts spaced wider than 6'3". Commonly installed before 1970, this design pre-dates much of the current standardized crash test criteria. Twenty-three guardrail upgrade projects, between 1996 and 2009, replaced about 62 miles (325,821 linear feet) of non-standard guardrail. This completes replacement of non-standard guardrail.

Safety Rest Areas Annual Safety Report

Rest areas reduce fatigue-related collisions as much as 57%

Safety rest areas (SRAs) provide tired motorists stopping opportunities and are one of the many ways WSDOT is striving to meet the Target Zero goal of zero traffic fatalities and zero serious injuries by 2030. The number of fatal, serious, and evident injury collisions dropped as much as 57% in the vicinity of the state's newest rest areas. Washington state's latest rest area opened in January 2012 in Elbe along SR 7 on the way to and from Mount Rainier National Park. Fatigue-related collisions in the vicinity of Elbe will be evaluated to measure the impact of this new rest area on highway safety.

Fatigue-related collisions accounted for three percent of Washington's total highway fatalities from 2006 through 2010. Fatigue-related collisions are those with officer-reported contributing circumstances of drivers being "apparently asleep" or "apparently fatigued." Rest areas, along with other highway safety improvements, help make Washington's highways safer. There are 48 rest areas statewide, 28 on the interstate system and 20 on state highways.

WSDOT analyzed fatigue-related collisions occurring in the vicinity of the state's newest sites, looking at data three years before the site opened compared to three years after. A California Department of Transportation (CalTrans) study *Rest Areas - Reducing Accidents Involving Driver Fatigue* (UCB-ITS-PRR-2010-15) notes that fatigue-related collisions increased significantly 30 miles past rest areas. WSDOT's analysis considers only the collisions that occurred in the 30-mile stretch past the rest area because the CalTrans study indicates that this is the area that would have been affected by installation of a new rest area. Before and After data for three of the sites are captured below. The Elbe rest area was completed in 2012; After data will be collected over the next three years.

Fatigue-related collision analysis: three years Before/After rest areas open

Fatal, serious, and evident injury collision types

Rest area (location)	Date open	BEFORE Total Collisions	AFTER Total Collisions	Percent Reduction
Iron Goat SR 2, milepost (MP) 58	August 2006	18	8	56%
Dusty SR 26, MP 118	July 2006	7	3	57%
Price Creek EB I-90, MP 61	July 2004	13	9	31%

Data source: WSDOT Facilities Office.

Note: Iron Goat and Dusty are multi-directional rest areas; analysis was in both directions past the rest areas. Price Creek is on a divided highway, accessible eastbound, and analyzed in that direction. Elbe is too new to evaluate.

20 million travelers use safety rest areas in 2011; down 2% from 2010

WSDOT's 2011 safety rest area user data indicates a decrease in total number of visitors compared to the previous year. The number of visitors statewide dropped an estimated 403,000 to about 20.5 million, a two percent decrease since 2010. During the same time period, there was about a one percent decrease in vehicle miles traveled by the motoring public.

A busy construction season, with the replacement of two safety rest area buildings, most likely impacted the user counts at the Vernita and eastbound Selah Creek SRAs. User counts for Bow Hill, Vernita and Winchester were over-reported last year; this error has been corrected and the two percent decrease in usage takes this adjustment into account. Visitor data is estimated by tracking water usage at facilities. The reporting error was due to faulty water meters, which WSDOT has replaced. See *Safety rest area visitor data* on the next page.

Safety Rest Areas Highlights

Three years after WSDOT's newest safety rest areas were opened, fatigue-related collisions are down as much as 57%.

The Elbe Safety Rest Area opened in January 2012, providing travelers a respite along SR 7 to and from Mount Rainier.

The number of visitors using WSDOT's safety rest areas declined 2% from 2010 to 2011.

WSDOT's most used SRA, at Toutle River, on I-5 in Cowlitz County, logged an estimated 2.2 million visitors in 2011.

WSDOT partnered with the Cowlitz River Valley Historical Society to provide a new public restroom in Morton, near the intersection of SR 7 and SR 508.

Construction is scheduled to begin this summer on Deer Park Safety Rest Area in Clallam County.

Safety Rest Areas

Annual Safety Report

Elbe, Cowlitz River Valley facilities recently open to travelers

Elbe Safety Rest Area opened in January; spring and summer operations began April 1

The newest WSDOT Safety Rest Area is located on the west side of Elbe at milepost 17 on SR 7. It opened January in 2012 for winter operations. Full time spring and summer operations begin April 2012. It is a welcome addition to the town of Elbe and to local businesses that had no restroom facilities for the traveling public. WSDOT demonstrates a commitment to environmental sustainability by implementing stormwater control and treatment, LED parking lot lighting, energy efficient heating and building lighting, and the re-use of a historical structure at the Elbe Safety Rest Area.

Cowlitz River Valley facility open in Morton

WSDOT partnered with Cowlitz River Valley Historical Society (CRVHS) to provide a new public restroom in Morton, a half-mile east of the intersection of SR 7 and SR 508. The project used federal scenic byway grant funds to install a pre-cast concrete restroom building with sidewalks, lighting, and flush toilets. The building is locally owned and operated by the historical society.

Future rest area: Deer Park - Clallam County

WSDOT is partnering with Clallam County to construct a restroom facility at the Deer Park Scenic Gateway Center located west of Port Angeles on U.S. 101. The rest area will be constructed, maintained, and operated by Clallam County with WSDOT oversight. Construction is scheduled to begin summer 2012 and complete in 2013.

Safety rest area visitor data

Number of visitors by rest area,¹ change between 2010 and 2011

Total visitors statewide		2010: 20,924,374	2011: 20,521,374	Change: -403,000	(down 2%)				
Safety rest area	County	2010	2011	Change	Safety rest area	County	2010	2011	Change
I-5 Gee Creek NB & SB	Clark	1,789,560	1,663,814	-125,746	I-90 Schrag EB & WB	Adams	907,097	867,330	-39,767
I-5 Toutle River NB & SB	Cowlitz	2,350,600	2,213,445	-137,155	I-90 Sprague Lake EB & WB	Lincoln	1,240,273	1,292,600	52,327
I-5 Scatter Creek NB	Thurston	1,379,700	1,481,900	102,200	U.S. 2 Nason Creek	Chelan	451,257	521,163	69,906
I-5 Maytown SB	Thurston	1,481,900	1,507,450	25,550	U.S. 2 Telford	Lincoln	245,280	261,952	16,672
I-5 SeaTac NB	King	1,747,620	1,743,532	-4,088	U.S. 195 Horn School	Whitman	282,072	266,480	-15,592
I-5 Silver Lake SB	Snohomish	337,635	313,244	-24,391	SR 7 Elbe WB	Pierce	NA	NA	NA
I-5 Smokey Point NB & SB	Snohomish	1,450,600	1,345,085	-105,515	SR 8 Elma EB	Grays Harbor	337,093	458,153	121,060
I-5 Bow Hill ³ NB & SB	Skagit	556,013	538,560	17,453	SR 12 Bevin Lake	Lewis	147,632	172,435	24,803
I-5 Custer NB & SB	Whatcom	889,140	826,180	-62,960	SR 14 Chamberlain Lake	Klickitat	282,100	277,020	-5,080
I-82 Selah Creek EB & WB	Yakima	813,333	602,163	-211,170	SR 17 Blue Lake ²	Grant	27,520	28,550	1,030
I-82 Prosser	Benton	597,870	643,860	45,990	SR 24 Vernita ³	Benton	203,200	189,820	-13,380
I-90 Indian John Hill EB & WB	Kittitas	1,652,520	1,721,341	68,821	SR 26 Hatton Coulee	Adams	56,220	74,033	17,813
I-90 Ryegrass EB & WB	Kittitas	715,400	591,733	-123,667	SR 28 Quincy Valley	Grant	145,194	132,465	-12,729
I-90 Winchester ³ EB & WB	Grant	664,300	613,200	-51,100	SR 401 Dismal Nitch	Pacific	85,000	76,466	-8,534
					SR 504 Forest Learning Center ²	Cowlitz	88,245	97,400	9,155

Data source: WSDOT Facilities Office.

Note: 1 Visitor data is estimated by tracking water usage at facilities. Eight of the 47 facilities are not included because these sites are not set up to track water usage: I-90 Travelers Rest, I-90 Price Creek EB, SR 2 Iron Goat, SR 12 Alpowa Summit EB & WB, SR 12 Dodge Junction, SR 21 Keller Ferry, and SR 26 Dusty. 2 Seasonally operated facility. 3 Corrected values after fixing faulty water meters.

Preservation

State policy goal

To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.

WSDOT's business direction

To catch up with all necessary maintenance and preservation needs on existing highways, bridges, facilities, ferry vessels and terminals, airports, and equipment, while keeping pace with new system additions.



In this section

- Safety Rest Areas (Preservation) Annual Report 12
- Ferries Vessel & Terminal Preservation Annual Report 14

See also

- Quarterly Report on Capital Projects (Beige Pages) 48

Earlier articles concerned with preservation

- Asset Management: Pavement Conditions Annual Report, GNB 44
- Asset Management: Capital Facilities Annual Report, GNB 43
- Asset Management: Bridge Assessment, GNB 42

Safety Rest Areas Annual Preservation Report

Safety rest areas condition ratings improve to a “B” in 2011

Safety Rest Areas Preservation Highlights

The overall state average for safety rest area facility ratings remains in “fair-mid” category.

The last of 108 known ADA compliance issues will be corrected by June 2012.

SeaTac, Traveler’s Rest and Gee Creek safety rest area renovations are underway.

Vernita and Selah safety rest area renovations are complete.

Safety rest areas (SRAs) scored a “B” through the 2011 Maintenance Accountability Process (MAP), a slight improvement from 2009 and 2010, when the program had a “B-” rating. MAP measures the outcomes of safety rest area maintenance activities. Surveys are conducted periodically throughout the year to rate the condition of rest areas from the public’s perspective, considering things like cleanliness, litter and garbage disposal, and functionality of hand dryers, faucets, and partitions. The “B” rating in 2011 brings this MAP activity back in line with maintenance goals. (See *Gray Notebook* 44, p. 17).

Safety rest areas help reduce and prevent fatigue-related collisions by providing stopping opportunities along Washington’s highway system. WSDOT maintains and preserves 48 safety rest areas in an effort to keep them open and operating for the traveling public.

Overview of WSDOT’s 48 safety rest areas

Features and services of 28 interstate and 20 state highway rest areas

Feature	Count	Feature	Count
Acres	696	RV dump stations	20
Buildings	95	Truck parking stalls	580
On-site drinking water systems	31	Passenger parking stalls	1,572

Data source: WSDOT Facilities Office.

Note: Inventory changes from 2010 to 2011 are the result of a new safety area at Elbe, which added one building and 12 passenger vehicle parking stalls.

Facility condition ratings show 5% improvement in latest assessment

Facility condition ratings at safety rest areas showed a 5% improvement from assessments held in 2010 compared to 2012, building on a 2% improvement from 2008 compared to 2010. The overall statewide average remains in the “fair-mid”/adequate condition category.

WSDOT performs condition assessments every two years that focus on evaluating building structures, utility systems, and site components rather than the maintenance and operations measures rated in the Maintenance Accountability Process. WSDOT’s goal is for an average statewide rating in the “fair-mid” category, to ensure no facilities are rated “poor.” A “poor” rating signals a high potential for failure, that would likely impact rest area operations.

The two rest areas that showed the biggest improvements were previously the lowest rated facilities: restrooms at Selah Creek eastbound and Vernita were replaced with larger, more current buildings and both now hold the top rating. Twelve facilities are now in the “good” category, compared to eight in 2010. Seven are rated “fair-high,” just as in 2010. Sixteen are rated “fair-mid” compared to 11 in 2010. Thirteen are considered “fair” compared to 16 in 2010. The one facility rated “poor” in 2010 was updated and is now rated “good.” No facilities declined to the “poor” condition rating as of the 2012 assessment.

Condition ratings for safety rest areas

Number and percentage of safety rest areas in each category in 2010 and 2012

Condition	2010		2012	
	Number	Percent	Number	Percent
Good (meets standards)	8	19%	12	25%
Fair - High (minimal deficiencies)	7	16%	7	15%
Fair - Mid (adequate condition)	11	26%	16	33%
Fair - Low (multiple deficiencies)	16	37%	13	27%
Poor (multiple major deficiencies)	1	2%	0	0%

Data source: WSDOT Facilities Office.

Safety rest areas major renovation projects in process

Vernita and Selah Creek eastbound reopen

The Vernita and Selah Creek eastbound safety rest areas (SRA) renovations are complete. Both are open and offer travelers safe and modern stopping opportunities along SR 24 and I-82. These rest areas are designed with sustainable features to reduce WSDOT's environmental impact and lower ongoing maintenance costs.

Traveler's Rest building renovation

Design is underway to renovate the 1938-era Traveler's Rest SRA located at milepost one on SR 906 parallel to I-90 at the Snoqualmie Pass summit. The historically-significant building was originally constructed with funding from the Public Works Administration. Plans include improving pedestrian circulation and safety, upgrading insulation and mechanical systems for better energy performance, and replacing aged and deteriorated roofing, masonry, and siding. Construction is scheduled for late summer and fall 2012.

Sea-Tac northbound major renovation

The Sea-Tac SRA is just north of Tacoma along northbound I-5 at milepost 140. This SRA is heavily used and more capacity is needed according to site users, maintenance staff, and Federal Highway Administration design guidelines for rest area development. The condition assessment identified that the existing facility is in need of renovation. Work includes replacing the recreational vehicle (RV) dump stations by implementing WSDOT's new standard RV dump station design, a larger staging/queuing area to improve site circulation, and address drainage. Construction is scheduled to begin late summer 2012.

Gee Creek southbound major renovation

Design is underway for the southbound Gee Creek Safety Rest Area located on I-5 just north of the Oregon border. This rest area is heavily used, requiring additional capacity. The condition assessment identified several deficiencies and that the existing restroom building should be replaced. Construction is scheduled for late summer 2012 and early 2013.

RV Dump Station Project Update

North Central Region RV dump station rehabilitations

WSDOT replaced RV dump stations at the Nason Creek and Winchester eastbound and westbound SRAs. The new WSDOT standard design allows the dump stations to remain open during the late fall. This upgrade extended operations for several months each year at both rest areas. The addition of an RV queuing lane at Nason Creek has improved site circulation.

Smokey Point RV dump station sewer rehabilitation

The RV dump station waste at the Smokey Point northbound/southbound Safety Rest Area is collected in septic tanks which have to be pumped and hauled multiple times every year to the city of Arlington waste water treatment plant by a contracted vendor. WSDOT is currently working toward a full on-site connection to the city of Arlington municipal sewer system to eliminate the ongoing maintenance costs for pumping and hauling sewage. This project is planned to be complete by fall 2012.

Minor preservation projects funded

Safety rest area projects range from minor improvements to large-scale site acquisition and commercial development. WSDOT prioritizes projects using a rating system that designates the type of project and allows the most needed projects to be funded first. Minor preservation projects are low-cost improvements that extend the service life of building and utility systems, and address code compliance. Projects are prioritized based on categories. For the 2011-2013 biennium, \$330,000 of occupant category projects have been funded; two of these are for safety, and five for code compliance, including three for ADA. Another \$506,500 for preservation category projects has been designated, with two projects in the replacement category and six in the repair category.

Americans with Disabilities Act (ADA) Update

In 2009, WSDOT used a private consultant to assess rest areas for compliance with ADA guidelines. The consultant identified 104 compliance issues at rest areas ranging from signage and parking stalls to partition widths and sink heights. These issues were documented in WSDOT's ADA Transition Plan for public access facilities and reported to the Federal Highway Administration for accountability. The program has now corrected all 104 original compliance issues. Five additional issues were identified by WSDOT staff, four of which have been addressed. The remaining compliance issue will be corrected by June 2012.

WSDOT seeks better customer focused methods

Because so few comment cards are returned on safety rest areas, WSDOT is evaluating the economic feasibility of using a web-based technology to increase customer feedback. A web-based system would allow motorists to give feedback using voice mail, text message, or mobile browser, and a vendor could provide ongoing analysis of customer feedback and instant alerts when health or safety issues arise. WSDOT is also working with the Washington State University Energy Extension to compare benefits and costs of this new technology. No timeline has been established for the implementation of a new system.

Washington State Ferries

Ferry Vessel & Terminal Preservation

Eighty-six percent of state ferry terminal systems are in fair or better condition

Ferry Vessel & Terminal Preservation Highlights

86% of state ferry terminal systems are in fair or better condition.

80% of vessel systems are operating within their life cycles.

WSDOT estimates that 16% of the value of terminal systems and 28% of the value of the vessel systems will need preservation by the end of the 2011-2013 biennium.

The 2011-2013 biennium preservation plan will reduce the terminal preservation need by 1% (to 15%) and vessel preservation need by 6% (to 22%).

WSF structural condition rating for terminal systems by category

Inspection results for 2011

Type of facility or system	# of systems	Good 90-100	Fair 70-89	Poor 50-69	Substandard 0-49	Not rated
Landing aids	179	46%	31%	13%	10%	0%
Vehicle transfer spans	210	29%	55%	15%	1%	0%
Overhead loading systems	66	64%	27%	9%	0%	0%
Trestle & bulkheads	71	32%	59%	6%	3%	0%
Pavement	78	42%	44%	12%	1%	1%
Buildings	137	45%	53%	0%	0%	2%
Passenger only facilities	15	53%	40%	7%	0%	0%
Total/average 2011	756	41%	45%	10%	3%	1%
Total/average 2010	755	43%	42%	11%	4%	0%

Data source: WSDOT Ferries Division.

Note: Landing aids includes wingwalls and dolphins.

WSDOT is required to inspect and evaluate ferry terminal assets at least once every three years. The 2011 terminal condition ratings show 86% of state ferry terminal systems are in fair or better condition. WSDOT estimates that 16 percent of the value of the terminal systems and 28 percent of the value of the vessel systems will need preservation by the end of the 2011-2013 biennium. Because the funding that is statutorily dedicated for ferry capital investments is only slightly higher than the amount needed to cover existing debt service payments, future terminal and vessel preservation needs will compete against the operations, maintenance, and preservation needs for the entire transportation system. Compounding this problem is the additional shortfall in ferry operating and maintenance funds.

WSDOT's Ferry System provides an essential link in the Puget Sound for moving people and freight, providing transit services to commuters in eight counties, and connecting communities separated by water or long driving distances. WSDOT places a high priority on preserving terminals and vessels in order to provide safe, efficient, and reliable ferry operations.

WSDOT describes the preservation status of Ferry System infrastructure in terms of condition rating and reduction of preservation need. As mentioned in *Gray Notebook 41*, p. 18, WSDOT has been transitioning to terminal and vessel condition ratings. Terminal condition rating and reporting are fully implemented. Vessel condition rating is on schedule for full reporting beginning June 2012.

Ferries terminals inventory

WSDOT's Ferries Division operates and is responsible for the preservation of the 19 terminals and the maintenance facility located in Washington, and operates a terminal in Sidney, British Columbia. Terminal assets currently consist of 756 separate components, called systems or facilities, in the Ferries Life Cycle Cost Model (LCCM). These systems are grouped into the following types: landing aids (wingwalls and dolphins), vehicle transfer span systems, overhead loading systems, trestles and bulkheads, pavements, buildings, and passenger-only facilities.

2011 terminals condition rating results

WSDOT is required by law to inspect and evaluate terminal LCCM assets for condition at least once every three years. WSDOT uses this information to determine the remaining service life. The department determines condition using inspection criteria developed for the Washington State Bridge Inventory System (WSBIS) and the National Bridge Inventory (NBI) database for bridge structures, the University of Wisconsin-Madison Pavement Surface Evaluation and Rating (PASER) system for pavement, the Office of Financial Management (OFM) Facilities Inventory System (FIS) for buildings, and WSDOT-established criteria for other systems, such as transfer span electrical and mechanical systems and landing aids.

The terminal condition rating table shows condition ratings as of February 2012 based on 2011

Washington State Ferries Ferry Vessel & Terminal Preservation

Ferries assessment shows 80% of vessel systems within life cycle

inspection results. Eighty-six percent of state ferry terminal systems are currently rated in the “good” or “fair” condition category – up one percent from 2010. Thirteen percent of terminal systems are currently rated in the “poor” or “substandard” condition category (see terminal condition definitions on the following page). These four classifications do not indicate that systems are safe or unsafe, but rather how closely their condition should be monitored prior to preservation.

Most structures rated “poor” or “substandard” consist of:

- **Vehicle transfer spans systems** Many transfer span electrical and mechanical systems have required frequent rehabilitation over the years and are functionally obsolete.
- **Paved areas** Condition ratings for paved areas have been revised based on a change in condition rating methodology more appropriate for paved areas that don’t carry vehicular traffic moving at highway speeds. As a result, many paved assets are no longer rated in the “poor” or “substandard” condition category. Nevertheless, a significant number of paved areas are still in these two categories.
- **Landing aids (wingwalls and dolphins)** Many of the landing aids are creosote-soaked wood pilings that are deteriorating due to rot from being immersed in salt water. WSDOT plans to replace timber landing aids with concrete and steel

WSF ferry terminal condition rating definitions

Category

(Rating Score) Description

Good (90-100)	The structure is performing as designed with all elements functioning as intended.
Fair (70-89)	All primary elements making up the structure are sound but there are some deficiencies in various elements. Examples: areas of rot, crushing, or marine borer activity in timbers; areas of corrosion for steel elements; cracking and spalling in concrete; wearing in mechanical systems; cracking and raveling in pavement systems.
Poor (50-69)	There is moderate deterioration of certain elements as defined under the “fair” condition. These deficiencies may affect the load carrying capacities or the use of the structure and require some element of repair or replacement.
Substandard (0-49)	There is advanced deterioration throughout the structure that will require the use of the structure to be restricted. For landing aids, this means that the structure will not provide the protection to other structures. For trestles and transfer spans this means there will be load restrictions. For pavement this means that the sub-grade, as well as the pavement, will need to be rehabilitated.

Data source: WSDOT Ferries Division.

structures to increase their usable life-span, and to reduce marine contamination caused by creosote.

WSDOT is continuing to develop and implement an asset management system for terminals in order to find the optimal approach for protecting assets. It will facilitate choosing the best alternative for protecting assets, maintenance versus capital preservation, and capital rehabilitation versus replacement.

Vessel life cycle assessment report in place of condition ratings

WSDOT is developing a vessel condition reporting method. In the interim, the preservation status of the fleet is reported in

Vessel system life cycle assessment based on preservation completed through March 2012

Category 1 and Category 2 systems as defined by U.S. Coast Guard standards

2011-2013 Biennium	# of systems	Within life cycle		Beyond life cycle	
		>10%	0%-10%	0%-10%	>10%
Category 1 systems					
Communication, navigation, lifesaving systems	484	65%	22%	3%	10%
Major mechanical/electrical systems	111	88%	1%	1%	10%
Piping systems	66	79%	2%	1%	18%
Propulsion systems	263	87%	5%	1%	7%
Security systems	90	98%	1%	0%	1%
Steel structural systems	44	73%	14%	2%	11%
All category 1 systems	1,058	77%	12%	2%	9%
Category 2 systems					
Major mechanical/electrical systems	151	50%	8%	6%	36%
Passenger and crew spaces	64	53%	8%	9%	30%
Piping systems	76	62%	8%	8%	29%
Steel structural systems	123	64%	3%	6%	27%
Structural protection systems	187	61%	8%	1%	30%
All category 2 systems	601	58%	7%	4%	31%
All vessel systems	1,659	70%	10%	3%	17%

Data source: WSDOT Ferries Division.

Washington State Ferries

Ferry Vessel & Terminal Preservation

2011-2013 biennial plan reduces terminal and vessel preservation needs

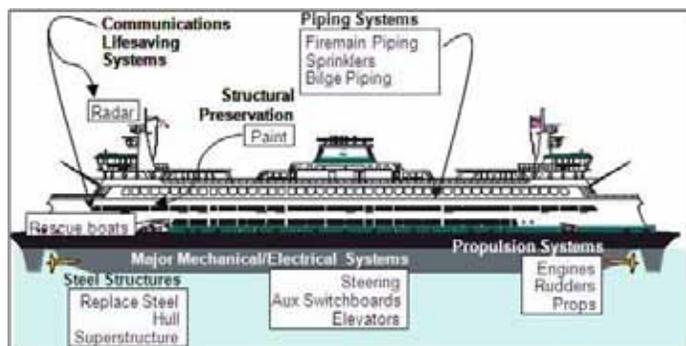
terms of life cycle assessment. As of March 2012, 80% of all ferry vessel systems are within their life cycle. Three percent are past their life cycle by 10% or less of their life cycle interval. Seventeen percent are past their life cycle by more than 10%. All types of Category 1 systems have a lower percentage of systems beyond their life cycle than any type of Category 2 systems as explained below and on the following page. This reflects WSDOT’s emphasis on preserving U.S. Coast Guard-designated vital systems.

WSDOT’s Ferries Division is responsible for the preservation of 22 vessels. These vessels account for 1,659 of the systems currently listed in the LCCM. These systems are grouped into two categories and eight types of systems. Systems in Category 1 are designated by the U.S. Coast Guard as “vital” to the protection of people, the environment and the asset. All other systems are in Category 2. There are eight types of vessel systems that come under these two categories: communication/navigation/life-saving equipment, major mechanical and electrical equipment, passenger and crew spaces, piping systems, propulsion systems, security equipment, steel structures, and structural protection systems.

WSDOT tracks the life cycle status of vessel systems in terms of how close systems are to the end of their life cycle interval. The vessel life cycle assessment table shows the number of vessel systems by category and type and the percent that are either within or past their life cycle according to the following criteria:

- More than 10% of their life remaining,
- 10% or less of their life remaining,
- 10% or less beyond their life,
- More than 10% beyond their life.

These classifications do not indicate that systems are safe or unsafe, but rather how closely their condition should be monitored prior to preservation.



Examples of vessel systems.

Terminal and vessel preservation need reduction

WSDOT uses the Ferries LCCM to identify preservation need and to track planned versus actual reduction in need. Preservation need consists of the value of the backlog of preservation need existing at the start of the biennium plus additional preservation need that comes due during the biennium. Investments reduce preservation need. Progress during the biennium in reducing need is monitored by comparing actual biennium-to-date reduction in need to the end-of-biennium planned reduction in need. All of this information uses a common denominator called the “preservation need percent” (PNP) score. This is the percentage of the value of terminal or vessel systems that have reached the end of their life cycle.

Terminal preservation need: Expressed as a PNP score, this will reach 16.4% by the end of the 2011-2013 biennium.

Terminal planned preservation need reduction: Planned investments are projected to reduce the end-of-biennium need by a 1.1% decrease in score to 15.3%.

Terminal biennium-to-date progress: At the end of three quarters, investments have reduced preservation need by a 0.2% decrease in score compared to the planned end-of-biennium decrease of 1.1%.

Vessel preservation need: Expressed as a PNP score, this will reach 27.6% by the end of the 2011-2013 biennium.

Vessel planned preservation need reduction: Planned investments are projected to reduce the end-of-biennium need by a 5.9% decrease in score to 21.7%.

Vessel biennium-to-date progress: At the end of three quarters, vessel preservation efforts have reduced need by a 0.6% decrease in score compared to the planned end-of-biennium decrease of 5.9%.

The 2011-2013 biennium preservation plan will reduce preservation need. However, the 2013-2015 biennium will have a substantial backlog of preservation need carried forward from the 2011-2013 biennium, as well as emerging preservation needs.

Terminal and vessel preservation need reduction

By the end of 2011-2013 biennium; BTD progress as of March 31, 2012

Ferry system type	Need EOB	Reduction		Need reduced to	
		Plan by EOB	Actual BTD	Plan by EOB	Actual BTD
Terminal systems	16.4%	-1.1%	-0.2%	15.3%	16.2%
Vessel systems	27.6%	-5.9%	-0.6%	21.7%	27.0%

Data source: WSDOT Ferries Division.

Note: Need and reduction measured in preservation need percent (PNP). EOB stands for end of biennium. BTD stands for biennium to date.

Mobility (Congestion Relief)

State policy goal

To improve the predictable movement of goods and people throughout the state.

WSDOT's business direction

To move people, goods, and services reliably, safely, and efficiently, by adding infrastructure capacity strategically, operating transportation systems efficiently, and managing demand effectively.



In this section

Rail: Amtrak Cascades Quarterly Update	18
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Incident Response Quarterly Update	24
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Quarterly Report on Capital Projects (Beige Pages)	48
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Earlier articles concerned with mobility

Travel Time Trends Six Month Update, GNB 44	
Aviation Annual Report, GNB 43	
Measuring Delay and Congestion Annual Report, GNB 42 and special publication	
Commute Options Annual Report, GNB 42	

Rail: Amtrak Cascades Quarterly Update

Passenger rail: Amtrak Cascades serves cities along the Pacific coast

Passenger Rail Highlights

The pending reduction in Amtrak operating subsidies for some Amtrak Cascades trains led to a 3% price increase in March 2012.

Fewer mudslides closed rail tracks in Q1 2012 than in Q1 of the past two years, resulting in improved on-time performance.

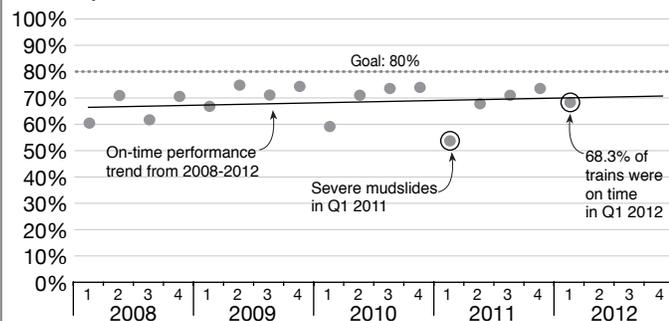
\$400,000 federal grant funds an integrated state rail plan.

Quarterly ridership data delayed

WSDOT identified potential quality issues for the first quarter 2012 ridership data. Amtrak is working to resolve the issues, and is unable to provide WSDOT with ridership, revenue, and passenger mile data at this time. WSDOT plans to provide first and second quarter ridership data in *Gray Notebook 46*.

Amtrak Cascades on-time performance

Percent of trains on-time, 2008 - 2012



Data source: WSDOT State Rail and Marine Office.

Note: On-time performance for Washington-funded trains only. A basic indicator of on-time performance, "percent of trains on time" is calculated by dividing the number of trains that arrive at their endpoint on time by the total number of trains operated during a specific period. Amtrak's daily "percent on time" reports incorporate the former Interstate Commerce Commission's (ICC's) tolerance for lateness in the calculations. These ICC allowances consider trains 10 to 30 minutes late as on time, depending on the route length. The tolerance time is 10 minutes for Seattle-Portland trains and 15 minutes for Portland-Vancouver, B.C. trains.

Amtrak Cascades on-time performance up 14.6% from first quarter 2011

On-time performance for state-supported Amtrak Cascades trains was 68.3% for first quarter (Q1) 2012. The first quarter 2012 continued the upward trend in on-time performance from the past several years, as shown by the trendline on the graph below. Q1 2012 was up 14.6% compared to Q1 2011, which was negatively impacted by mudslides, and up 9.2% compared to Q1 2010. The current goal for on-time performance is 80%.

On-time performance is affected by a number of natural and operational conditions that vary daily. WSDOT examines these issues with Amtrak and the host railroad, BNSF Railway Company (BNSF) to determine the causes of delay. Contributing factors include freight train and passenger train interference due to limited track capacity, signal issues, and mechanical failures. The largest contributing factor in the first quarter of the previous two years has been mudslides. The number of mudslides in the first quarter of 2010, 2011, and 2012 respectively was: 39, 56, and eight mudslides.

Efforts to reduce effects of mudslides on performance of passenger rail

The BNSF railroad established a 48-hour moratorium following a mudslide that affects railroad tracks. The policy was established to ensure passenger and operator safety. Passenger trains are not allowed to use the railroad tracks during this period so mud and other debris

that has covered the tracks can be removed. In addition, the 48 hours are used by railroad engineers to determine if any damage has been done to the railroad, repair work can be performed, and other tests can be undertaken to make sure that side slopes, tracks, ties and ballast have stabilized. During these moratoriums, passengers are offered charter bus transportation when it is available.

WSDOT is currently working with BNSF to explore instances where the 48-hour moratorium can be reduced under certain conditions.

Rail service funded by Washington, Oregon, and Amtrak

Amtrak Cascades service is jointly funded by the states of Washington and Oregon, and Amtrak. Washington state funds two round trips between Seattle and Portland, one round trip between Portland and Vancouver, B.C., and one round trip between Seattle and Vancouver, B.C.; Oregon funds two round trips between Eugene and Portland; and Amtrak funds one round trip between Portland and Seattle. Washington state also owns three of the five trains that serve the Amtrak Cascades passenger rail line, while Amtrak owns two trains.

This summer, Oregon will introduce two new 13-car Talgo trains into the fleet, providing the opportunity for improving schedules during peak demand. WSDOT recently secured nearly \$800 million in federal American Recovery and

Work begins on integrated state rail plan; seismic upgrades and historic restoration come to Seattle's King Street Station

Reinvestment Act (ARRA) grants to make improvements on the BNSF rail lines that will result in higher passenger-train speeds and more reliable performance. WSDOT will be purchasing eight high-speed locomotives that will substantially improve overall corridor service by 2017.

With the ARRA funds, the goal is to add two daily Amtrak Cascades round trips between Seattle and Portland, for a total of six each day. The improvements are intended to reduce travel times and improve average on-time performance to 88%.

Amtrak Cascades 3% ticket price increase anticipates loss of federal subsidies

Amtrak Cascades ticket prices rose three percent in March 2012. On average, passengers will see ticket prices increase by one dollar. Federal subsidies ending in October 2013 will leave the Amtrak Cascades service with an estimated \$3 million to \$5 million shortfall; the revenue from the ticket price increase will help cover the loss.

FRA grant-funded rail planning under way

The Federal Railroad Administration (FRA) granted WSDOT \$400,000 to develop an integrated state rail plan. WSDOT has completed the statement of work and started work on this 15-month project. The plan will serve as a strategic blueprint for future public investment in the state's freight and passenger rail network. It will integrate and replace the mid-range and long-range passenger rail plans, the Washington state 2010-2030 Freight Rail Plan, and add any additional statutorily required information into one plan.

Washington and Oregon are creating a new partnership and will develop a plan for managing passenger-rail service between Eugene, OR, and Vancouver, B.C., as one continuous rail corridor rather than two separate state operations. Transportation officials for each state signed an agreement in April 2012 as another step toward offering faster, more frequent Amtrak Cascades service.

Washington Transportation Secretary Paula Hammond and Oregon Director of Transportation Matt Garrett said the corridor management plan will include governance, centralizing fleet management, scheduling, budgeting, and capital planning, with a goal of improving passenger-rail performance that benefits riders and economies in both states.



The exposed steel column (on the right) in King Street Station's main waiting area was stripped and prepared for added steel reinforcement to help the 100-year-old building better withstand earthquakes.

Construction underway on King Street Station seismic upgrade

Federal, state and local officials converged on Seattle's King Street Station in March to commemorate the start of construction on the largest phase of an ongoing historical restoration of the station's 100+ year-old building. WSDOT is investing \$16.7 million federal high-speed rail funds in a \$22.7 million project to strengthen the train depot and its clock tower to better withstand earthquakes. The project also restores the station's main hall as originally built in 1906, with white marble walls, decorative lighting, and other features removed during "modernization" of the station more than 50 years ago.

The restoration, managed by the city of Seattle, is an ongoing partnership between WSDOT, FRA, Amtrak, Federal Transit Administration, 4Culture services agency, and the city. Since 2008, nearly \$30 million in federal, state, and local funding has been invested to improve the station and restore its unique historic character.

The King Street Station seismic upgrade project is one of six federally-funded capital rail projects under construction in 2012. Since 2010, Washington has received nearly \$800 million in federal high-speed rail funds to increase the frequency and reliability of Amtrak Cascades passenger rail service between Portland and Vancouver, B.C.

Washington State Ferries Quarterly Update

Ferries show strong on-time performance; ridership and farebox revenue close to projections for quarter ending March 31, 2012

Washington State Ferries Highlights

Ridership for the quarter was 4.6 million, 0.2% above projected levels.

Farebox revenue was \$30 million, 1% below the level projected for the quarter.

On-time performance was 98.1% and average sailing delay was 1.6 minutes for the quarter, an improvement over the same quarter in FY 2011.

Washington State Ferries continues to show strong on-time performance, with 98.1% of trips on time in the quarter ending March 31, 2012. Ridership for the quarter was 4.6 million, while farebox revenue was \$30 million, both very close to projections. The 4.6 million trips taken this quarter were about 10,000 (0.2%) above projected levels. Compared to the same quarter one year ago, WSF served 67,000 (1.5%) more trips.

WSF serves as a critical link to communities separated by water or longer driving distances, and is essential to the movement of goods and people in the Puget Sound region. It is the largest operating auto-ferry fleet in the world, carrying 10 million vehicles and 22 million ferry passengers each year. WSF faces a number of challenges in trying to maintain ridership at or near projected levels. Over the last several years, both demographics and work patterns in the Puget Sound region have shifted (see *Gray Notebook* 43, p. 24).

Strategies implemented to maintain ridership, farebox revenue

WSF is developing and has implemented several strategies to maintain ridership, including: a reservation system to spread demand to off-peak times making ferry travel more predictable, new vessels that allow for increased capacity and improved service reliability on the Port Townsend-Coupeville route, and in place as of October 1, 2011 is a new fare structure that adds a “small” car category allowing for more capacity within the current fleet and existing service schedule.

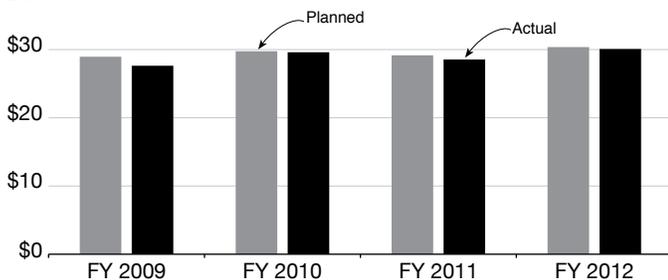
Farebox revenue up compared to a year ago

Farebox revenue was \$30 million, \$279,000 (0.9%) below projected levels for the third quarter of FY 2012. A contributing factor as to why ridership was slightly above projections (0.2%) while revenue was slightly below (0.9%) is the drop in ferry travel of vehicles 22’ to 49’, which can be attributed to winter weather. If not for January’s drop due to bad weather, both ridership and fare revenue would have likely come in above forecasts. The drop in travel for vehicles 22’ to 49’ was 14.1% compared to the same quarter the prior year, making for a bigger impact on revenue than ridership.

Farebox revenues were about \$1.5 million (5.4%) above the same quarter last year. January storms impacted both ridership and farebox numbers, with revenue at \$879,000 (8.9%) below projections. Revenue was above projections during February and March. Revenue performance is impacted by the same issues that affect ridership: demographics, work patterns, and the continued sluggish economy. WSF’s strategies for ridership outlined above apply to increasing revenue as well.

WSF planned and actual farebox revenue levels by fiscal year

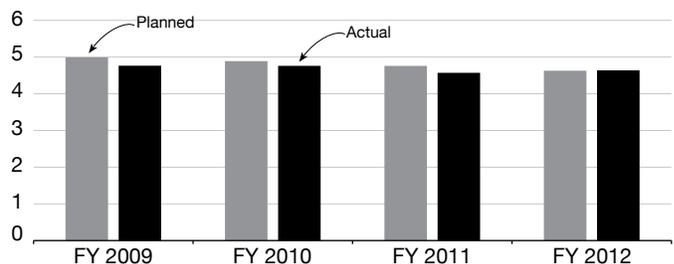
Third quarter (January 1 - March 31), fiscal years 2009 - 2012
Dollars in millions



Data source: WSDOT Ferries Division.

WSF planned and actual ridership levels by fiscal year

Third quarter (January 1 - March 31), fiscal years 2009 - 2012
Ridership in millions



Data source: WSDOT Ferries Division.

Service reliability improves in the third quarter of Fiscal Year 2012

Fewer missed trips compared to the same period in FY 2011

The number of WSF net missed trips in the third quarter of FY 2012 was 196 fewer than the number of missed trips in the third quarter of FY 2011, 165 compared to 361. In the third quarter of FY 2012, 39,069 regular service trips were scheduled. Of those trips, 187 were canceled and 22 were replaced, resulting in a total of 38,904 trips during the quarter (39,069 scheduled – 187 canceled + 22 replacement trips = 38,904 net trips).

WSF trips may be canceled for a variety of reasons, including tide and weather conditions, mechanical problems with vessels or terminals, and cancellations when a ferry is diverted for emergency transport. Trips are also missed when vessels fall too far behind the published schedule to make all the trips for that day.

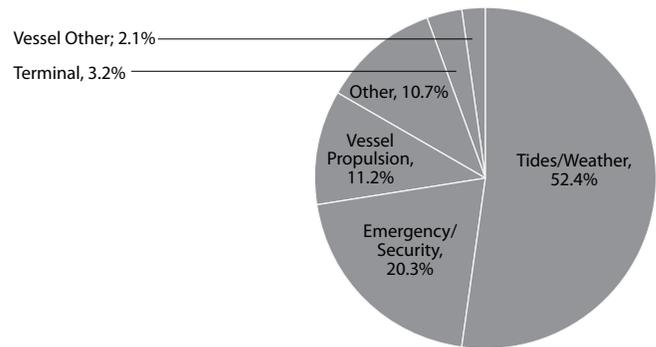
Compared to the third quarter of FY 2011 there were 344 fewer cancellations due to a reduction in terminal construction (see *Gray Notebook* 41, p. 27), vessel propulsion issues, and impacts from tides/weather. In the third quarter of FY 2012, 13 cancellations occurred because WSF assisted emergency personnel responding to medical emergencies.

On-time performance improves compared to previous quarter and year-to-year

The percentage of sailings system-wide that departed on time increased quarter-to-quarter by 1%: 98.1% on time in the third quarter of FY 2012, as compared to 97.1% in the previous quarter. On-time performance compared to the same quarter in FY 2011 improved by 3%. The average sailing delay improved from 1.7

Reasons for missed trips

Third quarter (January 1 - March 31), FY 2012



Data source: WSDOT Ferries Division.

Note: 23 cancelled trips classified as "Other" did not fit established trip cancellation categories. The M/V *Yakima* was taken out of service in the San Juans resulting in nine cancellations. Crewing issues on the M/V *Chetzemoka* and M/V *Chelan* resulted in nine cancellations. A hydraulic spill at Colman Dock forced the cancellation of two additional trips.

minutes of delay for the third quarter of FY 2011 to 1.6 minutes of delay for the third quarter of FY 2012.

On-time performance defined

A trip is considered delayed when a vessel does not leave the terminal within 10 minutes of the scheduled departure time. The quarterly average delay is the average delay past 10 minutes of the scheduled departure time for late vessels. WSF uses an automated tracking system on each vessel that records when a vessel leaves the ferry terminal.

Washington State Ferries missed-trip reliability comparison

Route	Third quarter, fiscal year 2011			Third quarter, fiscal year 2012		
	Scheduled trips	Missed trips ¹	Reliability average ²	Scheduled trips	Missed trips ¹	Reliability average ²
San Juan (Domestic)	6,209	0	100.0%	6,285	25	99.6%
Anacortes-Sidney, B.C. (International)	12	0	100.0%	14	0	100.0%
Edmonds - Kingston	4,186	0	100.0%	4,238	2	100.0%
Fauntleroy - Vashon - Southworth	9,696	15	99.8%	9,812	16	99.8%
Port Townsend - Coupeville	1,800	88	95.1%	1,820	84	95.4%
Mukilteo - Clinton	6,530	234	96.4%	6,604	11	99.8%
Pt. Defiance - Tahlequah	3,420	24	99.3%	3,458	23	99.3%
Seattle - Bainbridge Island	4,075	0	100.0%	4,121	2	100.0%
Seattle - Bremerton	2,687	0	100.0%	2,717	0	100.0%
Total	38,615	361	99.1%	39,069	163	99.6%

Data source: WSDOT Ferries Division.

Note: 1 Missed trips is the difference (net) between the number of canceled trips and the number of replaced trips. 2 The reliability average is calculated by dividing the recorded number of net trips (scheduled trips - canceled trips + make-up trips) divided by the number of scheduled trips.

Washington State Ferries Quarterly Update

Customer complaints decrease by 1.5% in third quarter of Fiscal year 2012

Washington State Ferries on-time performance comparison

Route	Third quarter, fiscal year 2011			Third quarter, fiscal year 2012		
	Actual on-time trips ¹	On-time percentage ²	Average sailing delay ³	Actual on-time trips ¹	On-time percentage ²	Average sailing delay ³
San Juan Islands (Domestic)	5,672	92.5%	1.9	5,757	94.4%	2.4
Anacortes - Sidney, B.C. (International)	10	83.3%	3.9	13	100.0%	0.4
Edmonds - Kingston	4,049	97.2%	1.8	4,214	99.9%	1.2
Fauntleroy - Vashon - Southworth	9,091	94.3%	1.7	9,575	98.1%	1.9
Port Townsend - Coupeville	1,440	91.7%	3.5	1,623	94.6%	2.9
Mukilteo - Clinton	5,902	97.2%	1.3	6,552	99.7%	0.9
Pt. Defiance - Tahlequah	3,190	94.8%	2.2	3,321	99.1%	1.6
Seattle - Bainbridge Island	3,909	96.4%	0.9	4,057	99.0%	0.9
Seattle - Bremerton	2,552	95.7%	2.0	2,674	99.0%	1.5
Total	35,815	95.1%	1.7	37,786	98.1%	1.6

Data source: WSDOT Ferries Division.

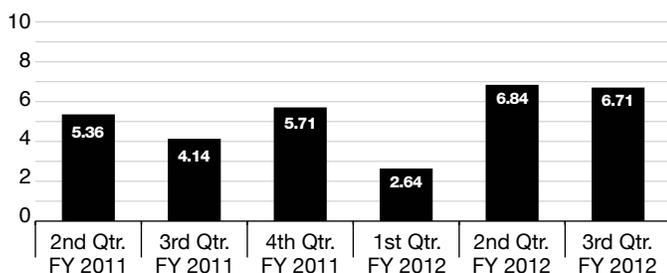
Note: 1 About 1% of trips are not detected by the automated tracking system due to marine and atmospheric conditions which prevent a trip from being detected when the vessel leaves a terminal. These trips are not included in on-time performance calculations. 2 A trip is counted as "on-time" if it departs within 10 minutes of the scheduled sailing time. 3 The average sailing delay is an average of the duration of time occurring after the "on-time" window ends and the actual recorded departure time of the vessel.

All routes showed improvements in third quarter as compared to the third quarter in FY 2011. Four routes with the most significant improvements in on-time performance were the Pt. Defiance-Tahlequah, Fauntleroy-Vashon-Southworth, Seattle-Bremerton, and Anacortes-Sidney International ferry routes.

Increased oversight by management has contributed to improvements in on-time performance over the past year. Also, service schedule changes on the Edmonds-Kingston and Point Defiance-Tahlequah routes, and clarification of a two minute cut-off time for vessel loading on the Seattle-Bainbridge route, have improved on-time performance.

Average number of complaints per 100,000 customers

July 1, 2010 - March 31, 2012, by fiscal quarter



Data source: WSDOT Ferries Division.

Customer complaints decrease slightly compared to the previous quarter

In the third quarter of FY 2012, there was a decrease (1.5%) in customer complaints, from 6.8 to 6.7 per 100,000 customers. The largest decrease in the number of complaints compared to the previous quarter was for complaints about employee behavior, with 28 fewer than in the previous quarter (62 compared to 90). The largest increase in complaints was for on-time performance with 13 more than the previous quarter (21 compared to 8). WSF also received 33 compliments and 14 suggestions during the third quarter of FY 2012.

Customer compliments

WSF received 33 customer compliments in the third quarter of FY 2012. The following is one of the compliments received:

"It was our first trip on the ferry in over 25 years. This was a visit with our daughter, and 8 year old granddaughter. Without Barb's wonderful attitude, and sincere help our granddaughter's first ferry trip would not have been nearly as much fun as it was. She went above and beyond the norm and made many helpful suggestions to us, which made the trip very special for everyone. Our thanks to her and you for having such dedicated personnel working for the Washington State Ferry System. Thank you very much."

New ferry system performance measures coming

WSDOT introduces additional WSF performance measures in 2012

In January 2012, the Office of Financial Management (OFM) and WSDOT presented a baseline report to the Joint Transportation Committee of the legislature, establishing 17 performance measures for the Washington State Ferry system. These measures were developed to fulfill legislative requirements passed into law during the 2011 session. Some of these measures are new measures for the ferry system, and will be incorporated in the *Gray Notebook* over the coming year. The January presentation to the Joint Transportation Committee can be accessed at http://www.leg.wa.gov/JTC/Meetings/Documents/Agendas/2012%20Agendas/JTC_010412/ferriesperformance.pdf

Several of these measures are the same as those already reported in *Gray Notebook*, like the on-time performance and service reliability measures and customer feedback compared to historical data. OFM and WSDOT also presented performance targets for the 17 measures to the Joint Transportation Committee, and the first annual report will be delivered to the Legislature in December 2012.

In July 2012, WSDOT will present information based on OFM's report at the Government Management, Accountability and Performance (GMAP) Forum. WSF's performance for the existing and new measures will be published this coming November in the *Gray Notebook*.

New performance measures

The performance measures established by the Legislature are grouped into four subject areas, and will complement WSDOT's existing ferry measures. These four subject areas are safety performance, service effectiveness, cost containment, and maintenance and capital program effectiveness. Some of the performance measures are:

- Passenger injuries per one million passenger miles,
- Occupational Safety and Health Administration (OSHA) recordable crew injuries per 10,000 revenue service hours,
- Passenger satisfaction of interactions with ferry employees,
- Cleanliness and comfort of vessels and terminals,
- Satisfactory response to requests for assistance,
- Operating cost per passenger mile,
- Operating cost per revenue service mile,
- Discretionary overtime as a percentage of straight time,
- Gallons of fuel consumed per revenue service mile,
- Project delivery rate as measured by the number of projects completed on time and within budget,
- Vessel and terminal design and engineering costs as measured by a percentage of the total capital program, and
- Total vessel out-of-service time.

Incident Response Quarterly Update

WSDOT Incident Response program benefits Washington economy

Incident Response Highlights

IR teams assisted with 10,588 incidents in the first quarter of 2012.

WSDOT's IR program saved travelers and businesses \$10.67 million in the first quarter of 2012.

The quarterly average clearance times for the 82 over-90-minute incidents on the nine key GMAP highway segments was 163 minutes.

WSDOT's Incident Response (IR) program responded to 10,588 incidents in the first quarter of 2012, saving travelers and businesses in Washington about \$10.67 million by reducing the time and gas they would have wasted in travel delay due to congestion (see table on p. 25). IR teams are scheduled to work during peak commute periods, and are also available 24/7 for call out.

The mission of the IR program is the safe, quick clearance of traffic incidents to minimize congestion, restore traffic flow, and reduce the risk of secondary collisions. The IR teams are trained and equipped to provide emergency response and assistance to motorists and the Washington State Patrol (WSP) at collisions and other traffic emergencies. In addition to providing emergency response for blocking and life safety incidents, IR teams report on abandoned vehicles and offer a variety of motorist assistance services such as changing flat tires and providing a jump start or a gallon of gas. These services keep roadways and shoulders clear, traffic moving, and reduce the risk of collisions caused by distracted driving.

WSDOT Incident Response teams responded to 10,588 incidents between January 1 and March 31, 2012

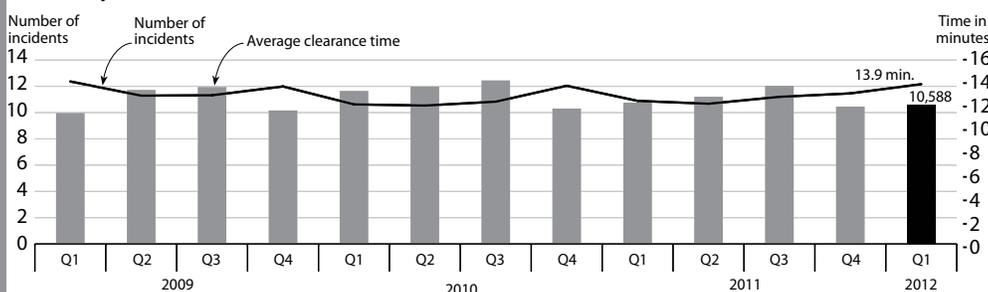
WSDOT IR teams responded to 10,588 incidents statewide (preliminary data as of April 16, 2012) during the first quarter (Q1) of 2012, with an average incident clearance time of 13.9 minutes. During Q1, the month of January experienced severe winter weather conditions that contributed to extended clearance times and more than usual over-90-minute incidents. The first quarters of 2011, 2010, and 2009 experienced 10,755, 11,644, and 9,961 incidents respectively with clearance times of 12.4, 12.1, and 14.1 minutes. In Q4 2011, IR teams responded to

10,494 statewide incidents with an average incident clearance time of 13.3 minutes. These numbers are updated from previously reported preliminary numbers of 10,457 statewide incidents with an average clearance time of 13.1 minutes as published in *Gray Notebook 44*. This due to the delay in the data upload to the Washington Incident Tracking System (WITS) database by the IR personnel.

Statewide IR responses and average overall clearance time

January 1, 2009 – March 31, 2012

Number of incidents in thousands; Clearance time in minutes



Data source: Washington Incident Tracking System (WITS), WSDOT Traffic Office.

Performance measures

Performance measures	Definition	Measuring unit
Roadway clearance time	The time between the first recordable awareness of an incident (detection, notification, or verification) by a responding agency and first confirmation that all lanes are available for traffic flow.	Time in minutes
Incident clearance time	The time between the first recordable awareness of the incident and the time at which the last responder has left the scene.	Time in minutes
Secondary incidents	These incidents are identified as the number of unplanned incidents beginning with the time of detection of the primary incident where a collision occurs either a) within the incident scene or b) within the queue, including the opposite direction, resulting from the original incident.	Number of incidents

Data source: FHWA Traffic Incident Management Handbook

Note: Number of secondary incidents avoided as a result of the IR team's presence is a nationally recommended performance measure. Neither WSDOT nor WSP collect this data at this time.

Traffic incident clearance times, societal cost and IR program benefits

Blocking and non-blocking average clearance times by incident duration

January 1 – March 31, 2012; Time in minutes; Cost and economic benefits in dollars

Incident type	Number of incidents	Average IR response time	Average roadway clearance time	Average incident clearance time	Incident-induced delay costs	Economic benefits from the IR program
Incident duration less than 15 minutes						
Blocking	1,155	2.5	5.3	7.2	\$2,870,400	\$717,600
Non-blocking	6,795	0.6	–	5.3	\$8,792,784	\$2,198,196
<15 Total	7,950	0.9	5.3	5.6	\$11,663,184	\$2,915,796
Incident duration ranging between 15 and 90 minutes						
Blocking	1,120	7.9	26.2	32.8	\$12,687,720	\$3,171,930
Non-blocking	1,365	6.8	–	27.3	\$9,100,468	\$2,275,117
>=15-<90 Total	2,485	22.0	26.2	29.8	\$21,788,188	\$5,447,047
Incident duration greater than 90 minutes						
Blocking	118	19.5	180.0	190.4	\$7,750,770	\$1,937,693
Non-blocking	35	30.4	–	174.1	\$1,487,180	\$371,795
>=90 Total	153	22.0	180.0	186.7	\$9,237,950	\$2,309,488
Grand Total	10,588	2.7	23.7	13.9	\$42,689,322	\$10,672,331

Data source: Washington Incident Tracking System (WITS), Washington State Patrol, WSDOT Traffic Office, and University of Washington.

Note: The total number of incidents statewide is 10,588. Of these, 423 incidents are 'unable to locate' (UTL) incidents: IR personnel were en route to respond, but the incident cleared before the team reached it. The average times in the table above do not include UTL incidents.

Average clearance times for blocking and non-blocking incidents

An incident is defined as blocking when at least one of the travel lanes is closed. Similarly, a non-blocking incident can be an incident on the shoulder where all the travel lanes are open.

Of all incidents statewide between January 1 and March 31, 2012, 22.6% (2,393 incidents) blocked traffic, while 77.4% (8,195 incidents) were non-blocking. The table above shows the statewide average response and clearance times for both blocking and non-blocking incidents by incident duration. For Q1 2012, the statewide average response time is 2.7 minutes while the statewide average roadway clearance time is 23.7 minutes and statewide incident clearance time is 13.9 minutes.

Incident induced delay costs rose in winter months

The cost of delay incurred in the three duration categories was about \$11.7 million for incidents lasting less than 15 minutes; \$21.8 million for incidents lasting 15-90 minutes; and \$9.2 million for over-90-minute incidents. The cost of incident induced delay for incidents lasting over 90 minutes has significantly increased from the last quarter's \$6.6 million due to the severe winter weather storm experienced in the first quarter of 2012. The number of over-90-minute incidents increased by 41 incidents in Q1 2012 compared to the previous quarter.

During Q1 2012, the cost of delay for the 2,393 blocking incidents at \$345 per minute of lane closure is about \$23.3 million. Similarly for 8,195 non-blocking incidents at \$244 per minute of incident is \$19.4 million.

Extraordinary incidents on nine key western Washington routes (six hours or more)

January 1 – March 31, 2012; Duration in minutes

Date & time	State route & location	Duration minutes	City	Incident Summary
Jan. 19, 2012 12:29 AM	I-5 NB at MP 100	424	Tumwater	A semi with double trailers jackknifed in the ice storm and destroyed several sections of median jersey barrier. A large fuel spill occurred and a detour route on local roads was established during the recovery and clean up.
Jan. 19, 2012 1:56 AM	I-5 NB at I-405	530	Lynwood	A semi with a load of oranges jackknifed and lost load. Due to extreme winter weather Class C tows were not readily available.
Jan. 23, 2012 5:24 AM	SR 16 WB at Burnham Dr.	379	Gig Harbor	Fatality collision/investigation involving five vehicles including WSP car and multiple injuries.

Data source: Washington State Incident Tracking System (WITS), Washington State Patrol, and WSDOT Traffic Office.

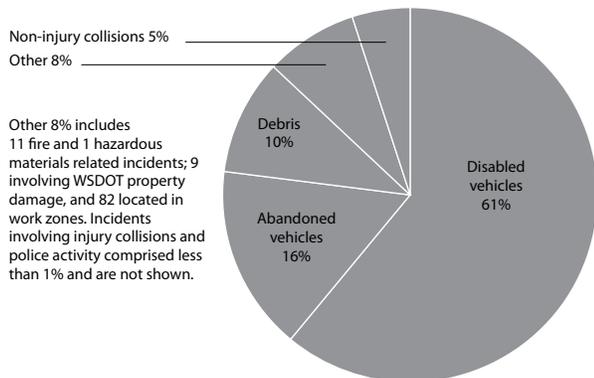
Incident Response Quarterly Update

GMAP over-90-minute incidents, extraordinary incidents, customer feedback

Number and percentage of responses by duration: Total of 10,588 IR incidents statewide January 1 – March 31, 2012

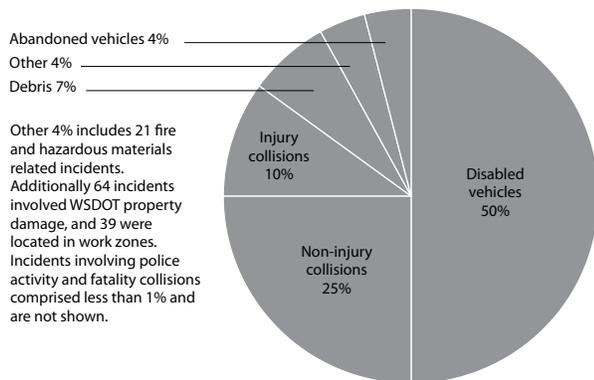
Incidents lasting less than 15 minutes (7,950)

Estimated cost for incidents less than 15 minutes: about \$11.7 million



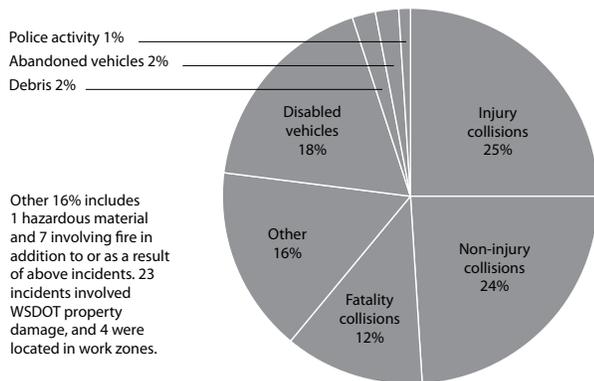
Incidents lasting 15 to 90 minutes (2,485)

Estimated cost for incidents lasting 15 to 90 minutes: about \$21.8 million



Incidents lasting over 90 minutes (153)

Estimated cost for incidents lasting over 90 minutes: about \$9.2 million



Data source: Washington Incident Tracking System (WITS), WSDOT Traffic Office.

Sample customer feedback – 1st quarter 2012

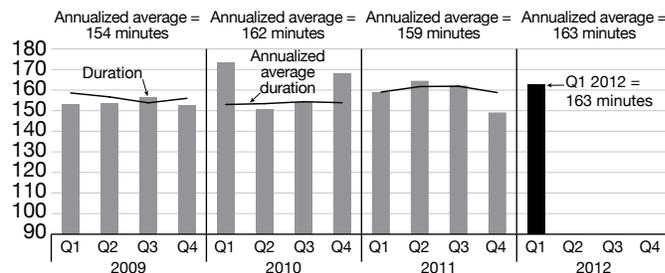
- Thank you, thank you, thank you. This program is great and Kim was extremely helpful, nice and professional. I cannot thank you enough.
- Nothing to improve. Everything was safety first for myself and my vehicle. Super great representative.

WSP and WSDOT work to reduce the duration of over-90-minute incidents

WSDOT and WSP have a formal agreement in the Joint Operations Policy Statement (JOPS) to clear blocking traffic incidents in 90 minutes or less, if possible, although incidents with complicating factors may require more time to clear. Through her Government Management, Accountability, and Performance (GMAP) program, Governor Gregoire has charged the agencies with lowering the average duration of these over-90-minute incidents on nine key highway corridors in the state.

Progress in reducing average clearance times for over-90-minute incidents on nine key western Washington highway segments

January 1, 2009 – March 31, 2012; Number of responses per quarter vs. annualized average duration in minutes



Data source: Washington State Patrol and WSDOT Traffic Office.

In GMAP corridors, there were 82 over-90-minute incidents in Q1 2012, with an average clearance time of 163 minutes. This is eight minutes slower than the 155-minute goal, 14 minutes slower than last quarter (149 minute). Twenty out of 82 incidents occurred on January 18 and 19, 2012 during the severe winter weather.

Extraordinary incidents lasting more than six hours

The table on page 25 describes three incidents this quarter that lasted more than six hours. Excluding these three extraordinary incidents, the average over-90-minute incident clearance time in the GMAP area is 152 minutes. All three incidents occurred due to extreme icy road conditions. One resulted in a fatality and multiple injuries, while the other two had semi-trucks involved with fuel spill and difficult recovery due to ice on the road.

Travel Information Annual Report

WSDOT provides real-time information for Washington travelers

WSDOT began operating the 511 phone system in 2003, providing travel information to the public. In March 2012, 511 received its 13-millionth call.

WSDOT provides travel information to the public in a variety of formats, including the 511 phone system, website, and social media to name a few. WSDOT has expanded the ways the public can access travel information, using live traffic cameras and traffic maps on the website, Twitter & RSS feeds, the traffic application for smart phones, e-mail alerts, highway radio transmissions, variable message signs (VMS), and active traffic management (ATM) signs.

WSDOT provides information for ferry passengers, in addition to highway travel conditions. Recently, WSDOT enhanced the Ferries Vessel Watch system by adding the estimated time of arrival for vessels underway, allowing travelers to better plan their trips.

511 system shows seasonal fluctuations in call volumes

The 511 system is used nationwide to provide travel information. In Washington, travelers can obtain statewide information including construction impacts, accident alerts, current and forecast weather, mountain pass conditions, and ferry schedules, fares, and wait times. In the Seattle area, the 511 system also provides reversible-lane status and congestion information. In addition, the 511 system provides public transit and passenger rail phone numbers, and transfers calls to the 511 systems in Idaho and Oregon.

Weather conditions play an important role in call volumes, resulting in a distinct seasonal split: fall/winter (October through March) and spring/summer (April through September). Mountain pass and weather inquiries traditionally account for the majority of calls year-round; over the past four years there were up to six times as many weather and mountain pass calls during fall/winter as there were during spring/summer. The magnitude of the mountain pass inquiries has a significant effect on the seasonal distribution of calls, as these inquiries far exceed the number of inquiries for all other topics combined.

The information requested by users of the 511 system falls into four primary categories: traffic, mountain passes, ferries, and weather. The table at right shows the percentages of calls based on requested information over the past four fiscal years.

511 calls spike during winter months

Inquiries relating to mountain pass conditions, traffic, and weather are greater during fall and winter, compared to spring and summer. However, in the spring and summer months, the number of inquiries related to ferries (schedule, pricing, etc), can increase more than 50% from the fall-winter call volume, peaking in July and August. While there is significant seasonal effect on the number of ferries inquiries, the percentage of ferries information calls within a year remains low compared to the mountain passes and traffic inquiries.

For the third winter in a row, a strong La Niña weather pattern produced erratic weather with a lot of rain and heavy snow in the mountains throughout the season. The significant snowfall created high avalanche conditions in the passes, keeping WSDOT crews busy performing avalanche

Travel Information Highlights

Traffic and travel information website pages set a new record of 4.6 million unique users during the 2012 winter storm.

Mobile phone application use is on the rise with more than 189,000 downloaded.

The 511 system continues to serve more than 11,000 calls per day during the peak of the winter season.

WSDOT 511 calls by category

Percentage of total calls, FY July 1 through June 30

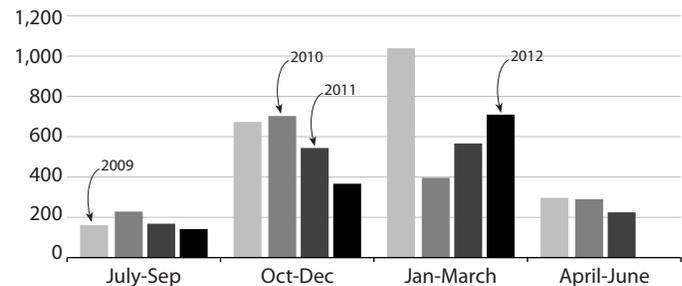
Information requested	2009	2010	2011	2012*
Traffic	22%	23%	20%	17%
Mountain pass	63%	64%	68%	74%
Ferry	6%	8%	6%	5%
Weather	3%	3%	4%	3%
Other	5%	2%	2%	2%

Data source: Vector directory numbers, WSDOT Traffic Office.

Note: *FY 2012 data through March 31, 2012.

WSDOT 511 travel information service call volumes

Four-year trend: FY 2009 to 2012, in thousands



Data source: Vector directory numbers, WSDOT Traffic Office.

Note: Severe flooding on I-5 and extended mountain pass closures resulted in peak call volumes in January 2009.

Travel Information Annual Report

511 calls down; website and mobile phone access to travel information up

control and snow removal. Some localized heavy snow and icy conditions in January affected drivers on the west side of the Cascades, but subsequent milder conditions prevailed through the remainder of winter.

Despite the severe mountain pass and lowland weather in January, calls to the 511 information line for this fall/winter season were 1.07 million, down 3.1% from last fall/winter's call volume of 1.1 million. This is the lowest fall/winter call volume since the fall 2005/winter 2006 season. This year's call volume is similar to those of the last two years, when there were few major storms in the lower elevations.

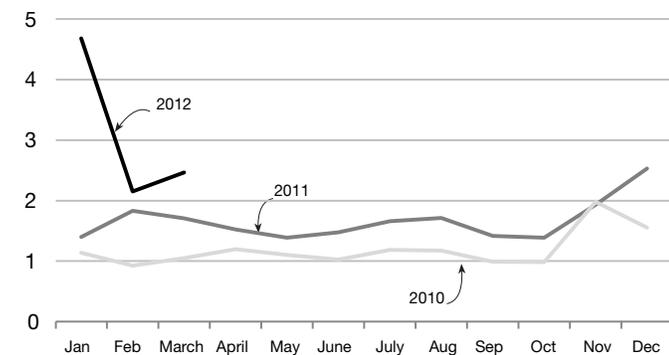
By comparison, the extreme weather during the fall/winter of 2007-2008 and 2008-2009 each brought more than 1.7 million calls to the 511 system. The average daily call volume is near 2,000 in the spring/summer season, and over 11,000 calls during the peak winter season.

Traffic website sets record of 4.6 million users

During the January 2012 snow and ice storm in the Puget Sound area more than 4.6 million unique users accessed WSDOT's traffic and travel information web pages, setting a new record for the highest number of users in a single month. The graph below illustrates the seasonal variation in use of WSDOT's website.

WSDOT traffic and travel website monthly use

Unique users over three calendar years, in millions



Data source: WSDOT Communications Office.

New metric for recording website use

In the past, WSDOT tracked the use of the traffic and travel information web pages with page views per month. In 2010, WSDOT switched web data providers, and is now using a new variable termed "unique users" as the primary metric to determine website use. A "unique user" may visit the website once or multiple times a day, but will be counted as a single identity.

Over the past several years WSDOT has been optimizing the agency's website for heavy use of the travel information / traffic

alerts pages anticipated during severe weather. In the past, web pages showing traffic maps and other real-time travel information automatically reloaded every 90 seconds. Each reload was counted as a page view. WSDOT reduced the auto-reload to every five minutes, and switched some pages to refresh the data without reloading the page. Both of these measures allow more users to view the pages more quickly – they also effectively reduce the number of page views recorded. For example, during the February 2010 snowstorm in the Puget Sound area there were 58 million page views that month, representing 1.9 million unique users. During the January 2012 snowstorm, there were 56 million page views (3% less than 2010), representing more than 4.6 million unique users, an increase of 142% from the 2010 snowstorm.

Web advertising tested as new revenue source

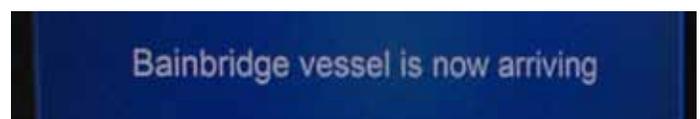
The state Legislature requested that WSDOT evaluate and test the use of website advertising as a potential new revenue source for the agency. Toward the end of 2011, WSDOT began the web advertising pilot project on portions of the WSDOT website for traffic and travel information, now available at www.wsdot.com. Due to the recent launch of the advertising, revenue data are not yet available.

Mobile application downloads and use rising

WSDOT launched mobile phone applications (apps) in 2010 for Android™ and iPhone® devices. Both the Android and iPhone apps saw tremendous growth in the number of downloads throughout 2011. The Android app has been downloaded 99,976 times and the iPhone app has been downloaded 89,768 times since they were launched in 2010.

Washington State Ferries (WSF) visual paging

WSF recently started a six-month pilot of a visual paging system on the Seattle/Bainbridge Island route. The visual paging system displays audio messages on video screens onboard the ferries and in the terminals so that deaf and hard of hearing passengers receive information simultaneously with other passengers. The project won Digital Signage Magazine's 2012 Judges Choice DIGI Award, and the Digital Screenmedia Association's 2012 Industry Excellence Award for Best Travel Deployment. WSDOT is taking steps to implement visual paging throughout the ferry system.



WSF visual paging system alerts passengers that the Bainbridge ferry is arriving. Those who are deaf or hard of hearing benefit by receiving announcements that were previously only broadcast over loud speakers.

Environment

State policy goal

To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.

WSDOT's business direction

To protect and restore the environment while improving and maintaining Washington's transportation system.



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Earlier articles concerned with environment

Fish Passage Barriers, GNB 44
Environmental Compliance, GNB 44
Noise Quality Annual Report, GNB 43
Air Quality Annual Report, GNB 43
Endangered Species Act Compliance Annual Report, GNB 43
Programmatic Permitting, GNB 42

Wetlands Protection Annual Report

WSDOT experiences busiest wetland monitoring season on record

Wetlands Protection Highlights

WSDOT monitored 88 wetlands in 2011, making it the largest monitoring effort on record.

WSDOT is responsible for monitoring and managing 942 acres of replacement wetlands, and the number is growing each year.

WSDOT completed early monitoring requirements on six wetland sites, saving the department an estimated 20 years of effort.

Wetlands serve critical environmental functions. Wetlands can reduce flooding by soaking up water during storms and releasing it slowly during drier periods. They also help recharge groundwater aquifers, improve water quality by retaining sediments and removing nutrients, and provide habitat for fish and wildlife.

WSDOT designs transportation projects to avoid and minimize wetland disturbance. When projects have unavoidable wetland disturbances, the department must obtain permits from regulatory agencies, primarily the U.S. Army Corps of Engineers (Corps) and the Washington Department of Ecology (Ecology). WSDOT creates replacement wetlands by enhancing, restoring, rehabilitating, or preserving existing wetlands, or by establishing new wetlands. These actions help meet permit conditions, and the state and department policies requiring “No Net Loss” of wetlands. WSDOT’s wetland protection efforts consist of wetland mitigation development and construction, wetland monitoring, and long-term wetland stewardship.

WSDOT has constructed and monitored 194 wetland mitigation sites on 942 acres since 1988. The inventory of 194 wetland mitigation sites includes:

- 72 wetland mitigation sites within their initial monitoring period, including 11 new sites on 34 acres that were added in 2011,
- 65 sites that have been or are being evaluated by the Corps for completion,
- 14 sites that are past their original monitoring period, but did not meet all permit conditions, and
- 43 sites monitored prior to 2000 that met permit conditions before the Corps had a completion process.

Wetland monitoring inventory increased 9% in 2011

WSDOT typically monitors replacement wetlands for ten years after they are constructed to evaluate their progress toward intended goals and for compliance with permit conditions. WSDOT began tracking the wetland monitoring workload in 2001. The graph on this page illustrates how mitigation resulting from projects in the 2003 Nickel and the 2005 Transportation Partnership Account (TPA) funding packages began to appear in the wetland monitoring workload in 2006.

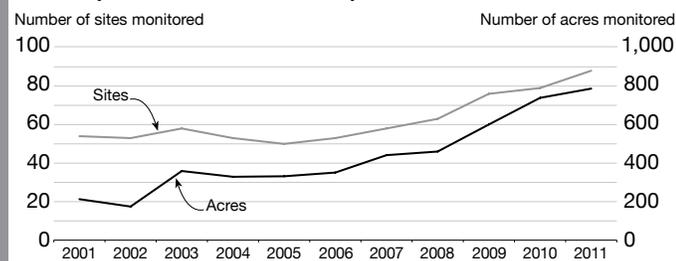
Monitoring for 2011 included 72 wetland mitigation sites and three mitigation bank sites. Some sites have more than one unit, and some sites are past their initial monitoring period and have yet to meet the mitigation obligations. This means WSDOT staff actually monitored 88 total areas, making 2011 the busiest season ever.

WSDOT keeps up with the increasing wetland workload by implementing efficiencies such as:

- Using hand-held computers to collect, analyze and process data faster, make better sampling decisions and reduce errors,
- Expanding the student internship program, extending the monitoring season, and using temporary help,
- Developing a database to plan and manage the workload and streamline the way reports are distributed, and
- Modifying field sampling techniques to gain efficiency on larger sites.

WSDOT wetland mitigation site monitoring

Number of sites monitored, number of acres monitored



Data source: WSDOT Environmental Services Office.

WSDOT keeping up with wetland inventory as it continues to grow

WSDOT completes 98% of recommended site management actions in 2011

Wetland management actions such as weed control, irrigation, mulching, and supplemental planting during the initial monitoring period can improve mitigation performance. WSDOT manages mitigation sites in response to needs identified during monitoring visits. The table below shows that for sites monitored in 2010, 98% of recommended management actions (83 of 85) were completed in 2011.

WSDOT's site management activities and completion rates by region

As of December 31, 2011

WSDOT Region	Sites	Recommended Actions	Completed	Percent complete
Eastern	3	3	3	100
Northwest	44	48	46	96
North Central	3	5	5	100
Olympic	9	14	14	100
South Central	7	7	7	100
Southwest	6	6	6	100
Total	72	85	83	98

Data source: WSDOT Environmental Services Office.

Adaptive site management produces desired results

If a mitigation site is not developing as planned, WSDOT assembles a team to determine the cause and initiates corrective action. Results from early monitoring indicated that two wetland mitigation sites were not on track to meet permit requirements. The U.S. 12 McNary Pond (shown in the photo below) was one of two sites that WSDOT re-graded in 2011 to produce more wetland area.



In November 2011, workers re-graded the U.S. 12 McNary Pond wetland mitigation site to produce more wetland area.

WSDOT is providing 9% more wetland area

Wetland area is measured twice during the monitoring period. The first measurement is typically taken in the third year of monitoring, and provides an early indication of the amount of wetland present. The second measurement is taken near the end of the monitoring period, and provides the final acres of wetland achieved. Based on the 73 sites with final measurements, WSDOT has provided 9% more wetland than required (163 acres provided compared to 148 acres required).

Corps determines 45 mitigation sites are complete

The Corps provides notification when WSDOT mitigation sites have completed their monitoring obligations. This notification signals the end of monitoring and management obligations and the beginning of long-term stewardship. WSDOT must permanently protect and maintain wetland mitigation sites after receiving this notification. As of December 31, 2011, the Corps has reviewed performance for 56 mitigation sites, and determined 45 are satisfactory. The 45 sites include six that successfully finished the monitoring period in 2011, and two older sites that needed extra time and management to complete the monitoring phase.

Early completion will save WSDOT 20 years of monitoring

If a wetland site is performing well, the Corps can decide that WSDOT has met its mitigation obligations before the end of the monitoring period. In these cases, mitigation sites must be at least five years old and meet final performance targets two years in a row. To date the Corps has approved six sites for early completion, which saves WSDOT an estimated 20 years of monitoring.

WSDOT addresses 14 underperforming sites

To date, there are 14 wetland sites that failed to meet mitigation obligations by the end of the monitoring period. These older sites have either not met their performance standards, not provided enough replacement wetland area, or both. WSDOT is committed to working with regulatory agencies to:

- Fix problems at mitigation sites,
- Provide substitute mitigation at the same or a different location, or
- Negotiate agreement that sites provide acceptable environmental functions even if not performing as planned.

Of the 14 underperforming sites, there are:

- Four sites without enough wetland, and one site with poor plant survival, where substitute mitigation is needed,
- Seven sites with slow plant growth, where WSDOT is proposing completion in 2012 or 2013,

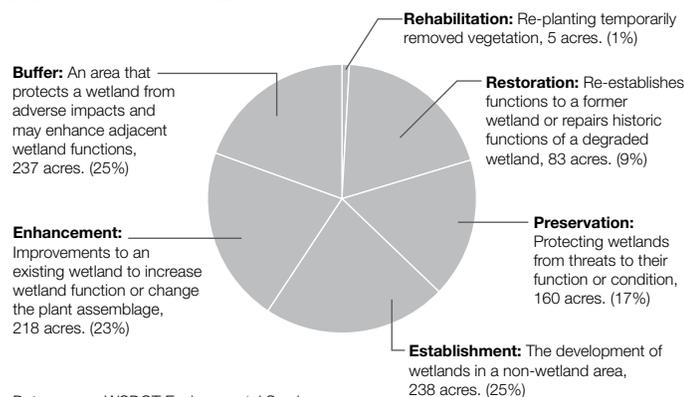
Wetlands Protection Annual Report

Wetland mitigation banks provide credits, save time

- One site damaged by a contractor, being repaired, and proposed for completion in 2013, and
- One site without enough wetland, where WSDOT is evaluating environmental functions to propose completion in 2012.

WSDOT replacement wetlands, 1988-2011

Total acreage (and percent) of replacement wetlands by type
194 wetland sites on 942 acres



WSDOT responsible for long-term stewardship of wetland mitigation sites

WSDOT permanently protects and preserves mitigation sites by providing long-term stewardship or transferring the site to an appropriate land management entity. For long-term stewardship, WSDOT develops a vegetation and site management plan for each area to identify the most appropriate tools and techniques to care for the sites. WSDOT is developing a web-based map that alerts staff to each mitigation site location and identifies noxious weeds required for control or eradication.

Subject to approval by permitting agencies, WSDOT-owned mitigation sites may be transferred to other public, tribal, or conservation entities willing to take responsibility for WSDOT's long-term stewardship obligations. WSDOT is currently exploring several opportunities to transfer those responsibilities, but has not secured any agreements to date.

Wetland mitigation banks can reduce costs and save time

Mitigation banking is preferred over project by project mitigation (see *Gray Notebook* 33, p. 54). Mitigation banking can be thought of as a type of "savings account" for future capital projects and mitigation needs. Mitigation banks create credits based on the number of acres and their value. Bank credits may be used to fulfill permit conditions for project impacts within the bank's specified service area.

Since 1999, WSDOT has developed and operates three certified mitigation banks: Moses Lake Bank, North Fork Newaukum Bank, and Springbrook Creek Bank (see *Gray Notebook* 41, p. 40). These banks have provided mitigation for 17 transportation projects, and more credits remain for use by future projects. Mitigation banks reduce costs for design, permits, purchasing, construction, monitoring, and maintaining mitigation sites—and reduce time needed to obtain permits for future projects.

Unlike other mitigation where value is earned at the end of the monitoring period, banks earn credits as performance benchmarks are achieved. In 2011, WSDOT earned 8.4 credits at the North Fork Newaukum Bank, and 2.3 credits at Springbrook Creek Bank. No credits were used for projects during 2011. WSDOT has been responsible for managing the Moses Lake Bank site since it was developed in 1999. In 2011, WSDOT shared this responsibility with the City of Moses Lake; the City will assume full responsibility for site management activities in 2012.

WSDOT purchases credit from certified third-party wetland mitigation banks when that option is most cost effective. As of November 2011, WSDOT has purchased 7.9 buffer credits and 16.36 wetland credits from entrepreneurial banks, and two wetland credits were obtained from a county-owned mitigation bank.

WSDOT focuses on stormwater management

WSDOT's stormwater management program focuses on maintaining safe driving conditions, preserving the condition of roadways, and protecting and restoring the environment by managing stormwater runoff. With more than 7,000 miles of highways, plus rest areas, ferry terminals, maintenance facilities, and park and ride lots, WSDOT operates and maintains more than 40,000 acres of paved surfaces. WSDOT recognizes that stormwater runoff from these transportation facilities, may carry various polluting substances, and can contribute to water quality problems. Managing the stormwater that comes from its facilities helps WSDOT fulfill its environmental stewardship commitment, as well as meet regulatory conditions imposed by state and federal authorities.

The federal government recognizes that stormwater discharges can contribute to poor water quality, and the Clean Water Act was amended to reflect this in 1987. The National Pollutant Discharge Elimination System (NPDES) permit program is the primary enforcement tool to ensure compliance with the Clean Water Act's stormwater provisions. WSDOT activities generally require coverage under one of two NPDES stormwater permits: the municipal stormwater permit, or the construction stormwater general permit (see *Gray Notebook 41*, p. 33 and *Gray Notebook 37*, p. 33, for a history of WSDOT's NPDES permits).

WSDOT makes progress meeting municipal stormwater permit conditions

WSDOT currently manages stormwater runoff from state-owned highways and transportation facilities in urban areas of the state under the 2009 WSDOT NPDES Municipal Stormwater Permit (2009 permit). This permit authorizes WSDOT to discharge stormwater from WSDOT conveyance systems to lakes, streams, Puget Sound, and other waters of the state (hereafter called "state waters"). Unlike previously issued permits, the 2009 permit allowed WSDOT to work with the Washington State Department of Ecology to customize its stormwater management program to fit its business operations and linear network of transportation facilities. Compared to the previous permit, the 2009 permit also expands maintenance requirements for stormwater management facilities, called Best Management Practices (BMPs), and increases

Overview of WSDOT's municipal and construction stormwater permit indicators and performance measures

Indicators, performance measures, and progress in 2009 permit area: FY 2009-2012¹

Topic/Indicator	2009	2010	2011	2012 ¹
Key performance measure				
Inventory of stormwater outfalls (p. 34) <i>Percent of state highway centerline miles with permit-defined outfalls inventoried (Goal is 100% by March 2014)</i>	0%	1%	17%	58%
Stormwater management facilities constructed (p. 34) <i>Number of stormwater management facilities constructed each fiscal year</i>	131	202	243	146
Progress toward developing and implementing Stormwater Pollution Prevention Plans (SWPPP) (p. 35) <i>Percent of maintenance facilities, rest areas, and park & ride lots inspected twice annually for SWPPP implementation</i>	100%	100%	100%	90%
Construction site stormwater monitoring ² (p. 35) <i>Percent of water quality samples below 25 NTU turbidity benchmark</i>	84%	80%	78%	83%

Data source: WSDOT Environmental Services Office.

Note: 1 FY 2012 data incomplete, and is current through April 30, 2012 only.

2 Construction stormwater monitoring is reported in calendar years; 2012 data is for Jan-Apr only.

Water Quality Highlights

WSDOT has inventoried stormwater outfalls for 58% of 2009 NPDES permit area.

The permit requires a complete inventory by March 6, 2014.

38% of new stormwater facilities built in 2011 were Low Impact Development designs.

WSDOT completed 100% of all Stormwater Pollution Prevention Plans inspections in 2011.

78% of all construction site stormwater samples collected in 2011 met the goal, falling below the permit turbidity benchmark.

Construction site assessments conducted during fall 2011 showed improved erosion and sediment control performance.

Water Quality Annual Report

Municipal and construction stormwater permit compliance progress continues

stormwater features inventory mapping and monitoring requirements. For instance, the permit requires WSDOT to map all known stormwater outfalls within the permit area. As of April 30, 2012, WSDOT has inventoried and mapped stormwater outfalls on 58% of miles on state highways in the permit area.

GIS tools combined with field surveys are the key to map and monitor the stormwater system

WSDOT's stormwater conveyance system is a series of ditches, pipes, catch basins, culverts and stormwater management facilities designed to treat and control stormwater as it moves from the highway surface off of the right of way, or enters state waters within the right of way. Stormwater outfalls are discharge points where concentrated stormwater flows from the WSDOT conveyance system directly into state waters within WSDOT right of way (such as into a stream that crosses the highway), or otherwise flows off the right of way.

WSDOT is creating the outfall inventory using a combination of existing information and new field inventory work. Sources of existing information come from as-built plan sheets for completed projects and previous field surveys. WSDOT uses Geographic Information Systems (GIS) software to map and interpret individual stormwater features from existing plan sheets and record the location of outfalls and other discharge points into the Stormwater Features Inventory database. WSDOT field crews also collect outfall data within the permit area where as-built plan sheets or previous survey data do not exist.

Stormwater outfall inventory progress

Number of miles inventoried each fiscal year; Number of cumulative miles inventoried towards the 1,660 mile goal

	2011	2012*	2013*	2014*
Miles inventoried each fiscal year	281	624	624	131
Total miles inventoried	281	905	1529	1660

Data source: WSDOT Environmental Services Office.

Note: *FY 2012, 2013 and 2014 totals are estimates.

WSDOT on track to meet NPDES permit inventory targets by 2014

The permit requires WSDOT to map all known stormwater outfalls on about 1,660 centerline miles of state highway within the permit area by March 6, 2014. As of April 30, 2012, WSDOT has inventoried and mapped stormwater outfalls on 58% or 964 miles in the permit area. Of the remaining data to be collected, 72% will be completed using existing data sources, while the other 28% will require work to locate outfalls and other features required by the permit.

WSDOT plans to inventory an average 624 centerline miles in fiscal years 2012 and 2013, and will complete the final 131 miles in the eight months leading up to March 2014. Once the stormwater outfall inventory for the permit area is complete, WSDOT has an on-going permit requirement to map the stormwater conveyance system to outfalls and stormwater management facilities.

243 new stormwater management facilities were constructed during FY 2011

Stormwater management facilities are any combination of landscape and structural features that slow, filter, or infiltrate runoff after a rainfall. Stormwater management facilities can be large constructed stormwater ponds, created wetlands, specially engineered shoulders or ditch swales, or something as simple as natural vegetated shoulders. WSDOT constructed 243 stormwater management facilities during fiscal year 2011; 87 of those facilities were constructed within the 2009 municipal permit area.

38% of new stormwater facilities are Low Impact Development (LID)

WSDOT currently focuses on Low Impact Development (LID) designs, which emphasize conservation and use of existing natural site features integrated with stormwater facilities to closely mimic natural hydrology. These systems work to infiltrate the water closer to the source and reduce pollution and flow. In addition, the water that infiltrates into the soil moves slowly to streams and rivers, which helps increase low flows during the summer months. Some examples of LID practices include natural and engineered dispersion areas, bioretention, vegetated filter strips, and pervious pavements. The 2009 municipal permit requires using LID techniques for new facilities when feasible. At least 33 of the 87 BMPs constructed within the municipal permit area were LID facilities.



Natural dispersion areas like the one shown here provide a place for stormwater to infiltrate the ground or be taken up by the vegetation

WSDOT implements stormwater pollution prevention plans at WSDOT facilities; monitors stormwater at construction sites

Implementing Stormwater Pollution Prevention Plans at WSDOT facilities

WSDOT has developed individual Stormwater Pollution Prevention Plans (SWPPPs) for 31 maintenance facilities, six rest areas, and 11 WSDOT-maintained park and ride lots, as well as a programmatic SWPPP for the 11 ferry terminals, covered by the permit. WSDOT is required to develop and implement SWPPPs for facilities with stormwater conveyance systems that transport stormwater to state waters.

These plans identify potential sources of pollutants at each facility, methods to prevent stormwater from coming in contact with pollutants and BMPs to prevent and control the discharge of contaminated water to surface and groundwater. SWPPPs require WSDOT to perform annual inspections by staff that have been specially trained for each pollution prevention plan.

All required inspections completed for FY 2011

To ensure SWPPPs were implemented, all maintenance facilities, rest areas, and park and ride lots covered under the 2009 NPDES Municipal Stormwater permit were inspected a minimum of two times during the 2011 fiscal year. The permit requires regular inspections at ferry terminals throughout the year.

Beginning in March 2011, WSDOT intensified stormwater inspection efforts at the 11 ferry terminals covered by the 2009 permit. Two stormwater inspectors were specially trained on the ferry terminal programmatic SWPPP, and weekly inspections were initiated during the September to April wet season. One additional inspection has been scheduled annually to conduct a complete below ground inspection of the stormwater conveyance and treatment system at each of the ferry terminals.

Inspections are resulting in better water quality

Most maintenance facilities include features such as a small office, crew room, four vehicle storage bays, herbicide storage bay, fueling station, salt shed, anti-icer above ground storage tank, truck/heavy equipment prewash area, diesel fueling station, and/or a gravel storage area. These facilities, along with the pollutants that are commonly generated from rest areas, park and ride lots, and ferry terminals all represent unique challenges in preventing pollutants from leaving WSDOT facilities and entering state waters.

When trained inspection crews find BMP deficiencies, WSDOT takes corrective actions. Many corrective actions require improved good housekeeping practices like clean-up of leftover construction material and the proper storage of signs, sand, rock, salt, and specialized equipment. Other deficiencies require capital improvements, such as constructing salt sheds to prevent

pollutant runoff, to meet the SWPPPs performance requirements. In FY 2011, one inspection at a ferry terminal resulted in the discovery and proper disposal of 500 gallons of old unused de-icer and some diesel fuel additives.

Construction stormwater monitoring

WSDOT monitors the quality of stormwater discharging from construction sites as required by the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit. Construction projects with one or more acres of soil disturbance require coverage under this permit, which requires water quality discharge sampling. Projects meeting this acreage threshold must collect “grab samples” at all locations where stormwater discharges from the project site or enters state waters. These samples must be tested for turbidity (a measure of water clarity). A turbidity benchmark is used to indicate whether site BMPs are functioning properly – inspectors use turbidity as a tool to verify BMP performance.

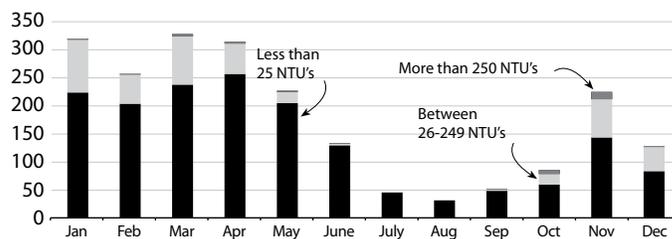
Stormwater discharges with the turbidity benchmark of 25 Nephelometric Turbidity Units (NTUs—the unit used to measure turbidity) or less indicate properly functioning construction stormwater BMPs. Grab samples above 25 NTUs require WSDOT to take action (often called BMP adaptive management) to correct problems. When grab samples reach or exceed 250 NTUs, the permit requires WSDOT to immediately notify Ecology by phone, and take corrective action to improve BMPs and reduce turbidity, or stop the discharge.

78% of construction stormwater samples met the turbidity benchmark value

The following graph summarizes stormwater discharge data collected in 2011. The data shows that less than 2% (35) of the nearly 2,150 grab samples exceeded the 250 NTU notification value.

Monthly compliance with construction permit turbidity benchmarks, 2011

Number of samples taken per month, measurements in Nephelometric Turbidity Units (NTUs)



Data source: WSDOT Environmental Services Office.

Note: NPDES is the National Pollution Discharge Elimination System.

Water Quality Annual Report

Fall assessments show improved construction erosion control

That is a marked decrease since 2010, when nearly twice as many samples (76) exceeded 250 NTU. Twenty one percent (21%) of the samples in 2011 were recorded between 25.1 and 249.9 NTUs, and the majority of the samples, 78%, fell below the 25 NTU turbidity benchmark value, compared to 80% of samples during 2010. The increased percentage of samples measuring between 25.1 and 249.9 NTU in 2011 may represent an increase in proactive Temporary Erosion and Sediment Control plan monitoring; WSDOT inspectors are collecting more samples during storm events to evaluate BMP performance, and then adapting or maintaining BMPs as needed to minimize discharges over 250 NTU. Therefore the decrease in samples over 250 NTU observed during 2011 is likely to be a direct result of WSDOT's increased proactive monitoring.

Erosion control preparedness at construction sites

WSDOT works to prevent erosion and control sediment transport on all WSDOT construction projects. Effective erosion control results from proactive cooperation between WSDOT and its contractors. These efforts protect water quality, maintain a safe work site, and help stabilize soil after a project is complete. WSDOT employs erosion and sediment control Best Management Practices (BMPs) to prevent soil loss from construction sites. These practices include building temporary ponds, installing erosion control blankets, and planting grass. BMPs are implemented according to project-specific Temporary Erosion and Sediment Control (TESC) plans. WSDOT performs weekly site inspections throughout construction to ensure that control plans are maintained to reflect current field conditions. In addition, each fall, WSDOT performs statewide site inspections at moderate to high risk sites to assess control methods, plan management, and the overall preparedness for the wet season.

2011 site inspections show improved performance

Between September and mid-November, WSDOT performs erosion control site inspections (called fall assessments) on projects with high to moderate erosion related risks. In 2011, WSDOT regions identified nine projects for site inspections (five in western Washington and four in eastern Washington) based on project size, steepness of slopes, soil type or proximity to sensitive waterways. For 2011, acceptable BMPs were in place on all projects for eight of the 12 performance measures - a 50% improvement over the previous year. The 2011 assessments showed improved performance in several areas like controlling mud track-out from trucks and stabilizing exposed soils, but decreased performance stabilizing temporary stormwater systems.

WSDOT's Erosion Control Program continually works to improve statewide training, guidance material, standard contract language and tools that help improve contract enforcement of TESC plans. In 2011, several erosion and sediment control standard specifications were amended to be performance-based, incentivizing contractors to properly install and maintain BMPs. WSDOT is also making changes on how to evaluate and interpret data collected during the fall assessment; the results will better reflect how well the TESC plans and BMPs perform. Due to these changes, the fall assessment methods used to evaluate performance measures will change in 2012, and will be reflected in next year's annual report.

Economic Vitality

State policy goal:

To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.

WSDOT's business direction:

To provide and operate a strong and reliable transportation system that efficiently connects people with jobs and their communities, moves freight, builds partnerships with the private sector, and supports a diverse and vibrant economy.



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Earlier articles concerned with economic vitality

Transportation Economic Update, GNB 44
Freight Rail Semi-Annual Update, GNB 43
Special Report: Palouse & Coulee City Rail System, GNB 42

Trucks, Goods, & Freight Annual Report

Freight transportation crucial to Washington's economy

Freight Highlights

In 2011, WSDOT learned that truck bottlenecks and their solutions fall into three main categories, congested urban interstate highways, state highways in urban areas, and cross-state freight corridors.

Truck crossings increased 1.3% at western Washington border crossings in 2011.

Container freight through Washington's seaports decreased 2% in 2011.

Washington's freight rail traffic increased 12.97% in 2010.

WSDOT supports Washington freight systems by directly managing the state's interstate and highway systems, the ferry system, a short-line railroad, and several freight rail programs. WSDOT also provides policy analysis and counsel for the state's interest in the Columbia – Snake River and air freight transportation systems.

Washington's freight system supports national and state economies

Three components of Washington's freight system support both the national and state economies. First, Washington is a global gateway, connecting Asian trade flows to the U.S. economy, Alaska to the lower 48 states, and Canada to the U.S. West Coast. Second, the state's manufacturers and farmers rely on the freight system to transport their products to domestic and international customers. Third, the goods delivery system carries consumer goods such as food, health care supplies, and fuel to state residents.

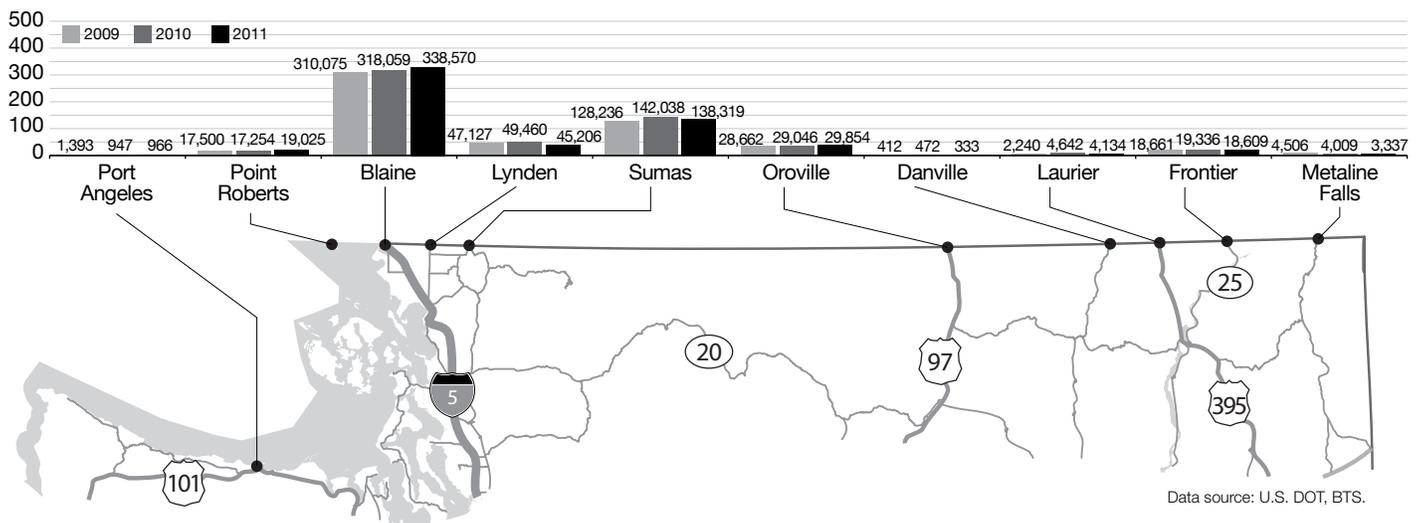
Truck crossings increase 1.3% at western Washington borders

Truck crossings have begun to recover at western Washington borders, which handle almost 80% of all cross-border trade along the State's northern border, after declining through the most of the 2000s. Crossings at these points increased 1.3% from a combined average of 2,626 north- and southbound trucks a day in 2010 to an average of 2,660 trucks a day in 2011.

The total number of trucks entering Washington from Canada increased 2.2% from 585,262 total truck crossings in 2010 to 598,353 total truck crossings in 2011. This increase is likely due to recent economic improvements. Blaine, Sumas, and Lynden, all in western Washington, are still the border crossings that see the most truck traffic entering Washington from Canada.

Trucks entering Washington from Canada 2009-2011

Number in thousands



Truck bottlenecks occur on urban interstate and state highways

WSDOT identifies truck bottlenecks

In 2011, Washington state's Truck Performance program continued to collect data from more than 6,000 trucks on the state's truck freight corridors. WSDOT continues to develop and further refine methods and criteria to identify truck bottlenecks. (See also *Gray Notebook* 41, pp. 42-44.)

In 2011, through further analysis of truck performance measure data, WSDOT has learned that both truck bottlenecks and their solutions fall into three main categories:

- Congested urban interstate highways – Improvement strategies include providing traveler information, managing demand by improving the viability of alternate modes, using variable-rate tolling, and adding strategic capacity.
- State highways in urban areas – Strategies include improving efficiency by optimizing traffic signal timing and implementing other low-cost and high-value enhancements.
- Cross-state freight corridors – Solutions include targeting the worst truck bottlenecks or filling critical system gaps to improve performance on entire corridors, low-cost improvements, and adding strategic capacity.

Washington state's Truck Performance program is the only program in the nation to systematically analyze the entire truck freight network and quantify delay at truck freight bottlenecks. This allows the state to identify and develop solutions to address key truck freight problems. This program was first initiated by the Washington State Legislature in 2007. A pilot program to track truck trips and analyze speed and reliability in the central Puget Sound region began in 2008. In 2010, the State Legislature appropriated \$122,000 to expand the program to major truck corridors, statewide. The Legislature appropriated an additional \$200,000 for continued support for the program in the 2011-2013 biennium. For more information see *Gray Notebook* 41, p. 42.

Three examples of truck bottlenecks

Congested urban interstate highways

I-5 southbound, NE 50th Street to the Ship Canal (Seattle)

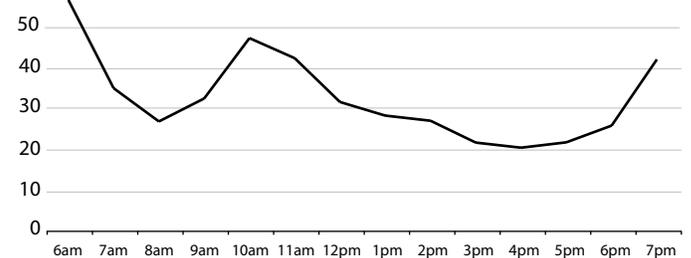
Truck performance data collected from September 2010 to September 2011 for this analysis segment on I-5 southbound from NE 50th Street to the Ship Canal in Seattle shows speed and reliability performance problems. This segment has a posted speed of 60 mph and is on a T-1 freight corridor, a road that carries more than 10 million tons per year. The segment is 0.89 miles long and sees a daily truck volume of 11,000 trucks or 5.5% of total traffic. The average truck speed is 37 mph; 51% of truck travel speeds are below 60% of the posted speed limit.

This segment has also been measured as 'unreliable' during the three periods of the day measured in the central Puget Sound region, 6 a.m. to 9 a.m. (AM), 9 a.m. to 3 p.m. (Midday), and 3 p.m. to 7 p.m. (PM). While WSDOT has enough data points to measure reliability in the Puget Sound region in three separate time periods, for the rest of the state there is not enough data so reliability is reported for 13-hour time period from 6 a.m. to 7 p.m.

I-5 southbound, NE 50th Street to the Ship Canal

Weighted average speed in miles per hour, 6 a.m. to 7 p.m.

September 2010 - September 2011



Data source: WSDOT Freight Systems Division.

More detailed analysis of this bottleneck shows that speed performance problems are observed in this area during the AM peak between 7 a.m. and 9 a.m. with the slowest speeds occurring around 8 a.m. when the weighted average speed is 27 mph. Slow speeds also occur in the afternoon and evening between 12 p.m. and 6 p.m.; during this six hour period, the weighted average hovers near or below 30 mph.

Congestion occurs here because of high traffic volumes, highway geometrics and driver distraction. The mainline volume in this area is at or beyond capacity during the long peak periods because this is the only freeway route from the north into downtown Seattle. There is a left side off-ramp to SR 520 on the south end of the Ship Canal Bridge; two heavily used ramps from the University of Washington area enter on the freeway's right side. Vehicles entering these ramps bound for SR 520 have to cross four lanes of heavy traffic in a relatively short distance to exit. Just south of the Ship Canal Bridge, SR 520 traffic bound for downtown Seattle enters I-5 on the left and crosses all lanes of traffic in a relatively short distance to take exits to downtown. The Ship Canal Bridge structure provides a view of downtown Seattle that may cause a distraction to drivers and a resultant slowing of traffic.

State highways in urban areas

SR 432 eastbound, west of I-5 and south of SR 4 (Longview)

Truck performance data collected from September 2010 to September 2011 for this analysis of segments on SR 432 eastbound,

Trucks, Goods, & Freight Annual Report

Truck bottlenecks occur on urban interstate and state highways

between I-5 and SR 4, shows speed and reliability performance problems. This segment has a posted speed of 35 mph and is on a T-1 freight corridor. This segment is nearly one mile in length and sees a daily truck volume of 3,800 trucks or 20.7% of total traffic. The average truck speed is 22 mph and 43% of truck speeds are below 60% of the posted speed limit.

The one-mile stretch of SR 432 between SR 433 and Industrial Way (mileposts 6.1 to 7.1) is a heavily traveled freight corridor with an average of 20,000 daily vehicles - 20% of which are trucks. The highway is two lanes in each direction, but there are six signalized intersections, multiple driveways and a railroad crossing on this stretch of highway that all regularly disrupt and impede the flow of traffic. The current configuration creates a slow-moving freight bottleneck through the heart of the Longview industrial district.

Cross-state freight corridors

I-90 Snoqualmie Pass

I-90 is an important cross-state truck freight corridor. Near Snoqualmie Pass, the corridor is often closed due to severe winter weather, avalanche control, and rock slides. The truck performance measure analysis systematically and automatically processed millions of speed and location data points from thousands of trucks and pinpointed several slow points for truck travel approaching the pass. However, they aren't considered truck bottlenecks. The long steep grades force trucks to slow down; slow truck speeds in these locations don't necessarily have or require an engineering solution. WSDOT has analyzed historical closure records to understand and develop solutions that will reduce closures and the resulting delays for trucks.

Truck Performance Measures: lessons learned

The long-term success of the Truck Performance Measure program depends on retaining access to data owned by trucking companies. They support the Washington state program because WSDOT uses the information to improve the state's truck freight corridors and protects their proprietary data.

WSDOT has learned that average speed, by itself, doesn't accurately identify truck bottlenecks, as posted speeds change throughout the network. The percentage of trucks traveling below 60% of posted speed limits is a better screen for poor performance. WSDOT continues to work to better understand truck freight traffic behavior and refine the criteria to identify and explain truck bottlenecks on the state highway system.

This will add value in the agencies' planning, performance management, traffic operations, project solution development and programming processes.

WSDOT works with UW, WSU to develop truck freight benefit-cost methodology

WSDOT is working closely with a University of Washington and Washington State University research team to test and refine a proposed benefit-cost methodology for highway projects with truck freight benefits.

Development of an improved truck freight benefit-cost methodology to evaluate and prioritize state truck highway and truck intermodal improvement proposals is a deliverable of the Washington State Freight Mobility Plan. Based on state and federal transportation policies and emerging federal freight program criteria, WSDOT worked with three technical teams composed of shippers, freight carriers, labor, environmental agencies, local governments, ports, and other agencies and associations to prioritize key truck freight benefits in summer 2011. The WSDOT, University of Washington and Washington State University benefit-cost research project is the next step in this work.

Washington's economy depends on freight

A large part of Washington's economy depends on freight for its competitiveness and growth. In 2010, freight valued at \$65 million was shipped by all Washington state freight modes every hour of every day. This includes \$37 million shipped on Washington state roadways every hour of every day.¹

In 2011, Washington's system of roads, rails, ports and other intermodal facilities, and waterways supported total exports from Washington valued at \$64.6 billion. In 2011, freight-dependent industries accounted for approximately 43% of Washington's jobs:

- 616,000 jobs in retail and wholesale trade.
- 502,000 jobs supported by 'Made in Washington' products such as agribusiness and manufacturing.

Efficient, safe and secure freight transportation is crucial to Washington's economic strength. The state's freight system is an intermodal, interconnected network of highways and local roads, mainline and short-line railroads, navigable waterways and deepwater ports, and air cargo facilities.

Note: 1 Other freight modes include rail, water, air (including truck-air), multiple modes and mail, pipeline, other and unknown, and no domestic mode, as derived from the Federal Highway Administration's Freight Analysis Framework Version 3 database.

Truck volumes stable on Washington highways

Truck volumes in Washington have shown steady, long-term increases over the last decade. For 2011, volumes appear to have remained relatively flat compared to 2010. Truck volumes by selected mileposts show the locations with the greatest activity, as well as growth trends. The graphs show average daily truck traffic at select mileposts on three north-south routes - I-5, U.S. 97, and SR 18 - and I-90 east-west.

From 2010 to 2011, annual daily truck traffic: decreased 1.7% from 14,958 to 14,697 on I-5 near Olympia, increased 2.3% from 14,536 to 14,864 on I-5 near Lakewood, and decreased 2.2% from about 6,648 to 6,500 on I-90 near Cle Elum.

In 2011, a total of 2,588 state route miles were designated as either T-1 or T-2, representing 37% of all state route miles. T-1 roads carry more than ten million tons per year and accounted for 1,068 miles (15% of all state route miles). T-2 roads carry four to ten million tons per year and accounted for 1,521 miles (22% of all state route miles).

Web-based freight performance tool available

The Federal Highway Administration Office of Freight Management and Operations has partnered with the American Transportation Research Institute to develop a web-based tool to track average truck operating speeds as part of the Freight Performance Measures (FPM) initiative. This tool, called FPMweb, allows users to track average truck operating speeds on 25 interstate highways across the country. FPMweb allows users to access truck speed data specific to location (state/corridor), day of week, day of month, and time of day for 3-mile segments of interstate highways. For more information see: https://www.freightperformance.org/fpmweb/user_login.aspx.

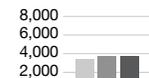
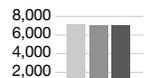
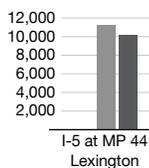
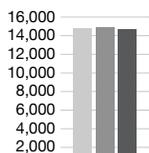
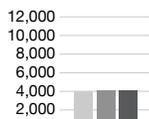
In WSDOT's experience there are a variety of factors, not just speed data, that need to be taken into account to identify truck bottlenecks. For more information about WSDOT's Truck Performance Measure Program, see page 39.

Truck volumes and tonnage on state highways

Average daily truck volumes at select highway mile posts and annual truck freight tonnage on state highways

Average daily truck volumes (2009-2011)

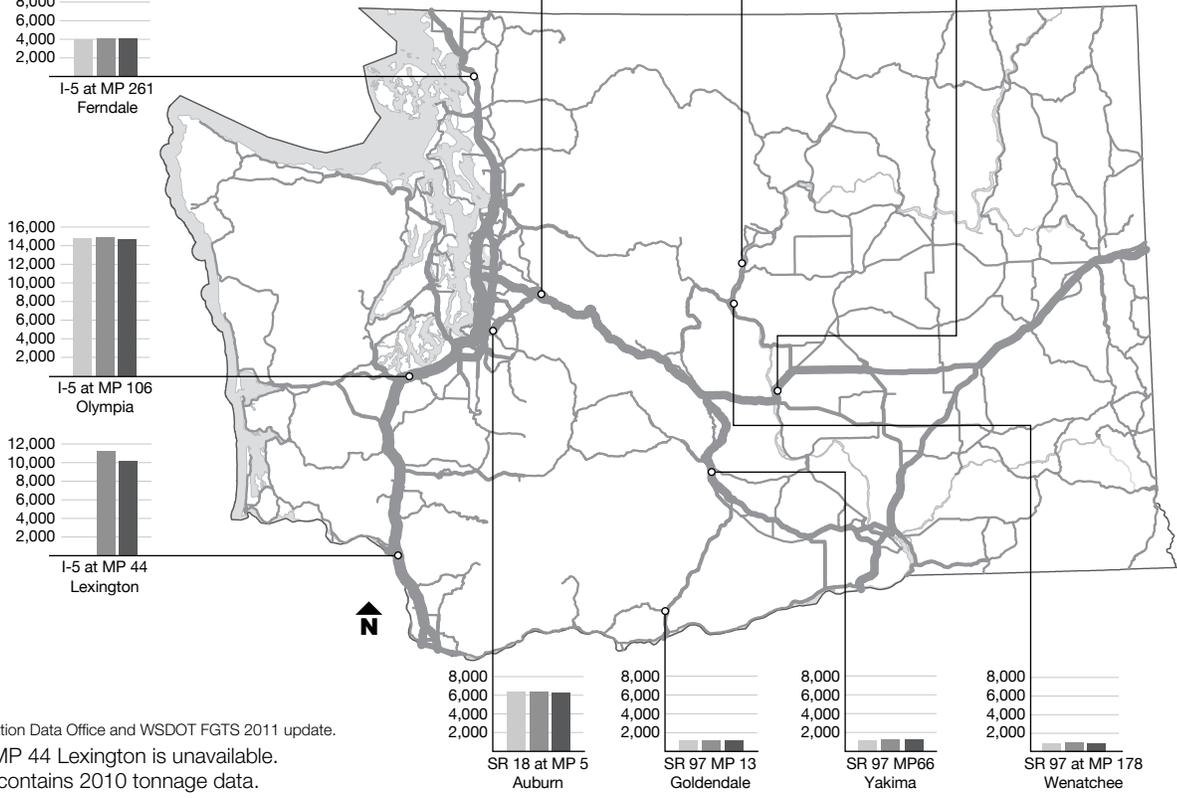
2009 2010 2011



Annual tonnage (2010)

In millions of tons

- 0-5
- 5-10
- 10-20
- 20-40
- Over 40



Data source: WSDOT Transportation Data Office and WSDOT FGTS 2011 update.
Note: 2009 data for I-5 MP 44 Lexington is unavailable.
The FGTS 2011 update contains 2010 tonnage data.

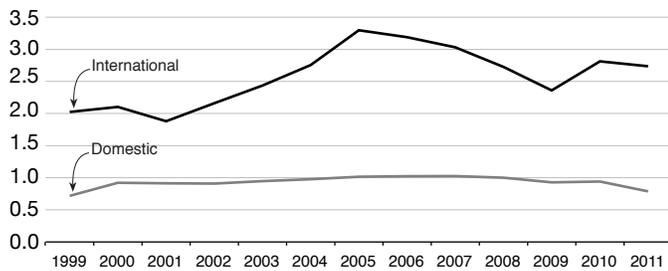
Trucks, Goods, & Freight Annual Report

Container freight through Washington's seaports decreases 2% in 2011

Container volumes were 2.0% lower in 2011 compared to 2010, following a 14.8% increase in 2010 from 2009 volumes. The Central Puget Sound seaports, which include the Port of Seattle and Port of Tacoma, are gateways, handling 99.7% of the state's international container traffic. Together, these two ports handled a total of 3.5 million TEUs (twenty-foot equivalent units: international and domestic) in 2011. International container traffic decreased 2.8% in the past year compared to a 16.3% decrease for domestic container traffic. Seattle and Tacoma grew at a long-term average annual growth rate of 2.1% from 1998 to 2011.

Waterborne container traffic: Port of Seattle and Port of Tacoma

Number of containers (TEUs: twenty foot equivalent units)
In millions (full and empty)



Data source: Port of Tacoma and Port of Seattle.

Washington's strategic waterways



Data source: WSDOT State Rail & Marine Office.

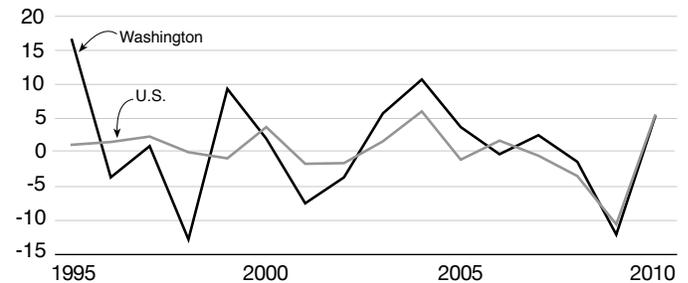
Note: Strategic waterways are designated based on freight tonnage carried. Due to the small scale of this map, tonnages are not depicted here. For more information on tonnages and data limitations, see FGTS 2011 Update available at: <http://www.wsdot.wa.gov/Freight/FGTS>.

Washington waterborne freight: intrastate, foreign, and domestic increases between 2009 and 2010

All waterborne commercial activity in Washington, measured by volume of freight handled in short tons (2000 pounds), increased from 2009 to 2010. Washington waterborne commerce totaled 112.3 million short tons of freight in 2010, compared to 107 million short tons in 2009. (Due to processing time, 2011 tonnage will not be available until mid-2012.) Washington waterborne commerce increased by 5% in 2010 from 2009 tonnage, in comparison to total U.S. waterborne commerce, which increased by 5.2%. Since 1998, Washington's foreign commerce has grown at an average annual rate of 3.7% compared to the U.S. annual growth rate of 1.2%.

Washington and U.S. total waterborne freight tonnage

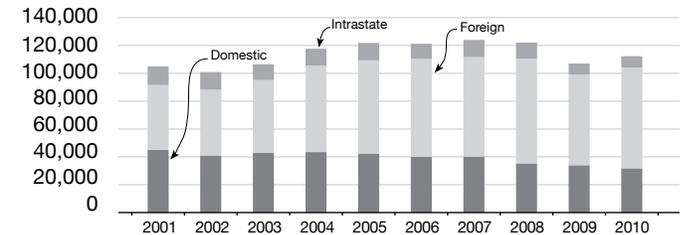
Total percent change, 1995-2010



Data source: U.S. Army Corps of Engineers, Navigation Data Center.

Washington waterborne freight: intrastate, foreign, and domestic

Waterborne tonnage in 1,000's of short tons, 2001-2010



Data source: U.S. Army Corps of Engineers, Navigation Data Center.

Washington's strategic waterways

The State Rail and Marine Office completed an update of Washington state's strategic waterways. The Freight Mobility Strategic Investment Board adopted the strategic waterways in 2011. The state Legislature requires that strategic freight corridors/waterways be designated and updated every two years.

Washington's freight rail traffic increases 12.97% in 2010

Based on Surface Transportation Board Waybill data, Washington's rail traffic increased by 12.97% in 2010, after declining 11.46% in 2009 due to the national recession. The primary reason for the overall increase is greater rail traffic passing through Washington. Flows increased from origins in Montana, North Dakota, and Saskatchewan; and increased to destinations in British Columbia, Oregon, and California.

Shipments terminating, originating and within Washington all increased. Farm products continue to be the primary commodity of rail freight in Washington.

Washington rail freight by tonnage

Thousands of tons, 2008-2010

	Rail tons originating in state	Rail tons terminating in state	Rail tons moving within / through state	Total rail freight	%Δ Total rail freight
2010	18,504	58,291	39,032	115,827	+12.97%
2009*	15,741	55,582	30,939	102,532	-11.46%
2008	19,477	59,761	36,561	115,799	-0.47%

Data source: WSDOT State Rail and Marine Office - 2010 Waybill Data Analysis.

Note: The 2009 freight rail tonnage numbers have been updated.

WSDOT produce rail car program contract ends

In 2006 the Legislature authorized WSDOT to provide a pool of refrigerated rail cars to haul perishable agricultural commodities. The contract with Rail Logistics, who provided the produce rail cars, ended on March 31, 2012. The program is under review to determine the next steps to be taken. The program began in 2006 using a federal grant and state funds. The produce cars were used by shippers in Washington to transport produce throughout the United States. A total of 876 shipments have been made since the program began in 2006. Commodities shipped were 71% fresh and frozen fruits and vegetables, 18% fresh and frozen potatoes, and 11% frozen fish and meat.

Produce rail car shipments by product

August 2006 - March 2012; in shipments

Frozen fish and meat 91 (11%)

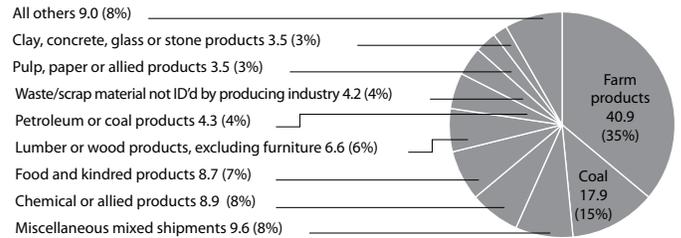
Fresh and frozen potatoes 160 (18%)

Fresh and
frozen fruits
and
vegetables
625
(71%)

Data source: Compiled by WSDOT State Rail and Marine Office from Data Reports of Rail Logistics.

Washington state rail volume by commodity

In millions of tons, 2010



Data source: WSDOT State Rail and Marine Office - 2010 Surface Transportation Board Waybill Data Analysis.

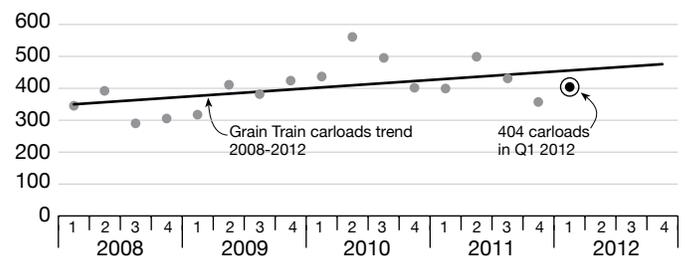
Grain Train usage improves

The Washington State Grain Train is a financially self-sustaining transportation program, supporting the state's agricultural community while helping short-line railroads maintain a sufficient customer base for long-term financial viability.

Use of the state Grain Train cars was down in the fourth quarter of 2011. However, use of Grain Train cars was higher in the first quarter of 2012. There were 404 carloads shipped in the first quarter of 2012 compared to 399 in the first quarter of 2011 and 436 for 2010. The long-term trend for Grain Train traffic continues to increase.

Washington state Grain Train carloads

Carloads per quarter, 2008-2012



Data source: WSDOT State Rail and Marine Office.



Trucks, Goods, & Freight Annual Report

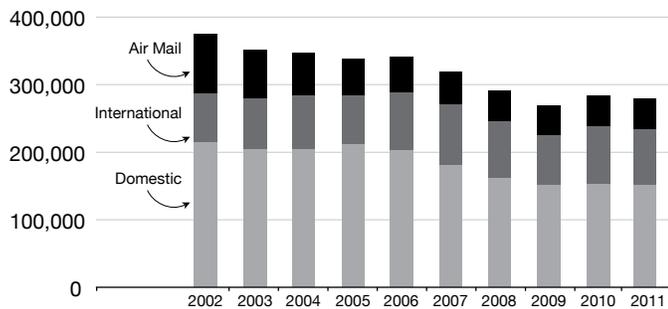
Air cargo down at Washington airports in 2010

Total air cargo tonnage handled in Washington decreased 6.7% in 2010

In 2010, air cargo handled at Washington airports totaled 1,370,262 tons (measured in plane plus cargo weight, as reported by FAA). Between 2009 and 2010, air cargo tonnage decreased 6.7%, from 1,469,397 tons to 1,370,262 tons. Air cargo activity is concentrated at a small number of Washington airports: about 51% of all air freight tonnage is handled at the Seattle-Tacoma International Airport (SEA), about 33% is handled at Boeing Field/King County International Airport (BFI), and about 16% is handled at Spokane International Airport (GEG). Total Washington air cargo data for 2011 was not available in time for this report.

Total Sea-Tac air freight, by category

In metric tons, 2002-2011



Data source: Port of Seattle.

Note: Data as reported to Port of Seattle by the airlines.

Total air freight tonnage handled at Sea-Tac airport decreased in 2011

At Sea-Tac, where air freight tonnage handled is reported annually, total tonnage decreased 1.3% from 2010 to 2011 from 283,425 in 2010 to 279,625 metric tons in 2011.

For 2010, Sea-Tac ranked eighteenth in the United States by tons of cargo handled. Washington's exporter and importer distribution facilities, logistics service providers, freight forwarders, and consolidators are concentrated in the South Puget Sound region. Shippers rely on this integrated network to deliver fast and reliable door-to-door service. Freight forwarders and consolidators must be able to consolidate multiple shipments to reduce shipping costs and obtain economies of scale. Sea-Tac and Boeing Field offer frequent flights to multiple destinations, established support networks and strong local demand.

The last decade has seen a gradual decline in air freight moving through Sea-Tac International Airport. Since 2000, the volume of air mail fell significantly: 145,539 metric tons in 2000 compared to 45,496 in 2011. International freight volumes have remained stable as domestic freight volumes have declined, with 236,527 metric tons in 2000 compared to 152,211 in 2011. Overall, air freight moving through Sea-Tac has decreased by nearly 40% since 2000.

Air freight: Seattle-Tacoma International Airport

In metric tons, 2007 - 2011

Year	Total freight	% Change
2011	279,625	-1.3%
2010	283,425	5.1%
2009	269,689	-7.2%
2008	290,768	-8.9%
2007	319,013	-6.7%

Data source: Port of Seattle, 2010 Seattle-Tacoma International Airport Activity Report.

Note: Data as reported to Port of Seattle by the airlines, includes domestic freight, international freight and air mail. Sea-Tac air freight is measured as freight cargo weight and does not include plane weight.

Impact study shows aviation generates jobs

Washington's 135 public airports are continuing to help local economies, generating thousands of jobs and millions of dollars for cities and counties throughout the state. The findings are just a few of the highlights from the recently-released 2012 Aviation Economic Impact Study conducted by WSDOT.

The 2012 study shows that statewide commercial and general aviation activity generate approximately 248,500 jobs, \$15.3 billion in wages, and \$50.9 billion in economic activity. A significant share of aviation system contributions are from the mobility and connectivity of people, goods and services across all modes of transportation. In addition, it shows that smaller airport facilities are critical in providing access to life-saving medical air transport and other services such as disaster management and wildfire support. Further, the study reveals that tax revenues generated from aviation activities provide the State of Washington General Fund more than \$540 million annually. Cities, special purpose districts, and counties receive approximately \$243 million in annual revenue. WSDOT's last Aviation Economic Impact Study was conducted in 2001. The 2012 study uses different methods to present a more complete picture of the aviation system's economic impacts, resulting in increases of 77,200 jobs, \$11.3 billion in wages, and \$32.4 billion in sales compared to the 2001 study.

Commercial Vehicle Information Systems & Networks (CVISN) Annual Report

CVISN technologies improve safety and save money

CVISN technologies and innovations keep trucks moving in Washington

WSDOT's Commercial Vehicle Information Systems and Networks (CVISN) program is part of the Intelligent Transportation Systems program. CVISN uses technologies that enable more targeted inspections of commercial vehicles to improve the efficiency, safety, and security of truck freight movement throughout Washington. CVISN keeps commercial motor vehicles moving and minimizes disruptions in travel and commerce.

CVISN is a cooperative effort between the Washington State Patrol (WSP) and WSDOT. WSP operates the weigh stations and enforces laws associated with the regulation and safety of commercial vehicles, and WSDOT installs and maintains CVISN equipment and infrastructure.

CVISN uses weigh-in-motion scales, transponders, and automated license plate recognition (ALPR) technologies to electronically screen trucks as they approach weigh stations. A truck's weight, credentials, and carrier safety rating are rapidly verified, and if satisfactory, it is given a green light to bypass the weigh station (see *Gray Notebook* 26, p. 79 (transponders); *Gray Notebook* 37, p. 54 (ALPR)).

CVISN transponder use increases; saves trucking industry \$12 million

WSDOT estimates that 39% of all commercial vehicles moving through the state in 2011 used CVISN transponders, up 9.4% from 2008 and 3.7% more than in 2010. WSDOT continues to provide information to truckers regarding the benefits of obtaining a CVISN transponder. In 2011, transponders saved Washington's trucking industry about 98,000 hours and more than \$12 million. These savings are from reduced travel time and operating costs, based on a savings of about five minutes per bypass.

In 2011, WSDOT adopted an industry standard value to calculate the cost savings to the trucking industry of CVISN-equipped weigh stations. The operating cost savings and diesel fuel savings combined total is \$10.28 per bypass, as detailed in the following research. The 2007 Economic Analysis and Business Case for Motor Carrier Industry Support of CVISN study by the Federal Motor Carrier Safety Administration identified operating cost savings of approximately \$8.68 for each weigh station bypass. An Iowa State University Center for Transportation Research study estimated fuel savings of up to 0.4 gallon of fuel for each bypass.

Prior to 2011, the amount of money saved was based on an estimated cost of operating a commercial vehicle at \$1.25 per minute, and five minutes of time saved per bypass. Cost savings for the past three years were recalculated based on \$10.28 per bypass.

Transponders read 1.9 million times at Washington weigh stations in 2011

CVISN truck transponders were read about 1.9 million times at nine open weigh stations in Washington state in 2011. The number of transponder readings does not equal the number of trucks because a single transponder is read multiple times when a truck passes multiple weigh stations. The percentage of trucks given green lights to bypass open weigh stations increased less than one percent from 2010 to 2011.

CVISN Highlights

The CVISN program saved the trucking industry \$12.1 million in 2011.

The Automated Infrared Roadside Screening (AIRS) pilot program is under construction at the Fort Lewis weigh station.

Trucks equipped with CVISN transponders received over one million green lights in 2011.

The joint WSP-WSDOT team received the prestigious Chief's Coin from WSP Chief Batiste for their work deploying the CVISN Automated License Plate Reader (ALPR) program.

CVISN transponder use and estimated industry savings

2008 through 2011; dollars in millions

	2008	2009	2010	2011
Transponder-equipped trucks operating on Washington's roads				
Number of transponders read ¹	1,713,678	2,152,252	2,230,546	1,920,241
Percent of trucks with transponders	29.6%	34.0%	35.3%	39.0%
Percent bypassed at open weigh stations	61.9%	62.5%	61.0%	61.4%
Estimated time and cost savings through the use of CVISN				
Number of green lights ²	1,093,208	1,342,352	1,359,740	1,178,452
Hours of travel time saved	91,000	112,000	113,000	98,000
Amount of money saved ³	\$11.2 M	\$13.8 M	\$13.9 M	\$12.1 M

Data source: WSDOT CVISN Office.

Note: 1 A transponder is read multiple times a day when it passes multiple weigh stations.

2 This is for trucks cleared to bypass weigh stations using transponder readings only.

3 Savings based on industry standard value of \$10.28 per bypass, including operating costs/time savings, and fuel saving. Value held constant for all years evaluated. The cost savings for 2008 through 2010 recalculated to compare with the 2011 cost savings.

Commercial Vehicle Information Systems & Networks (CVISN) Annual Report

New weigh station opens in Spokane; CVISN team receives award

While the percentage of trucks with transponders and the percentage of transponder-equipped trucks given green lights to bypass open weigh stations both increased between 2010 and 2011, several factors resulted in closures of three weigh stations. This reduced the overall number of transponders read and the total number of green lights given. The closures include the busy Sea-Tac southbound weigh station since August 2010, as a result of construction for the SR 18 Triangle Project; the Everett southbound weigh station closed since April 2011 when destroyed by a drunk driver; and the Fort Lewis weigh station for four months to install a static scale.

Automatic brake inspections increase safety

The Automated Infrared Roadside Screening (AIRS) system uses thermal imaging, automation, and machine vision technology for automated brake inspections. For the typical brake inspection process an officer visually inspects the brakes of a truck either by climbing under the truck or standing in an inspection pit while the truck pulls over the pit. The AIRS system allows for more targeted identification of trucks that have faulty brakes.

WSDOT is moving forward with a federally-funded pilot project of the AIRS system, which is under construction at the Fort Lewis weigh station. The milestones WSDOT achieved to date include: completing infrastructure installation, purchasing equipment, and testing a new vehicle detection and tracking system. This system will automatically scan all vehicles on the ramp to the weigh station (not on the mainline) and notify the weigh station only when a defect is identified (see *Gray Notebook* 41, p. 54).



Speed bumps and pavement markings guide trucks over the AIRS thermal imaging camera embedded in the weigh station approach lane.

Additional striping and speed bumps were necessary to center drivers over the camera for the automated brake inspection process. Centering each truck over the infrared camera ensures that the AIRS system can evenly scan brakes and tires from the underside of the truck. Live tests of the in-road camera validated the value of the AIRS system as a new CVISN tool that reduces the number of time-consuming inspections and successfully targets vehicles with potential safety risks relating to brakes and tires, resulting in improved safety for the traveling public.



Spokane's new Port of Entry weigh station is open and equipped with the latest CVISN technologies.

Spokane Port of Entry weigh station open

WSP moved into the new Spokane Port of Entry in September 2011. Covering approximately ten acres and located roughly one mile west of the Washington/Idaho state line, the new facility deploys CVISN technologies including three ALPRs and two weigh-in-motion scales. The facility includes a large two-bay inspection building with a pit that allows officers to inspect the brakes and undercarriage of commercial vehicles. It also provides adequate parking for commercial vehicles placed out of service.

The weigh-in-motion equipment used by CVISN for weighing trucks on the mainline is also used by WSDOT for gathering traffic management data including traffic volumes and commercial vehicle classifications, weights, and mainline speeds.

CVISN team recognized by WA State Patrol

WSP Chief John R. Batiste honored the WSDOT and WSP Expanded CVISN ALPR Project Team with a Chief's Coin and a personal letter of appreciation in November 2011. The award recognizes service that exceeds expectations. Other states and federal programs are looking at the precedent Washington set with CVISN.



The WSDOT and WSP CVISN ALPR Project Team (from left to right) Vic Bagnall, Wael Lazar, Bill Balcom, Doug Deckert, and Anne Ford received the Chief's Coin, presented by Captain Darrin Grondel (far right).

Stewardship

State policy goal

To continuously improve the quality, effectiveness, and efficiency of the transportation system.

WSDOT's business direction

To enhance WSDOT's management and accountability processes and systems to support making the right decisions, delivering the right projects, and operating the system efficiently and effectively in order to achieve the greatest benefit from the resources entrusted to us by the public.



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Earlier articles concerned with stewardship

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WSDOT's Capital Project Delivery Programs

Highway Construction: Nickel and TPA Project Delivery Performance Overview

Project Delivery Highlights

WSDOT has completed 325 Nickel and TPA projects to date; no projects were completed in the quarter ending March 31, 2012.

To date, the schedule and budget performance of the Nickel and TPA program was the same as last quarter:

87% were early or on time,
91% were completed on or under budget, and
81% were completed both on time and on budget.

WSDOT Nickel and TPA program project status

Project status	Number of Projects	Value in thousands
Projects completed in earlier biennia that are <i>not</i> included in the current Transportation Budget	81	\$373,000
Projects completed that <i>are</i> included in the current Transportation Budget	244	\$4,047,264
Completed projects Subtotal:	325	\$4,420,264
Projects included in the current Transportation Budget that are not yet completed	96	\$11,922,927
Total:	421	\$16,343,191

Data source: WSDOT Capital Program Development and Management.

Cumulative delivery performance¹ of completed Nickel and TPA projects

Through March 31, 2012

Calendar year	2009		2010				2011				2012
	Q3	Q4	Q1 ²	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Number of projects	215	240	264	272	282	296	300	304	310	325	325
On-time %	88%	88%	89%	89%	90%	91%	90%	89%	89%	87%	87%
On-budget %	87%	88%	91%	92%	93%	93%	92%	91%	91%	91%	91%
On-time and on-budget %	78%	78%	82%	83%	84%	84%	84%	82%	82%	81%	81%

Data source: WSDOT Capital Program Development and Management.

Note: 1 WSDOT defines a project as "on time" if it is operationally complete within the quarter planned in the biennial budget, and "on budget" if the budget is within 5% of the current approved budget. 2 Unbundled project counts started in Q1 2010; total projects increased from 391 to 421.

WSDOT tracks two performance metrics for Nickel and TPA projects

The *Gray Notebook* reports on delivery of the Nickel and Transportation Partnership Account (TPA) projects with two performance metrics: the first is the cumulative program reporting and the second is the current Legislative budget reporting.

Cumulative Program reporting - 91% of projects were on budget this quarter

The cumulative metric tracks the total Nickel and TPA program to date. As of March 31, 2012 WSDOT has completed 325 of the 421 Nickel and TPA projects. Out of these 325 projects, none were completed this quarter (January 1 – March 31, 2012). The cumulative capital program delivery performance shows that 87% of projects were completed early or on time, 91% were completed on or under budget, and 81% of completed projects were both on time and on budget. The schedule and budget performance are unchanged from December 31, 2011.

Current Legislative Budget reporting - 92% of projects were on budget this quarter

This metric tracks the projects that are in the most recent Legislative budget. During every budget cycle the Legislature updates the list of funded projects, removing from the list all the projects that have been finished. The project status of "operationally complete" typically precedes removal from the project list by many months or even a few years. After a project has reached the "operationally complete" milestone, there may be ongoing expenses such as landscape establishment. Following the approval of the 2012 Supplemental Transportation Budget the number of projects removed from the Legislative budget grew from 76 to 81. In the current transportation budget there are 244 projects that are operationally complete. They will remain in the budget until all activities have been completed and all expenses have been billed to, and paid from, the projects' accounts.

For these 244 completed projects, 85% were on time, 92% were on budget, and 80% were both on time and on budget for the quarter ending March 31, 2012, unchanged from the previous quarter.

Outlook for on-time, on-budget performance trends

The number of projects that will move from the current budget to the "earlier biennia" list will increase at an accelerated rate in the coming quarters and years as the majority of the Nickel and TPA project accounts are closed out. Only 96 of the 421 Nickel and TPA projects are not yet operationally complete, and are either in construction or yet to be advertised. These remaining projects are some of the most challenging, and include several portions of the Mega Projects. As a result, the schedule and budget performance may show greater fluctuations toward the end of the Nickel and TPA programs.

WSDOT's Capital Project Delivery Programs

Current 2012 Legislative Transportation Budget Performance Dashboard: Highways

Highway construction performance dashboard

As of March 31, 2012; Dollars in thousands

Combined Nickel and TPA programs	Number of projects	Value of program
Projects completed in earlier biennia that <i>are not</i> included in the current Transportation Budget	81	\$373,000
Projects completed that <i>are</i> included in the current Transportation Budget	244	\$4,052,823
<i>Subtotal of completed projects</i>	325	\$4,420,264
Projects included in the current Transportation Budget but not yet completed	96	\$11,919,473
Total number of projects¹ in Improvement & Preservation budget	421	\$16,345,296

Schedule and Budget Summary Nickel & TPA combined: Results of completed projects in the current Legislative Transportation Budget and prior budgets.	Current ²	Cumulative ²
	Legislative Budget	Program

Number of projects completed to date: 2003 – March 31, 2012	244	325
Percent completed early or on time	85%	87%
Percent completed under or on budget	92%	91%
Percent completed on time and on budget	80%	81%
Baseline estimated cost at completion	\$4,052,823	\$4,420,264
Current estimated cost at completion	\$3,999,479	\$4,360,096
Percent of total program over or under budget	1.5% under	1.4% under
Total number of projects completed in 2011-2013 biennium to date	21	
Percent completed early or on time	62%	
Percent completed under or on budget	81%	
Percent completed on time and on budget	57%	
Baseline estimated cost at completion this biennium	\$294,472	
Current estimated cost at completion this biennium	\$284,721	
Percent of total program under or over budget	3.3% Under	

Advertisement Record: Results of projects entering into the construction phase or under construction detailed on pages 53-56.	Combined Nickel & TPA
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Total cumulative number of projects in construction phase to date, 2003– March 31, 2012	31
Percent advertised early or on time	74%
Total number of projects advertised for construction in 2011-2013 biennium to date	3
Percent advertised early or on time	100%

Projects To Be Advertised: Results of projects now being advertised for construction or planned to be advertised, detailed on page 57.	Combined Nickel & TPA
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Total projects being advertised for construction bids April 1, 2012 - September 30, 2012	12
Percent on or better than anticipated advertisement schedule	83%

Budget status: 2011-2013 biennium <i>Dollars in thousands</i>	WSDOT biennial budget
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Budget amount for 2011-2013 biennium	\$3,770,615
Actual expenditures to date 2011-2013 biennium	\$942,572
<i>Total 2003 Transportation Funding Package (Nickel) expenditure</i>	\$112,958
<i>Total 2005 Transportation Partnership Account (TPA) expenditure</i>	\$365,547
<i>Total Pre-Existing Funds (PEF) expenditure³</i>	\$464,066

Data source: WSDOT Capital Program Development and Management.

Note: The project total has been updated to show "unbundled" projects which may have been previously reported in programmatic construction program buckets (such as Roadside Safety Improvements or Bridges Seismic Retrofit). See the June 30, 2010, *Gray Notebook* 38, page 55, for more details. 2 See page 48 for definitions of the Current Legislative Budget and the Cumulative Program delivery performance metrics. 3 For full details of the PEF program, see pages 72-77.

WSDOT's Capital Project Delivery Programs

Current 2012 Legislative Transportation Budget Performance Dashboard: Rail and Ferries

Eleven Nickel and seven Transportation Partnership Account (TPA) rail construction projects have been delivered on time and on budget as of March 31, 2011, for \$103.3 million. Four projects (two Nickel-funded, two TPA-funded) in construction have award amounts of \$25.4 million.

Rail construction performance dashboard

As of March 31, 2012; Dollars in thousands

To date, Ferries has completed seven Nickel and eight TPA construction projects on time and on budget for \$243.9 million, including the three 64-car vessels, the *Chetzemoka*, the *Salish*, and the *Kennewick*. The *Kennewick* started service in February 2012. Four new construction projects were awarded for \$122.7 million.

	Nickel (2003)	Transportation Partnership Account (TPA 2005)	Combined Nickel & TPA
Schedule, scope and budget summary: completed projects			
Cumulative to date, 2003 – March 31, 2012	11	7	18
% Completed early or on time	100%	100%	100%
% Completed within scope	100%	100%	100%
% Completed under or on budget	100%	100%	100%
% Completed on time and on budget	100%	100%	100%
Baseline estimated cost at completion	\$62,380	\$40,965	\$103,345
Current estimated cost at completion	\$62,380	\$40,965	\$103,345
% of total program on or under budget	100%	100%	100%
Advertisement record: projects under construction or entering construction phase			
Biennium to date, 2011-2013			
Total advertised	2	2	4
% Advertised early or on time	100%	100%	100%
Total award amounts to date	\$17,549	\$7,872	\$25,421
Advertisement schedule: projects now being advertised or planned to advertise			
April 1, 2012 through September 30, 2012			
Total being advertised for construction	0	0	0
% On schedule or earlier	N/A	N/A	N/A

Ferries construction performance dashboard

As of March 31, 2012; Dollars in thousands

	Nickel (2003)	Transportation Partnership Account (TPA 2005)	Combined Nickel & TPA
Schedule, scope and budget summary: completed projects			
Cumulative to date, 2003 – March 31, 2012	7	8	15
% Completed early or on time	100%	100%	100%
% Completed within scope	100%	100%	100%
% Completed under or on budget	100%	100%	100%
% Completed on time and on budget	100%	100%	100%
Baseline estimated cost at completion	\$35,114	\$208,747	\$243,861
Current estimated cost at completion	\$35,114	\$208,747	\$243,861
% of total program on or under budget	100%	100%	100%
Advertisement record: projects under construction or entering construction phase			
Cumulative to date, 2003 – March 31, 2012	2	2	4
% Advertised early or on time	100%	100%	100%
Total award amounts to date	\$6,908	\$115,780	\$122,688

Data source: WSDOT Capital Program Development and Management.

Note: N/A means not applicable. The advertisement record in the previous *Gray Notebook* included the contract under which owner furnished equipment (OFE) was purchased for the new vessel program. With the completion of the 64-car class vessels, the OFE contract will no longer be reported as a separate project. The project on the advertisement record above represents the contract for construction of the first 144-car vessel project. The reported amount represents the total award to Vigor Shipyard. The completed projects record includes the three 64-car vessels, the *Chetzemoka* which started service in November 2010, the *Salish*, which started service in July 2011, and the *Kennewick*, which started service in February 2012.

WSDOT's Capital Project Delivery Programs

Schedule and Budget Summaries

Biennial summary of all projects completed 2003-2012

Nickel and Transportation Partnership Account (TPA) projects, costs estimated at completion; Dollars in thousands

Cumulative to date	Fund type	*On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time and on budget
Current quarter reporting on capital project delivery								
2011-2013 Biennium summary	18 TPA	*	13 on time	21	\$294,472	\$284,721	17 on budget	12 on time and on budget
This information will be updated quarterly throughout the biennium.	2 Nickel		8 late				4 over	
	1 TPA/Nickel							
May be accessed at www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm .								
2009-2011 reporting on capital project delivery								
2009-2011 Biennium summary	16 Nickel	*	80 on time	90	\$1,641,605	\$1,596,970	85 on budget	76 on time and on budget
See <i>Gray Notebooks 35-42</i> for project lists.	74 TPA		10 late				5 over	
May be accessed at www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm .								
Note: In earlier editions of the <i>Gray Notebook</i> , WSDOT used a project count of 391 combined Nickel and TPA projects for project completion data. In conjunction with the 2009-2011 biennium wrapup, the tables are reorganized to present the completed information for the current project count of 421. In the revised count, several projects that were developed as part of larger programs, like bridge rail and roadside safety, were included in the new count though they had been completed earlier.								
Earlier reporting on capital project delivery								
2007-2009 Biennium summary	42 Nickel	*	96 on time	111	\$1,685,749	\$1,685,219	102 on budget	90 on time and on budget
See the <i>Gray Notebook</i> for the quarter ending June 30, 2009, for project listing	69 TPA		15 late				9 over	
May be accessed at www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm .								
2005-2007 Biennium summary	52 Nickel	*	68 on time	76	\$673,858	\$668,778	67 on budget	59 on time and on budget
See <i>Gray Notebook</i> for quarter ending June 30, 2007, for project listing	24 TPA		8 late				9 over	
May be accessed at www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm .								
2003-2005 Biennium summary	27 Nickel	*	27 on time	27	\$124,580	\$124,409	25 on budget	25 on time and on budget
See <i>Gray Notebook</i> for quarter ending September 30, 2005, for project listing							2 over	
May be accessed at www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm .								

Data source: WSDOT Capital Program Development and Management.

Note: *Information not available as of press time.

WSDOT's Capital Project Delivery Programs

Schedule and Budget Summaries

Current Quarter

Zero projects completed within the current quarter (January 1 - March 31, 2012)

Every quarter, WSDOT reports on completed Nickel and TPA construction projects, and summarizes project costs at completion. WSDOT completed 21 projects to date in the current biennium and 31 additional projects are currently in the construction phase. Out of these 31 projects, none were completed this quarter (January 1 – March 31, 2012).

WSDOT's Capital Project Delivery Programs

Advertisement Record

31 projects in construction phase as of March 31, 2012

Nickel and Transportation Partnership Account (TPA) projects, costs estimated at completion, dollars in thousands

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
Cumulative to date						
Concrete Rehabilitation Program	Nickel					
Although this budget line item is active, no projects are currently planned for construction in the 2011-2013 biennium.						
U.S. 2/Chiwaukum Creek – Replace Bridge (Chelan)	TPA	Late	Apr-11	Selland Construction Inc.	Sep-13	\$4,190
U.S. 2/Wenatchee River Bridge – Replace bridge (Chelan)	TPA	Late	Apr-11	Selland Construction Inc.	Sep-13	\$3,912
Advertisement was delayed to allow time for processing a shoreline permit. This project was combined with the U.S. 2/Chiwaukum Creek project for construction efficiencies.						
SR 500/St Johns Blvd – Build interchange (Clark)	TPA	Late	Jan-11	Tapani Underground, Inc.	Nov-13	\$27,237
Advertisement date was delayed due to delays in gaining environmental permitting approval.						
I-5/NE 134th St Interchange (I-5/I-205) – Rebuild interchange (Clark)	Nickel	√	May-11	Moore Excavation, Inc.	Dec-14	\$17,791
SR 14/Camas Washougal – Add lanes and build interchange (Clark)	TPA	Late	Mar-11	Tapani Underground, Inc.	Nov-12	\$28,619
Advertisement date was delayed due to prolonged right of way negotiations.						
SR 28/Jct U.S. 2 and U.S. 97 to 9th St, Stage 1 – New alignment (Douglas)	TPA	√	Sep-09	Selland Construction, Inc.	Oct-12	\$4,565
This is a multi-contract project with several significant stages.						
I-405/South Renton Vicinity Stage 2 – Widening (King)	Nickel/ TPA					
• I-405/Thunder Hills Creek Culvert – Emergency Repairs	TPA	√	Mar-12	Scarsella Bros., Inc.	Dec-12	\$3,164
WSDOT and key parties are working together to develop an acceptable long term solution to this failed culvert.						
• I-405/SR 167 to SR 169 – Northbound widening (King)	TPA	√	Oct-08	I-405 Corridor Design Builders	Dec-10	\$83,599
• I-405/SR 167 to SR 169 – Add new southbound lane (King)	Nickel	√		<i>Combined with project above for construction efficiencies.</i>		
• I-405/SR 515 – New interchange (King)	TPA	√		<i>Combined with project above for construction efficiencies.</i>		
I-405/NE 8th St to SR 520 Braided ramps – Interchange improvements (King)	TPA	√	Mar-09	Guy F. Atkinson Construction, LLC	Dec-12	\$107,500
This project received federal Recovery Act stimulus funds.						
SR 99/Alaskan Way Viaduct – Replacement (King)						
• SR 99/S Massachusetts St to Union St – Electrical line relocation	TPA	√	May-08	Frank Coluccio Construction	Nov-09	\$17,040
• SR 99/S Holgate St to S King St – Viaduct replacement	TPA	√	Oct-09 May-10	Signal Electric, Inc. Skanska USA Civil West	Sep-13 Sep-13	\$4,902 \$114,569
This subproject has several contract components; the contract awarded to Skanska USA in May 2010 begins removal of the southern portion of the viaduct.						
• SR 99/Battery St Tunnel – Fire and safety improvement	TPA	√	Nov-09	Signal Electric, Inc.	Nov-10	\$2,409
Additional sign-bridges have some elements that were not initially planned. New environmental right of way siting work and review was needed.						
• SR 99/S King St Vicinity to Roy St – Viaduct Replacement	Nickel/ TPA	√	May-10	Seattle Tunnel Partners	Dec-15	\$1,089,700

WSDOT's Capital Project Delivery Programs

Advertisement Record

31 projects in construction phase as of March 31, 2012

Nickel and Transportation Partnership Account (TPA) projects, costs estimated at completion, dollars in thousands

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
I-90/Snoqualmie Pass East — Hyak to Keechelus Dam — Corridor improvement (Kittitas)						
• I-90/Snoqualmie Pass East Phase 1A Hyak to Crystal Springs — Detour (Kittitas)	TPA	Early	Feb-09	KLB Construction, Inc.	Oct-09	\$3,298
• I-90/Snoqualmie Pass East Phase 1B Hyak to snowshed vicinity — Add lanes and bridges (Kittitas)	TPA	√	Nov-09	Max J. Kuney Co.	Oct-13	\$76,699
• I-90/Snowshed to Keechelus Dam Phase 1C — Replace snowshed and add lanes (Kittitas)	TPA	Late	Apr-11	Guy F. Atkinson Construction, LLC	Oct-17	\$177,144
Advertisement date changed to allow additional design and review.						
SR 520/Bridge Replacement and HOV (King)						
• SR 520 Pontoon Construction (Grays Harbor)	TPA	√	Aug-09	Kiewit-General, A Joint Venture	Jul-14	\$367,330
Portions of this project are now in construction, but were not previously captured in <i>Gray Notebook</i> 'Projects to be Advertised' tables.						
• SR 520/I-5 to Medina — Evergreen Point Floating Bridge and Landings	TPA	√	Dec-10	Kiewit-General, A Joint Venture	Dec-14	\$586,561
• SR 520 — Medina to SR 202 Vicinity — Eastside Transit and HOV	TPA	√	May-10	Eastside Corridor Contractors	Mar-14	\$306,278
I-5/SR 161/SR 18 — Interchange improvements (King)						
	Nickel/TPA	√	Apr-10	Mowat Construction, Inc.	Oct-12	\$50,779
The award amount for this project was incorrectly reported as \$3,702 in <i>Gray Notebook 38</i> .						
SR 99/Aurora Ave — George Washington Memorial Bridge — Seismic (King)						
	TPA	√	Jan-11	Massana Construction, Inc.	Jan-13	\$6,157
SR 518/Bridges — Seismic (King)						
	TPA	√	Mar-11	Graham Construction and Management, Inc.	Apr-12	\$3,708
I-5/Tacoma HOV Improvements (Pierce)						
	Nickel/TPA					
• I-5/Port of Tacoma Rd to King Co Line — Add HOV lanes (Pierce)	Nickel	Late	Jun-09	Tri-State Construction, Inc.	May-11	\$31,015
Advertisement date was delayed due to design challenges associated with stormwater and floodplain issues; a formal consultation with U.S. Fish & Wildlife (USFW) and National Oceanic & Atmospheric Administration (NOAA) was required. Inflation factor applied in early July 2008 added \$6.6M to project cost estimate. This project has received federal Recovery Act stimulus funds.						
• I-5/SR 16 Interchange — Rebuild interchange (Pierce)	TPA	√	Jul-08	Guy F. Atkinson Construction, Llc	Jun-11	\$119,925
• I-5/SR 16/ EB Nalley Valley — HOV	Nickel/TPA	√	Jun-11	Mowat Construction Company	Mar-14	\$74,688
SR 161/24th St E to Jovita — Add lanes (Pierce)						
	Nickel	Late	Feb-11	Tri-State Construction Inc	Jun-12	\$11,928
Advertisement date was delayed to coordinate with local agencies.						
I-405/Kirkland Vicinity Stage 2 — Widening (Snohomish, King)						
	Nickel/TPA					
• I-405/SR 520 to SR 522 — Widening Stage 2	Nickel	Early	Nov-10	Gary Merlino Construction Inc.	Dec-15	10,694
• I-405/NE 195th St to SR 527 — Northbound widening (Snohomish, King)	TPA	Early	May-09	Kiewit Pacific Co.	Jun-10	\$19,263

WSDOT's Capital Project Delivery Programs

Advertisement Record

31 projects in construction phase as of March 31, 2012

Nickel and Transportation Partnership Account (TPA) projects, costs estimated at completion, dollars in thousands

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
SR 9/212th St SE to 176th St SE, Stage 3 – Add lanes (Snohomish) Advertisement was delayed to allow time for utility relocation and permit approval.	Nickel	Late	Apr-11	Northwest Construction, Inc.	Aug-13	\$24,297
SR 522/Snohomish River Bridge to U.S. 2 – Add lanes (Snohomish)	Nickel	√	Apr-10	Scarsella Bros., Inc.	Nov-14	\$88,653
SR 529/Ebey Slough Bridge – Replace bridge (Snohomish) Advertisement date was delayed due to delays in gaining environmental permitting approval after seismic code changes and for wetland mitigation	TPA	Late	Apr-10	Granite Construction Co.	May-13	\$21,541
U.S. 395/North Spokane Corridor (NSC) – U.S. 2 to Wandermere and U.S. 2 Lowering – New alignment (Spokane) Construction was not complete before its November 2011 operationally complete date, in part due to weather. The operationally complete date was delayed to June 2012.	Nickel	√	Aug-08		Jun-12	
• NSC – U.S. 2 to Wandermere vicinity (Spokane)	Nickel		May-09	Graham Construction & Management, Inc.	Jun-12	\$37,541
• U.S. 395/NSC – U.S. 2 lowering (Spokane)	Nickel		Aug-08	Graham Construction and Management, Inc.	Nov-11	\$42,849
U.S. 395/North Spokane Corridor –Francis Ave to Farwell Rd – New alignment (Spokane) The advertisement delay on this project was due to delays in the right-of-way acquisition.	Nickel	Late	Jan-04		Oct-12	
• NSC-Farwell Road Lowering	Nickel		Jan-04	Max J. Kuney Company	Jul-05	\$4,976
• NSC-Gerlach to Wandermere – Grading – Construction	Nickel		Nov-04	KLB Construction Inc.	Sep-06	\$9,987
• NSC-Francis Avenue to U.S. 2 Structures – Rebid	Nickel		May-06	Max J. Kuney Company	Jul-08	\$17,236
• U.S. 395/NSC-Freya to Fairview vicinity – Grading and Structures	Nickel		Jan-07	Steelman-Duff	Apr-09	\$10,571
• U.S. 395/NSC-Freya St to Farwell Rd – PCCP Paving	Nickel		Feb-07	Acme Concrete Paving	Aug-09	\$19,490
• U.S. 395/NSC – BNSF RR Tunnel	Nickel		Sep-07	Scarsella Bros., Inc.	Aug-09	\$17,295
• U.S. 395/NSC – Freya to Farwell Rd – Southbound additional lanes	TIGER/ Nickel		Jun-10	Graham Construction & Management Inc.	Jun-12	\$21,456
This project was reported as complete in <i>Gray Notebook 35</i> - September 30, 2009. Subsequent to that date, the project received a TIGER grant from the American Recovery and Reinvestment Act. Those funds were combined with remaining Nickel funds to add the project shown above.						
I-5/Grand Mound to Maytown – Add lanes and replace intersection (Thurston)						
• I-5/Grand Mound to Maytown Stage One – Add lanes	Nickel	√	Dec-07	Scarsella Bros., Inc.	Jun-10	\$61,495
• I-5/Grand Mound to Maytown Stage Two – Replace interchange Advertisement was delayed due to negotiations with the railroad on the placement of a culvert under the tracks.	Nickel	Late	Aug-10	Tri-State Construction, Inc.	Sep-12	\$15,518
I-5/Mellen Street interchange to Grand Mound interchange – Add lanes (Thurston, Lewis)	TPA					
• I-5/Blakeslee Junction Railroad Crossing to Grand Mound interchange – Add lanes (Thurston, Lewis)	TPA	√	Feb-10	Tri-State Construction	Dec-11	\$19,731
• I-5/Mellen Street to Blakeslee Junction – Add lanes, interchange Improvements (Thurston, Lewis)	TPA		Apr-12		Oct-13	
• I-5/Mellen St Interchange – Interchange improvements (Thurston, Lewis)	TPA		<i>Combined with project above for construction efficiencies.</i>			

WSDOT's Capital Project Delivery Programs

Advertisement Record

31 projects in construction phase as of March 31, 2012

Nickel and Transportation Partnership Account (TPA) projects, costs estimated at completion, dollars in thousands

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
U.S. 12/SR 124 Intersection — Build interchange (Walla Walla) Advertisement was delayed until land exchange with U.S. Fish and Wildlife was completed.	TPA	Late	Oct-10	Selland Construction, Inc.	Jul-12	\$11,479
I-5/36th St vicinity to SR 542 vicinity — Ramp reconstruction (Whatcom) Project completion delayed to July 2012 due to site problems.	TPA	√	May-10	Vetch Construction	Jul-12	\$4,440
SR 823/Selah vicinity — Reroute highway (Yakima) The project was delayed until fall 2010 due to right of way issues. Its completion date has been delayed one year to 2012.	TPA	√	Dec-09	Hurst Construction LLC	Jul-12	\$3,573
Biennium to date (2011-2013)						
SR 9/SR 531 - 172nd St NE – Improve intersection (Snohomish)	TPA	√	Oct-11	Interwest Construction Inc.	Nov-12	\$4,770
Quarter ending March 31, 2012						
SR 530/Fortson Creek Culvert - Fish Barrier (Snohomish)	TPA	√	Mar-12	Ram Construction General Contractors, Inc.	Oct-12	\$812
I-5/Chehalis River Flood Control (Lewis)	Nickel	√	Mar-12	Award pending	Oct-13	Pending

Data source: WSDOT Capital Program Development and Management.

WSDOT's Capital Project Delivery Programs

Projects To Be Advertised

12 Projects in the delivery pipeline for April 1, 2012 through September 30, 2012

Nickel and Transportation Partnership Account (TPA) projects now being advertised for construction or planned to be advertised

Costs estimated at completion, dollars in thousands

Project description	Fund type	Original planned ad date	Current planned ad date	On schedule	Baseline estimated cost at completion	Current estimated cost at completion
U.S. 101/Bone River Bridge - Replace bridge (Pacific) Advertisement date was delayed due to late permit submittals.	TPA	Jan-12	Apr-12		\$12,912	\$12,664
SR 285/W End of George Sellar Bridge - Intersection improvements (Chelan)	TPA	Apr-12	Apr-12	√	\$22,398	\$22,393
SR 112/Nelson Creek - Fish barrier (Clallam)	TPA	Apr-12	Apr-12	√	\$2,272	\$2,272
SR 112/Unnamed Tributary to Pysht River - Fish barrier (Clallam)	TPA	Apr-12	Apr-12	√	\$1,561	\$1,561
U.S. 97/North of Goldendale - Wildlife habitat connectivity (Klickitat)	TPA	Apr-12	Apr-12	√	\$3,529	\$3,529
SR 502/I-5 to Battle Ground - Add lanes (Clark)	TPA	Apr-12	Apr-12	√	\$87,786	\$87,779
NSC-North Spokane Corridor Design and Right of Way - New alignment (Spokane)	TPA	May-12	May-12	√	\$204,893	\$204,946
SR 161/Clear Lake N Rd to Tanwax Creek - Realign roadway (Pierce)	TPA	May-11	May-12	√	\$4,679	\$4,887
U.S. 101/Middle Nemah River Bridge - Replace bridge (Pacific)	TPA	Apr-12	May-12	√	\$5,615	\$5,612
SR 105/Smith Creek Bridge - Replace bridge (Pacific)	TPA	Apr-11	May-12	√	\$12,172	\$12,166
SR 105/North River Bridge - Replace bridge (Pacific)	TPA	Apr-12	May-12	√	\$23,166	\$23,161
SR 9/Pilchuck Creek – Replace bridge (Snohomish) The project is delayed due to a late environmental permit.	TPA	Mar-12	Jul-12		\$19,604	\$19,880

Data source: WSDOT Capital Program Development and Management.

WSDOT's Capital Project Delivery Programs

Original 2003 and 2005 Transportation Funding Packages (Nickel & TPA) Performance Dashboard

Each quarter, WSDOT provides a detailed update on the delivery of the highway capital programs in the *Gray Notebook* and on the web (at www.wsdot.wa.gov) through the Project Pages and Quarterly Project Reports.

Since the original passage in 2003 and 2005, the Legislature has approved changes to the funding package and assigned funds to different projects. As a result, the data will not match what is being presented on the current budgets on pages 49-50.

The dashboards below and on the following page provide a status report on how WSDOT is delivering the program compared to the original Legislative intent as presented in the 2003 and 2005 LEAP (Legislative Evaluation & Accountability Program) lists.

These dashboards include all budget items including preconstruction and environmental studies that were included in the original funding packages.

The first two columns in the first table show the total number of projects and the percentage of those projects that are complete, under way, scheduled to start in the future, or affected by a Legislatively approved change of project scope.

The second table presents a budget update showing original planned budgets and the current plan or actual expenditure.

In both tables, the next sets of columns break out the program by category: highways, ferries, and rail.

Project delivery update: Original 2003 Transportation Funding Package (Nickel)

Status as of March 31, 2012

Project number and phase	Total program		Highways		Ferries		Rail	
	Number of projects	Percent of program						
Total number of projects	156		127		5		24	
Completed projects	113	72%	99	78%	2	40%	12	50%
Total projects under way	33	21%	28	22%	2	40%	3	13%
<i>In preconstruction phase</i>	16		15		1		0	
<i>In construction phase</i>	17		13		1		3	
Projects starting in the future	1	1%	0	0%	0	0%	1	4%
Projects deferred, or deleted from program	9	6%	0	0%	1	20%	8	33%
<i>Number of Legislatively approved scope changes</i>	20		18		0		2	
<i>Preconstruction starts within 6 months</i>	0		0		0		0	
<i>Construction starts within 6 months</i>	1		1		0		0	

Data source: WSDOT Capital Program Development and Management.

Note: Totals do not include Local Programs projects. Percents may not equal 100% due to rounding.

Project budget delivery update: Original 2003 Transportation Funding Package (Nickel)

Status as of March 31, 2012; Dollars in thousands

Total original Legislative planned budget	Total program		Highways		Ferries		Rail	
	Budget	Percent of total	Budget	Percent of program	Budget	Percent of program	Budget	Percent of program
Total original Legislative planned budget	\$3,887,483		\$3,380,124		\$297,851		\$209,508	
Original plan, 2003 through 2009-11 biennium	\$3,278,038	84%	\$2,813,701	83%	\$293,919	99%	\$170,418	81%
Actual expenditures, 2003 through 2009-11 biennium	\$3,262,619	84%	\$3,002,188	89%	\$132,448	44%	\$127,983	61%
Original plan through 2011-13 biennium	\$3,887,483	100%	\$3,380,124	100%	\$297,851	100%	\$209,508	100%
Current plan through 2011-13 biennium	\$3,704,453	95%	\$3,412,560	101%	\$160,302	54%	\$131,591	63%
Actual expenditures, 2003 through March 31, 2012	\$3,399,255	87%	\$3,115,960	92%	\$154,583	52%	\$128,412	61%

Data source: WSDOT Capital Program Development and Management.

Note: Expenditures are Nickel funds only. Totals do not include Local Programs projects.

WSDOT's Capital Project Delivery Programs

Original 2003 and 2005 Transportation Funding Packages (Nickel & TPA) Performance Dashboard

Project delivery update: Original 2005 Transportation Partnership Account (TPA)

Status as of March 31, 2012

Project number and phase	Total program		Highways		Ferries		Rail	
	Number of projects	Percent of program						
Total number of projects	248		229		4		15	
Completed projects	163	44%	157	69%	0	0%	6	40%
Total projects under way	67	27%	61	27%	1	25%	5	33%
<i>In preconstruction phase</i>	38		36		1		1	
<i>In construction phase</i>	29		25		0		4	
Projects starting in the future	7	3%	3	1%	1	25%	3	20%
Projects deferred, or deleted from program	11	4%	8	3%	2	50%	1	7%
<i>Number of Legislatively approved scope changes</i>	23		23		0		0	
<i>Preconstruction starts within 6 months</i>	0		0		0		0	
<i>Construction starts within 6 months</i>	9		9		0		0	

Data source: WSDOT Capital Program Development and Management.

Note: Totals do not include Local Programs projects. Percents may not equal 100% due to rounding. Since the TPA's passage in 2005, the Legislature has approved changes to the ferry construction program so that the current budget does not match the original budget. Among the changes, TPA funding was provided to the 64-car ferries.

Project budget delivery update: Original 2005 Transportation Partnership Account (TPA)

Status as of March 31, 2012; Dollars in thousands

	Total program		Highways		Ferries		Rail	
	Budget	Percent of total	Budget	Percent of program	Budget	Percent of program	Budget	Percent of program
Total original Legislative planned budget	\$6,982,128		\$6,678,468		\$185,410		\$118,250	
Original plan, 2003 through 2009-11 biennium	\$4,042,962	58%	\$3,886,331	58%	\$81,701	44%	\$74,930	63%
Actual expenditures, 2003 through 2009-11 biennium	\$2,703,850	39%	\$2,572,833	39%	\$64,128	35%	\$66,889	57%
Original plan through 2011-13 biennium	\$5,585,341	80%	\$5,386,836	81%	\$87,655	47%	\$110,850	94%
Current plan through 2011-13 biennium	\$4,333,945	62%	\$4,185,231	63%	\$74,964	40%	\$73,750	62%
Actual expenditures, 2003 through March 31, 2012	\$3,071,142	44%	\$2,938,470	44%	\$64,671	35%	\$68,001	58%

Data source: WSDOT Capital Program Development and Management.

Note: Expenditures are Nickel funds only. Totals do not include Local Programs projects.

Definitions

Completed projects Projects operationally complete, open to traffic.

Projects under way Funded projects that have begun preconstruction or construction activities.

Projects in preconstruction phase Projects in a "pre-construction phase" have been funded and have commenced active work, such as environmental studies, design work, right of way purchase, preliminary engineering, and other activities that take place before ground-breaking.

Projects in construction All activities from ground-breaking to completion.

Projects starting in the future Projects funded but not yet in a construction or preconstruction phase.

Projects deferred or deleted Projects deferred beyond the 16-year program window or deleted from the program with Legislative approval.

Note

The column headed 'Percent of program' shows the percentage of each category represented by the raw number. For example, the Ferries columns show that of the five projects listed in the Nickel package, one has been completed, representing 20% of the total Ferries program; three Ferries projects are under way, representing 60% of the total program; and one Ferries project has been deferred or deleted, representing the remaining 20% of the total program.

WSDOT's Capital Project Delivery Programs

Revenue Forecast Update: 2003 Transportation Funding Package (Nickel) financial information

The following information incorporates the February 2012 transportation revenue forecast projections. The accompanying charts compare the current projected revenue forecast to the baseline forecast used in the budget making process when the 2003 Funding Package was adopted. The 2003 Funding Package was developed as a ten-year plan from 2003 through 2013. Due to timing and funding issues, the Legislature has moved projects beyond 2013. Both cumulative ten-year totals and individual biennial amounts are shown in the charts on this page.

Current forecasted revenues include the most recent actual revenue collection data available as well as updated projections based on new and revised economic variables.

The February 2012 forecast for gas tax receipts and licenses, permits, and fees for the Transportation 2003 (Nickel) Account is lower than the baseline forecast for the ten-year outlook by 12.0%. This reduction is due primarily to continued lower gasoline consumption. Because Washington State's gas tax is based on gallons sold rather than price, reduced consumption results in reduced revenues.

Multimodal Account projections for the vehicle sales tax are lower than the baseline forecast resulting in a decrease of 19.1% in the ten-year outlook. This decrease is primarily due to the decline in vehicle sales.

Paying for the Projects: 2003 Transportation Funding Package Highlights

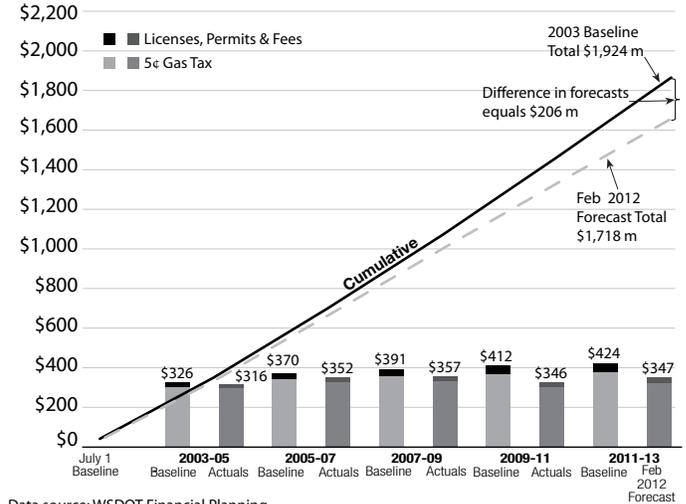
Deposited into the Transportation 2003 (Nickel Account)

- 5¢ increase to the gas tax
- 15% increase in the gross weight fees on trucks

Deposited into the Multimodal Account (established in 2000)

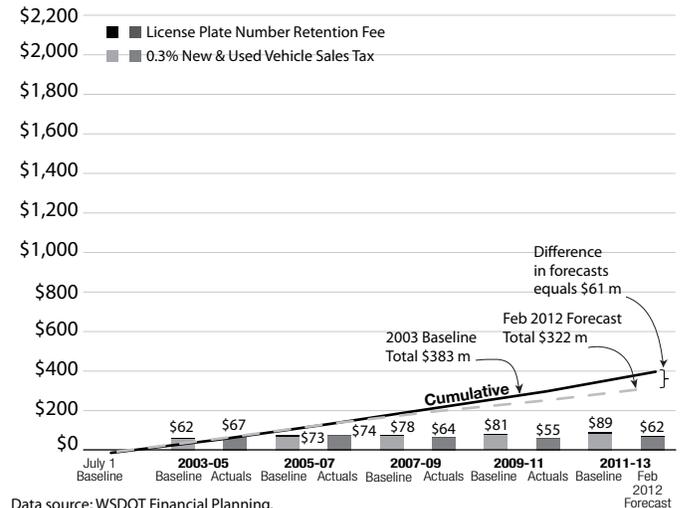
- An additional 0.3% sales tax on new and used vehicles
- \$20 license plate number retention fee

Transportation 2003 (Nickel Account) revenue forecast
 March 2003 Legislative baseline compared to the February 2012 Transportation Revenue Forecast Council; Dollars in millions



Data source: WSDOT Financial Planning.
 Note: Numbers may not add due to rounding.

Multimodal Transportation Account (2003 package revenue forecast)
 March 2003 Legislative baseline compared to the February 2012 Transportation Revenue Forecast Council; Dollars in millions



Data source: WSDOT Financial Planning.
 Note: Numbers may not add due to rounding.

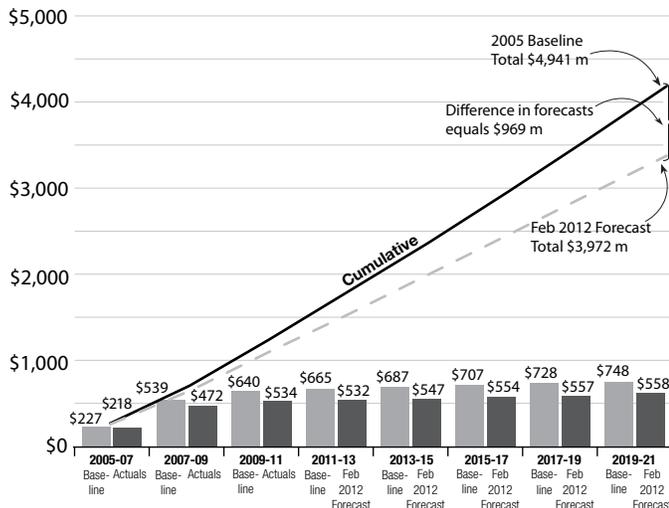
Revenue Forecast Update: 2005 Transportation Partnership Account (TPA) financial information

The accompanying chart compares the current February 2012 revenue forecast to the baseline forecast used in the budget making process when the 2005 Funding Package was adopted. The 2005 Funding Package was developed as a 16-year plan extending from 2005 through 2021.

The February 2012 forecast for gas tax receipts over the 16-year period decreased by 25% from the baseline forecast. This reduction is due to continued lower than expected gasoline consumption. Because Washington State's gas tax is based on gallons sold rather than price, reduced consumption results in reduced revenues.

2005 Transportation Partnership Account (TPA)

March 2003 Legislative baseline compared to the February 2012 Transportation Revenue Forecast Council; Dollars in millions



Data source: WSDOT Financial Planning.

Note: Numbers may not add due to rounding.

Paying for the projects: 2005 Transportation Package revenue sources

- 9.5¢ increase to the gas tax phased in over four years
 - 3.0¢ in July 2005
 - 3.0¢ in July 2006
 - 2.0¢ in July 2007
 - 1.5¢ in July 2008
- New vehicle weight fees on passenger cars
 - \$10 for cars under 4,000 pounds
 - \$20 for cars between 4,000 and 6,000 pounds
 - \$30 for cars between 6,000 and 8,000 pounds
- Increased combined license fees for light trucks
 - \$10 for trucks under 4,000 pounds
 - \$20 for trucks between 4,000 and 6,000 pounds
 - \$30 for trucks between 6,000 and 8,000 pounds (Farm vehicles are exempt from the increase)
- A \$75 fee for all motorhomes
- Fee increases to various driver's license services
 - Original and renewal license application increased to \$20 (previously \$10)
 - Identicators, driver permits, and agricultural permits increased to \$20 (previously \$15)
 - Commercial driver license and renewal increased to \$30 (previously \$20)
 - License reinstatement fee increased to \$75 (previously \$20)
- DUI Hearing increased to \$200 (previously \$100)
- Fee increases to various license plate charges
 - Reflectorized plate fee increased to \$2 per plate (previously 50¢)
 - Replacement plates increased to \$10 (previously \$3)

WSDOT's Capital Projects Delivery Programs

Completed Projects: Delivering performance and system benefits

Every quarter, WSDOT reports on completed construction projects, and summarizes delivery performance on the dashboards located on pages 49-50. The dashboards summarize all construction activities from the beginning of the current biennium to the close of last quarter. Project delivery performance reporting on budget and schedule is measured against the last approved budgets in accordance with criteria established by the Legislature; for this quarter it is the 2012 Supplemental Transportation budget.

WSDOT publishes a brief wrap-up on each project completed in a quarter. These close-out summaries are intended to provide a

better sense of the project delivery process, WSDOT's efforts to use tax dollars as efficiently as possible, and the benefits citizens can expect to see from completed projects.

WSDOT completed 21 projects to date in the current biennium and 31 additional projects are currently in the construction phase, listed on pages 53-56. Out of these 31 projects, none were completed this quarter (January 1 – March 31, 2012). Typically, few projects are completed during the winter months due to weather. The first quarter of 2012 included substantial weather challenges like the prolonged ice storm that occurred in western Washington in January.

Upcoming projects

WSDOT anticipates completing four projects in the second quarter of 2012; they are listed in the table below. More information on completed projects is available online at www.wsdot.wa.gov/projects.

Projects scheduled to be complete between April 1, 2012 and June 30, 2012

PIN	Project Name
600003A	U.S. 395/North Spokane Corridor- US 2 to Wandermere and US 2 Lowering- New alignment
300569G	I-5/Portland Avenue and SR 167 Interchanges- Rebuild interchanges
100020S	SR 518/Bridges- seismic
310116D	U.S. 101/Lynch Road-Safety improvements

Data source: WSDOT Capital Program Development and Management.

Mega-project report: SR 520 Bridge Replacement and HOV Program

The SR 520 Bridge Replacement and High Occupancy Vehicle (HOV) Program is a long-term investment in one of the region's busiest corridors, connecting the population and employment centers in Seattle and the Eastside of Lake Washington. The SR 520 Program currently includes projects that will replace the aging floating bridge across Lake Washington, and complete critical safety and mobility improvements along the corridor from I-5 in Seattle to SR 202 in Redmond.

SR 520 projects are: the Pontoon Construction Project, the Medina to SR 202: Eastside Transit and HOV Project, the I-5 to Medina: Bridge Replacement and HOV Project, and the first stage of the I-5 to Medina project – called the SR 520 Floating Bridge and Landings project. The result will be a new SR 520 that will provide more commuting choices and better trip reliability for drivers, transit riders, bicyclists, and pedestrians, while protecting the regional environment and keeping our economy moving forward.

Final permits delivered in March 2012; SR 520 floating bridge construction underway

After 15 years of planning, analysis, and public input, construction of the new SR 520 floating bridge on Lake Washington is under way. The Federal Highway Administration issued the Record of Decision in August 2011 (see *Gray Notebook* 43, p. 68), and WSDOT has continued to coordinate a complex permitting application process. In March 2012, WSDOT received a final permit from the Army Corps of Engineers, completing all 18 permits needed to start construction on the new SR 520 floating bridge. In April 2012, the design-build contractor mobilized barges and construction staging equipment for the first steps of construction. Pontoons, anchors, cables, and roadway deck sections needed for the new floating bridge are being constructed in Aberdeen, Tacoma, and Kenmore, creating hundreds of family-wage Washington jobs in the process.

The \$587.6 million design-build project will result in a new bridge open to drivers as soon as December 2014. Drivers will see the visible signs of progress this spring and summer as construction kicks into high gear. Upcoming activities on Lake Washington include:

- Installing shaft anchors for pontoons,
- Constructing a cofferdam and work inside the cofferdam,
- Installing infrastructure for an in-water staging area near Medina,
- Starting construction of pier footings at the east approach in Medina, and
- Towing pontoons from Aberdeen and Tacoma onto Lake Washington.

When complete, the new floating bridge will bring a number of benefits to the region:

- A safer structure that is resistant to windstorms up to 89 miles per hour,
- Two general-purpose lanes and one transit/HOV lane in each direction,

SR 520 Program Highlights

WSDOT secured 18 permits before beginning construction on the SR 520 floating bridge and landings project.

Construction began on Lake Washington in April 2012.

WSDOT will host four interactive design sessions with Seattle neighborhoods throughout the spring and summer.

WSDOT has applied for a federal loan to construct part of the West Approach bridge.



The barge and crane pictured here is preparing to install shaft anchors in Lake Washington for the new SR 520 floating bridge.

WSDOT's Capital Project Delivery Programs

Mega-projects report: SR 520 Bridge Replacement and HOV Program

- Wider, safer shoulders that will allow vehicles to pull over in the case of a breakdown,
- A 14-foot-wide bicycle and pedestrian path on the north side of the bridge, and
- The ability to accommodate light rail if the region chooses to fund it in the future.

Permit appeal and legislation to continue construction

In January 2012, a permit appeal was filed against five of WSDOT's city of Seattle shoreline permits. Any appeal results in an automatic construction stay while the appeal is reviewed by the Shoreline Hearings Board. This review can take up to 240 days to complete and remove the construction stay. Combined with in-water winter work window restrictions, the stay would have delayed the floating bridge construction by an entire year. In response, the Legislature passed Engrossed House Bill (EHB) 2814, a bill that amends the Shoreline Management Act to remove the construction stay for only the floating bridge portion of the I-5 to Medina project. This exemption does not preclude the Hearings Board from reviewing the appeal and reaching a conclusion.

EHB 2814 allows WSDOT to launch the critical work necessary to keep the floating bridge project on schedule and on budget and ensure that crews can work to open a new bridge to drivers.

Seattle Community Design Process will continue through summer 2012

In summer 2011, WSDOT began the Seattle Community Design Process (SCDP) to fulfill WSDOT's commitment to work collaboratively with agency partners, the city of Seattle, Seattle neighborhoods, and the broader public. The goal of this process is to refine the urban and sustainable design features of the Seattle side of the SR 520 corridor.

Now that the environmental review process is complete and the baseline design is approved, the SCDP will help WSDOT identify design refinements that support the mobility of the Puget Sound Region and the livability of Seattle neighborhoods. Beginning in April, WSDOT will host four interactive public sessions that will focus on the neighborhoods in the Seattle side of the SR 520 corridor.

Key urban and sustainable design features being evaluated include:

- Maintaining access to Seattle's neighborhoods and parks, and completing bicycle, pedestrian and greenway connections.
- Creating safe and practical access to local and regional parks, the waterfront and community spaces.

- Working with regional partners to improve reliable transit and other multi-modal commuting options between Seattle's high-density neighborhoods and regional employment centers.
- Implementing bridge architectural elements that support corridor aesthetic continuity, regional significance, and local character.
- Restoring natural habitat, treating stormwater runoff, and reducing noise and air pollution to protect the natural ecosystems and livability within the project area.
- Selecting less carbon-intensive materials, and implementing low-impact construction practices and shorter construction durations when possible.

WSDOT continues to pursue funding for SR 520 construction between I-5 and the floating bridge

In the 2012 legislative session the Legislature also passed ESHB 2190, which directed WSDOT to analyze how I-90 tolling could manage traffic and provide funding for SR 520 projects from I-5 to the floating bridge. The Legislature provided \$1.5 million in funding to begin the environmental process and community outreach to study I-90 tolling.

WSDOT has also applied for a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, which would provide funding to construct the north half of the West Approach bridge.

WSDOT continues to work with the Legislature to seek additional funding for construction west of the SR 520 floating bridge, fulfilling the agency's commitment to building all planned safety, mobility and environmental improvements on the Seattle side of the SR 520 corridor.

Eastside and pontoon projects continue

Construction on the Eastside Transit and HOV project continues, and drivers along SR 520 can see progress made on the new lids. For more information about project cost and schedule, see the Watch List summary on page 69.

Pontoon construction continues in Aberdeen, and the first six pontoons are expected to float out of the casting basin in spring 2012, and up to Lake Washington during summer 2012.

Mega-project update: SR 167 Extension project continues tolling study

State Route (SR) 167 is the main freeway connecting the Kent and Puyallup River valleys to the Seattle/Tacoma/Bellevue metropolitan area. Completing this freeway will provide a critical link in the state's highway network. The SR 167 Extension project will build the remaining four miles of SR 167, completing a long-planned connection to Interstate 5 (I-5). This project also includes a new connection from SR 509 to I-5. This new highway segment will provide two general purpose lanes in each direction and will also include an HOV lane in each direction from I-5 to Puyallup. The project will build five interchanges located at SR 509, 54th Avenue, I-5, Valley Avenue and SR 161 (Meridian).

Comprehensive tolling study underway

WSDOT began working on the legislatively mandated Comprehensive Tolling Study for the SR 167 Extension project in July 2011. The purpose of the study is to provide a more detailed analysis of the funding potential from tolling this new corridor. Study efforts currently focus on ensuring that the traffic modeling will accurately help estimate revenues resulting from tolling. In parallel with the tolling study, WSDOT also updated project cost estimates (shown in the table below). WSDOT continues to meet with a large group of stakeholders on a regular basis to keep them informed of the progress.

70% of properties acquired; \$188 million in funding still needed

WSDOT has acquired about 70% of the properties needed for the new corridor right of way, and has been working to remove buildings and other improvements on those properties. WSDOT is also maintaining the properties already purchased through mowing and cleaning efforts to prevent unwanted activities occurring within the surrounding communities. The 2012 Supplemental Transportation Budget restored nearly \$1.8 million for right of way acquisition for the remainder of the 2011-2013 biennium. WSDOT has started identifying priority parcels to acquire with this funding.

SR 167 Extension program funding and expenditures

Dollars in millions, projections based on 2012 dollars

	Total spent	Total remaining	Additional funding needed
Preliminary engineering	\$30.5	\$0.8	\$100
Right of way	\$124.5	\$2.0	\$188
Construction	\$0	\$0	\$1.2 billion
Total	\$155.0	\$2.8	\$1.488 billion

Data source: WSDOT SR 167 Extension Program.

SR 167 Extension Program Highlights

WSDOT continues to make progress on the SR 167 comprehensive tolling study.

WSDOT updated project cost estimates for the SR 167 Extension program in March 2012.

70% of right of way needed for the project has been acquired.

The 2011-2013 Supplemental Transportation Budget restored funding to continue right-of-way acquisitions.

WSDOT's Capital Project Delivery Programs

Mega-project report: I-90 Snoqualmie Pass East

I-90 Snoqualmie Pass East Highlights

WSDOT advances design on the I-90, Keechelus Dam vicinity to Stampede Pass interchange (Phase 2A) project.

In mid-April, crews started the fourth season of construction.

WSDOT accepted a new proposal for the I-90 snowsheds that will save maintenance and operation costs.

Interstate 90 (I-90) over Snoqualmie Pass is a vital cross-state route used by thousands of travelers every day. The I-90 traveler may experience congestion and delays due to avalanche-related closures, heavy recreation and holiday traffic, rough pavement, rock slide activity, and potential collisions between vehicles and wildlife on the highway. To ensure the continued availability and reliability of this important statewide route, WSDOT is expanding I-90 to meet both the current and future needs of travelers and the freight community. The I-90 Snoqualmie Pass East Project is a 15-mile corridor improvement project that begins at Hyak and ends near Easton.

Phase 2 design funded into 2013-2015 Biennium

WSDOT is using Transportation Partnership Account (TPA) funding to build the first five miles starting at Hyak and ending near the Keechelus Dam vicinity (Phase 1). During the 2012 Legislative Session, the Legislature confirmed their commitment to the I-90 project by advancing construction funding into the 2013-2015 biennium. WSDOT is developing a design package for the first two miles of Phase 2 from the Keechelus Dam vicinity to the Stampede Pass interchange (Phase 2A). The Phase 2A design package will also include the first wildlife overcrossing in the corridor near Price Creek.

Fourth season of construction begins mid-April

Construction resumed for the fourth season in mid-April. Crews continued to make progress building the new six-lane highway, replacing deteriorating concrete, stabilizing rock slopes, extending chain-up and -off areas, and replacing bridges and culverts. WSDOT is on schedule to open the first three miles from Hyak to the Keechelus Lake Snowshed by 2013. The final two miles from the Keechelus Lake Snowshed to the Keechelus Dam vicinity are scheduled to be open to traffic in 2017.

WSDOT explores alternative snowshed designs that could save money

WSDOT accepted a proposal from Guy F. Atkinson Construction to replace the existing snowshed with two 1,200 foot bridges instead of a new expanded snowshed. The change will save WSDOT maintenance and operation costs for the next 75 years. Currently, WSDOT and the contractor are preparing a Limited Scope Environmental Impact Statement to evaluate the environmental impacts to construct the bridges instead of the snowshed.



WSDOT opened the new eastbound lanes at Gold Creek during fall 2011. Crews are building the new westbound lanes this summer, which will open to traffic in the fall.

Watch List: Projects with schedule or budget concerns

WSDOT is committed to frequent and accurate “no surprises” reporting of project performance. As part of that commitment, the Watch List regularly addresses issues that do, or potentially could, affect a project’s schedule and budget. When these issues are resolved, which may take more than one quarter, the project is removed from the Watch List. If new issues arise, an update to the project will be provided in the Updates to Watch List section.

The gray box below describes some of the common problems that may affect the successful progress of a project from design through completion; they are listed in the typical order in which WSDOT might face them, starting from planning and concluding with construction.

The summary table on page 68 lists projects currently facing schedule or budget concerns with a reference to the problem category; a more detailed description of the precise problem or its resolution appears on the following pages. More information is presented on the individual project pages on the WSDOT website at www.wsdot.wa.gov/projects. Projects paid for through Pre-Existing Funds are discussed on pages 72-77.

The number of projects appearing on the Watch List can rise and fall over time with the number of projects under way (WSDOT reports on the project whether it is under construction or in planning and design phases). By tracking problem projects more closely on the Watch List, WSDOT can keep its stakeholders informed while evaluating possible solutions.

Coordination

Local concerns: Concerns raised by local communities may require additional, unanticipated, design, right of way, or utilities work which, if not resolved, might result in in costs or delays later in construction.

Federal requirements: Funding and project development issues with Federal Highways Administration (FHWA), Federal Transit Administration (FTA), USDOT; workload prioritization and coordination for reviews by U.S. Fish & Wildlife Service, NOAA Fisheries, U.S. Forest Service, etc.

Inter-agency issues: Project may require more collaboration with local jurisdictions, or may require inter-local agreements, such as Memoranda of Understanding (MOUs) or Memoranda of Agreement (MOAs).

Tribal government issues: Consultation with tribes as required by Centennial Accord and specific treaties. Where treaty rights are affected, there may be financial settlements unanticipated in the original project budget.

Environmental

Planning & analysis: Completing essential studies required to comply with the National and State Environmental Policy acts (NEPA/SEPA), the Endangered Species Act (ESA), or other programs may take longer and cost more than anticipated.

Technical issues: The time needed to resolve matters involving archeological discoveries, hazardous materials, stormwater, noise, and hydrology may cause delay.

Mitigation: Negotiating for and designing sites to compensate for impacts to wetlands, floodplains, fish habitat and migration, and so on may involve many other factors from design through construction.

Permitting: New information about a project site, changes in design, or new regulatory requirements may delay permitting. If existing permits must be reworked, it can cause delay or additional expense.

Design

Geological: Studies may reveal unsuitable soil conditions for construction on the proposed route.

Alternatives: Design alternatives may require unanticipated revision as the result of environmental analyses and/or public input.

Design disputes: Communities or other entities may challenge design concepts, requiring additional time spent in design.

Design element changes: Project parameters may change, requiring changes to designs in progress or under construction.

Utilities

Agreements with other jurisdictions: Agreements may take longer to obtain than anticipated.

Utility relocations: Moving power, water, gas, or other utility lines may be more complex than originally expected.

Right of Way

Design changes: Project revisions that may require additional land.

Land acquisition: Negotiations with landowners regarding purchase of property may take longer than anticipated.

Land appreciation: Property value increases that exceed projections.

Land use designation changes: Land previously zoned as farmland may have been converted to industrial or commercial use, raising the purchase price.

Construction

Contractor issues: Disputes with contractors or disagreements over contract parameters may delay construction at any point in the job.

Cost increase of materials: Unit costs may increase beyond the set budget due to fluctuations in the marketplace or a failure to estimate costs properly at the design phase.

Materials procurement: Unexpected demand or lack of availability of raw materials required for construction.

Site problems: Discovery of contaminated (hazardous) soils, unsuitable geological conditions, or similar unforeseen issues after construction has begun.

Timing problems: Delays at design or right of way may mean work schedules conflict with events such as fish spawning season.

Weather: Weather unsuitable for construction work will temporarily halt the project.

Litigation

At any point, a problem may escalate if one or more of the parties decides to file a lawsuit.

WSDOT's Capital Project Delivery Programs

Watch List: Projects with schedule or budget concerns

Watch List projects with schedule or budget concerns

Quarter ending March 31, 2012

Added to Watch List	Project type	Watch List issue
I-5/36th Street to SR 542 vicinity – ramp reconstruction (Whatcom)	Highway	Construction: site problems
SR 28/East end of George Sellar Bridge – construct bypass (Douglas)	Highway	Construction: contractor issues
SR 530/Skaglund hill slide (Snohomish)	Highway	Construction: weather, timing problems
U.S. 2 Bickford Avenue – intersection safety improvements (Snohomish)	Highway	Construction: site problems
Updates to Watch List		
I-5/Mellen Street to Blakeslee junction – add lanes (Lewis)	Highway	Right of way: land acquisition
SR 9/Pilchuck Creek – replace bridge (Snohomish)	Highway	Environmental: permitting, design alternatives
SR 520/Medina to SR 202 vicinity – Eastside transit and HOV (King)	Highway	Coordination: local concerns, litigation, design changes
U.S. 2/Wenatchee River Bridge – replace bridge (Chelan)	Highway	Construction: weather, contractor issues, timing problems
U.S. 395/NSC – U.S. 2 to Wandermere and U.S. 2 lowering (Spokane)	Highway	Construction: site problems, timing problems
Removed from Watch List		
SR 3/Belfair area – widening and safety improvements (Mason)	Highway	Right of way: land appreciation; Design: design element changes
SR 11/Padden Creek – fish passage barrier removal (Whatcom)	Highway	Design: design element changes
SR 99/Spokane Street Bridge – replace bridge approach (King)	Highway	Coordination: interagency coordination

Data source: Capital Program Development and Management, WSDOT Regions.

Added to Watch List

I-5/36th Street to SR 542 vicinity – ramp reconstruction (Whatcom)

This project, budgeted for \$22.3 million, will extend I-5 on-ramps for the southbound Lakeway Drive, northbound Iowa Street, northbound Samish Avenue and southbound SR 542 Interchange, widen shoulders, and construct retaining walls where needed. When completed, the project targets the risk factors for collisions along this section of I-5.

The project is in the construction phase; the schedule is at risk. The operationally complete date is delayed from October 2011 to July 2012 due to slower than anticipated progress on installing tiebacks. Tiebacks are steel cables or rods grouted into holes drilled in the soil behind the wall. They anchor and support the wall to prevent collapse. The new retaining wall holds back the soil supporting mainline I-5 so the new ramps can be built in front of the wall. The 800-foot long wall at the Samish Way northbound on-ramp extension requires 112 tiebacks and only 30 were installed before the winter shutdown. An additional 35 to 40 working days are needed to complete the work. Construction will resume in the spring.

Due to safety concerns for the traveling public, WSDOT has shut down the ramps for approximately two months until the ramp construction work is completed.

SR 28/East end of George Sellar Bridge – construct bypass (Douglas)

This project, budgeted for \$29 million, will construct a bypass route for southbound traffic at the SR 28 and Grant Road intersection. This work will improve capacity, potentially reduce accidents, and benefit freight movement at the east end of the George Sellar Bridge on SR 28. Funding is included for a pedestrian tunnel connection to the Apple Capital Loop Trail along the Columbia River.

The project is in the construction phase; the schedule is at risk. The bypass roadway is in construction and includes walls. One of the walls was partially constructed with materials not allowed by contract. The prime contractor, KLB Construction, was notified, is reviewing options, and is expected to submit a proposal for WSDOT's consideration in the near future. The changes to this wall may adversely impact the construction schedule and the operationally complete date.

WSDOT continues to work with the contractor and to monitor the modifications.

SR 530/Skaglund hill slide (Snohomish)

This project, budgeted for \$13.0 million, will build a retaining wall and improved drainage in a landslide prone area. When completed, the project will have stabilized the roadway and

Watch List: Projects with schedule or budget concerns

underlying slope, reducing the potential for a landslide. If this roadway were closed, drivers would have to use a 58-mile detour.

The project is in the construction phase; the schedule is at risk. The operationally complete date is delayed from August 2011 to June 2012 due to slower than anticipated contractor progress on wall construction, and winter weather. Work will resume in spring 2012 when the weather improves.

U.S. 2 Bickford Avenue – intersection safety improvements (Snohomish)

This project, budgeted for \$19.8 million, will construct a new partial interchange at the U.S. 2 and Bickford Avenue intersection, and the existing Bickford Avenue eastbound off-ramp will be reconfigured. In addition, eastbound and westbound on-ramps will be constructed. The existing Bickford Avenue at-grade connection will be removed and U.S. 2 will be re-channelized to fit the new configuration. When completed, safety and interchange efficiency will be improved. The U.S. 2 corridor has been identified by the Washington State Traffic Safety Commission as a safety corridor.

The project is in the design phase; the budget and schedule are at risk. The cost estimate to deliver the project has increased by \$600,000 due to additional construction costs required to line and install drains under two stormwater treatment ponds after encountering a water table higher than expected at the site. WSDOT is reviewing the cost estimate to modify the ponds.

The advertisement date was delayed from December 2011 to April 2012. This delay was the result of additional time needed to design the new drain mitigation and to coordinate with contractor work in the area. The new advertisement date took advantage of construction efficiencies gained in combining work with another construction project nearby. The project remains on schedule to meet the operationally complete date of January 2014.

Updates to Watch List

I-5/Mellen Street to Blakeslee junction – add lanes (Lewis)

This project, budgeted for \$155.5 million, will construct collector-distributor lanes between the existing Mellen Street and Harrison Avenue interchanges, widen I-5 from two lanes to three lanes in each direction north of Harrison Avenue, build a new overcrossing south of Mellen Street, improve the Harrison Avenue interchange, repair and paint the existing Skookumchuck River bridges, and raise the height of the bridge portals to increase vertical clearance. When both stages are complete, the project will reduce congestion, increase traffic flow, and potentially improve safety.

The schedule is at risk. WSDOT needs to acquire 40 parcels for this project, and some of the parcel negotiations will delay advertisement. To keep the project on schedule, construction was split into two stages. Stage 1, advertised one month early in March 2012, will construct several bridges, build retaining walls, place fill material, begin environmental mitigation work, and complete in-water work required during the first year of construction. Once all the remaining properties are acquired, the second stage will be advertised to complete the project. WSDOT expects to advertise Stage 2 in early 2013. The operationally complete date, reported in error in *Gray Notebook* 44 as December 2013, remains on schedule for December 2014. No additional funding is required.

The budget for this project increased by \$500,000 to reimburse WSDOT for utility work and construction work for local governments. Most of the new funding, \$369,000, was received from the Transportation Improvement Board.

SR 9/Pilchuck Creek – replace bridge (Snohomish)

This project, legislatively budgeted for \$19.6 million, will replace the existing 17-foot-wide bridge over Pilchuck Creek with a wider bridge meeting current design standards. Although rated “functionally obsolete,” because of its narrow width and scour issues that have now been fixed, the bridge is safe for drivers to cross. The bridge is on the only north-south detour route available in the area if I-5 has to be closed and traffic rerouted.

The project is in the design phase. The budget and schedule are at risk. As reported in *Gray Notebook* 44, the cost increase to \$19.6 million was due to right of way acquisition. A portion of the increase was included in the 2012 Supplemental Budget.

The schedule continues to be at risk. Delays completing the Hydraulic Report subsequently delayed the submittal of the project's Shoreline permit to Snohomish County to late March 2012. Because of the county's timeline to process the permit application, the project's advertisement date has been delayed from April 2012 to July 2012, and project completion has been delayed from September 2013 to July 2014. An update will be provided next quarter.

SR 520/Medina to SR 202 vicinity – Eastside transit and HOV (King)

This project, valued as a \$306 million design-build contract, will feature a six-lane SR 520 corridor between Medina and Redmond. The project will include an inside HOV/transit lane, build wider shoulders, construct environmental improvements including nine fish-passable stream crossings and associated habitat improvements, build community enhancements like

WSDOT's Capital Project Delivery Programs

Watch List: Projects with schedule or budget concerns

lids and a regional trail extension, and create two new median transit stops and other transit improvements. When completed, the project will provide design enhancements that will reduce the potential for serious injury and fatal collisions along the SR 520 corridor, and improve mobility and fish habitat.

The project has completed design, is in construction, and is on schedule to be completed by the end of 2013. As reported in *Gray Notebook 44*, WSDOT is continuing to discuss budget and schedule risks with the design-builder that developed after contract award. Any potential schedule and cost effects will be determined after further consultation between WSDOT and the design-builder.

WSDOT is evaluating the following:

- Clarifying scope elements and potential schedule impacts in Fairweather Basin due to permit modifications,
- Incorporating higher noise walls into the contract along the corridor, and
- Addressing concerns over approaches to geotechnical design.

WSDOT is monitoring these items and now expects the issues to be resolved by fall 2012.

As reported in *Gray Notebook 44*, WSDOT is also responding to a lawsuit by Fairweather Basin residents alleging reduced property values as a result of project actions. Previously expected to be resolved by mid-2012, the lawsuit is now expected to be resolved by 2013. Please see the SR 520 program special report on pages 63-64 for more information about the program and the status of this project.

U.S. 2/Wenatchee River Bridge – replace bridge (Chelan)

These projects, budgeted for \$12.5 million, and known as U.S. 2 –Tumwater Canyon Bridge Replacements, will replace three old, narrow bridges over the Wenatchee River and Drury and Chiwaukum creeks with new, wider bridges designed to current standards. The added width will potentially improve safety for motorists, cyclists, and pedestrians. This project will also include new turn lanes into Tumwater Campground and fish passage enhancements in the creekbed.

The projects are in the construction phase; the budget and schedule continue to be at risk. As reported in *Gray Notebook 44*, the permitting schedule for in-water work, higher-than-normal water levels in the Wenatchee River, and large boulders encountered while drilling pier shafts, have delayed construction and will increase costs. Construction was stopped for the winter and the WSDOT Bridge Office has re-evaluated and redesigned the bridge due to the pier shaft construction issues.

Higher-than-normal water levels are expected again this year for the Wenatchee River due to the increased snowfall this winter, and may cause a delay to the operationally complete date.

The operationally complete date has been delayed from December 2012 to September 2013. WSDOT will determine the possible impacts to the contract costs and operationally complete date after the necessary design revisions and pier construction are completed in 2012.

U.S. 395/NSC – U.S. 2 to Wandermere and U.S. 2 lowering (Spokane)

This project, budgeted for \$128 million, will construct a new four-lane divided freeway between U.S. 2 and U.S. 395 at Wandermere, new structures at Wandermere and at U.S. 2, and a pedestrian/bicycle path from U.S. 2 to Wandermere. When complete, it will open a new two-mile section of the North Spokane Corridor.

The project is in the construction phase; the schedule was at risk. As reported in *Gray Notebook 44*, the project's operationally complete date of November 2011 was at risk due to early onset of winter conditions. This risk was realized and the project will continue in winter shutdown until April 2012. The project's operationally complete date has been delayed until June 2012.

Watch List: Projects with schedule or budget concerns

Removed from Watch List

SR 3/Belfair area – widening and safety improvements (Mason)

This project, budgeted for \$18.1 million, will extend the center turn lane and provide paved shoulders and sidewalks on both sides of SR 3 from milepost 25.36 to milepost 27.08. The work will address traffic congestion in the business area, safety, bicycle and pedestrian facilities, storm sewer improvements, and stormwater mitigation requirements.

The project is in the design phase; the cost and scope of the project were at risk. As reported in *Gray Notebook 44*, WSDOT had proposed to construct the improvements in two stages and had requested an additional \$6 million in the Governor's proposed 2012 Supplemental budget to cover a cost estimate increase due to right of way. This budget request was not approved in the 2012 Legislative session. The project budget is now returned to the \$18.1 million to deliver Stage 1, the north end of the project.

SR 11/Padden Creek – fish passage barrier removal (Whatcom)

This project, budgeted for \$2.6 million, will replace a portion of a brick tunnel that channelizes Padden Creek and is a barrier to fish passage, with a new bridge on SR 11. WSDOT is coordinating this work with the City of Bellingham. Bellingham has received a grant to restore Padden Creek, which includes removing the tunnel so the city can recreate a natural streambed that receives more daylight.

The project is in the design phase; budget and schedule risks reported in *Gray Notebook 44* have been resolved by inclusion in the 2012 Supplemental Budget. The \$1.3 million increase to the \$1.1 million budget, reported in *Gray Notebook 44* as due to changing the design from a box culvert to a 40-foot bridge, is now a \$1.4 million cost increase due to higher costs for design oversight, surveying, geotechnical drilling, and other preliminary engineering work. The total project cost is now approximately \$2.6 million.

The operationally complete date was delayed from September 2012 to October 2013. Both the cost increase and the delay were included in the 2012 Supplemental Budget. WSDOT is monitoring the new increase.

SR 99/Spokane Street Bridge – replace bridge approach (King)

This project, budgeted for \$14.5 million, will replace the southern two-thirds of a timber-pile-supported bridge section with a lightweight structural fill material. The northern one-third will be replaced with a concrete bridge that will allow port traffic to pass beneath. WSDOT will construct the structure in two stages.

The project is in the design phase; the schedule risk has been resolved. Cost of the project increased by \$500,000 to \$14.5 million due to delayed advertisement and operationally complete dates. This cost update was included in the 2012 Supplemental Budget.

As reported in *Gray Notebook 44*, the schedule risk was due to a redesign request from the Port of Seattle which caused the advertisement date to be delayed from December 2011 to April 2012. An additional delay from April 2012 to October 2012 was made to better coordinate with other construction projects within the local area. As a result of these delays, the operationally complete date for the project has been delayed from October 2013 to October 2014. This schedule update was included in the 2012 Supplemental Budget.

In January 2012, WSDOT was asked by the Port of Seattle and the City of Seattle to explore the feasibility of modifying the project design to allow the future access roadway under SR 99 to be moved further south of its planned location. After reviewing the cost and schedule impacts provided by WSDOT, a decision was reached in March to make no further changes to the project design, allowing the project to move forward with its October 2012 advertisement.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF) - Advertisement record

The Pre-Existing Funds (PEF) program funds a wide variety of capital projects to improve the safety, functionality, and longevity of the state highway system. Unlike Nickel and Transportation Partnership Account (TPA) projects, which are fixed lists of projects set by the Legislature and funded with a line item budget for each individual project, PEF projects are primarily funded at the program level.

Funding is aligned to commitments to address set priorities such as preserving pavement each biennium. Each biennium, new PEF projects are programmed based on prioritized needs and available funds, and the list of PEF projects changes each biennium. However, unexpected projects can arise during the biennium that require urgent action, and WSDOT will re-portion funds from other projects to address emergency needs.

Examples of PEF projects include: pavement preservation and repaving, bridge repairs and replacement, slope stabilization,

safety projects such as cable median barriers and rumble strips, environmental retrofit to improve fish passage and stormwater management, and preservation of facilities associated with the highway system such as rest areas.

PEF project performance is reported at two levels

Six individually tracked projects

Six projects are reported individually due to their size or significance (see table below).

All other projects

WSDOT reports on: actual versus planned cash flow for the overall PEF program; actual versus planned project advertisements; and the advertisement record of projects open for construction bids (see pp. 74-77).

The definitions of important terms used in this article are on p. 77.

Six individually tracked Pre-Existing Funds (PEF) projects: results through March 31, 2012

Dollars in millions

Project Description	First legislative budget & year	Baseline current legislative approved & year	Scheduled date to begin preliminary engineering		Scheduled date for advertisement		Schedule date to be operationally complete	
			Date	On time	Date	On time	Date	On time
U.S. 2/Ebey Island Viaduct and Ebey Slough Bridge (Snohomish)*	\$32.1 2002	\$6.2 2007	Dec-98	√	Nov-00	√	Dec-03	√
• U.S. 2/50th Avenue SE vicinity to SR 204 vicinity – Bridge rehabilitation		\$10.8 2007	Jul-06	√	Feb-07	√	Sept-07 complete	√
• U.S. 2/43rd Avenue SE vicinity to 50th Ave SE vicinity – Bridge rehabilitation	\$26.7 2009	\$14.0 2010	Jan-09	√	Dec-10	Late	Oct-11	√
Advertisement delayed due to use of weather sensitive materials. By delaying advertisement four months, the project avoided a winter shutdown.								
SR 202/SR 520 to Sahalee Way – Widening (King)	\$36.9 2001-03	\$81.2 2010	May-98	√	Aug-05	√	Feb-08	√ Early
Project operationally complete February 2008.								
SR 539/Horton Road to Tenmile Road – Widen to five lanes (Whatcom)	\$32.0 2001-03	\$68.3 2010	Oct-90	√	Jan-07	√	Nov-08	√
Project operationally complete November 2008.								
SR 28/E End of the George Sellar Bridge – Construct bypass (Douglas)	\$9.4 2004	\$28.0 2010	May-04	√	May-11	Late	Aug-13	
Advertisement delayed due to right-of-way issues.								
U.S. 101/Purdy Creek Bridge – Replace bridge (Mason)	\$6.0 2004	\$10.2 2010	Aug-04	√	May-08	Late	Aug-09	√ Early
Advertisement delayed due to additional design needed to bring plans up to WSDOT Standards when they were returned from the consultant. Project operationally complete August 2009.								
SR 303/Manette Bridge Bremerton vicinity – Replace bridge (Kitsap)	\$25.5 2002	\$82.9 2010	Sep-96	√	Mar-10	√	Jan-12	√ Early

Data source: WSDOT Capital Program Development and Management.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF) financial information

Value of planned PEF advertisements: 2011-2013 biennium

July 1, 2011 through June 30, 2013; Dollars in millions

	Number	Original value	Current cost to complete
Total PEF advertisements planned 2011-2013	328	\$794.9	\$757.7
Planned advertisements through March 31, 2012	113	\$317.9	\$281.8
Actual advertisements through March 31, 2012	82	\$187.7	\$156.0

Data source: WSDOT Capital Program Development and Management.

PEF project advertisements schedule performance

July 1, 2011 through March 31, 2012

	Number
Projects advertised as scheduled	43
Projects advanced or advertised Early	7
Projects advertised Late	12
Emergent projects advertised	20
Total projects advertised	82
Projects delayed (delayed within the biennium)	57
Projects deferred (delayed out of the biennium)	9
Projects deleted	2

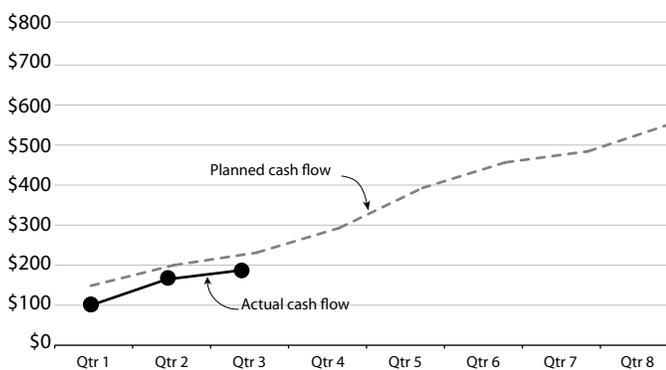
Data source: WSDOT Capital Program Development and Management.

Note: See page 77 for PEF advertisement definitions.

Pre-Existing Funds preservation program cash flow

Planned vs. actual expenditures for 2011-2013 biennium
Quarter ending March 31, 2012

Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: As of Quarter 3 (January 1 - March 31, 2012), original planned cash flow values have been updated based on the 2012 Supplemental Budget.

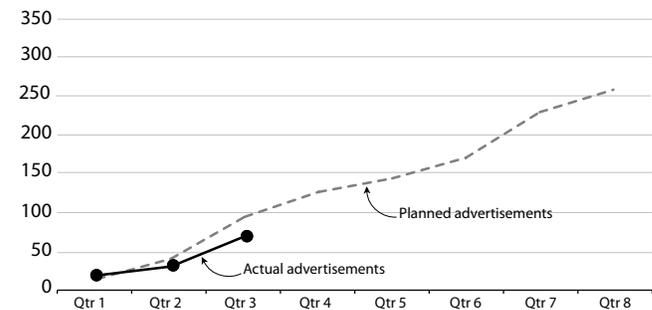
WSDOT plans to advertise 328 projects in the 2011-2013 biennium

WSDOT plans to advertise 328 PEF projects, valued at \$794.9 million, in the 2011-2013 biennium. WSDOT advertised 82 projects through March 31, 2012, the first three quarters of the biennium. Fifty-seven of the 113 projects planned for advertisement to date have been delayed, seven projects have been advanced or advertised early, and 20 were added due to emergent needs.

Pre-Existing Funds project advertisements

Planned vs. actual advertisements for the 2011-2013 biennium
Quarter ending March 31, 2012

Number of advertisements



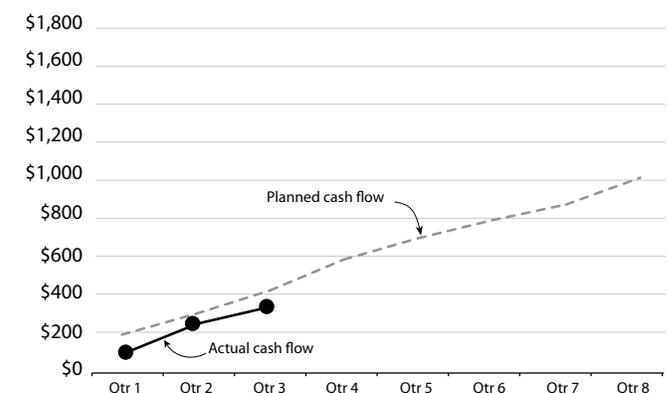
Data source: WSDOT Capital Program Development and Management.

Note: As of Quarter 3 (January 1 - March 31, 2012), original planned project counts have been updated based on the 2012 Supplemental Budget.

Pre-Existing Funds improvement program cash flow

Planned vs. actual expenditures for 2011-2013 biennium
Quarter ending March 31, 2012

Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: As of Quarter 3 (January 1 - March 31, 2012), original planned cash flow values have been updated based on the 2012 Supplemental Budget.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF)

Pre-Existing Funds (PEF) projects scheduled for advertisement or advertised this quarter

January 1 – March 31, 2012

Title	Advertised as scheduled
SR 9/SR 92 Improve Intersection	Early
U.S. 2/Rice Road and Fern Bluff Intersections - Safety Improvements	Early
Astoria-Megler Bridge - South End Painter	√
I-5/48th St to Puyallup River Br - Concrete Pavement Rehabilitation	√
I-5/Dayton Ave to Swamp Creek Interchange - ITS Rehabilitation	√
I-5/Mounts Rd Vicinity to Thorn Ln - Median Barrier Replacement	√
I-5/Mounts Rd Vicinity to Thorn Ln - Median Barrier Replacement	√
I-90/WB SR 18 Interchange Bridge - Bridge Deck Rehabilitation	√
I-90/WB SR 18 Interchange Bridge - Bridge Deck Rehabilitation	√
Regionwide Curve Warning Signing	√
Regionwide Curve Warning Signing	√
SR 124/1 Mile E of Neff Rd to Old BN RR Bridge - Paving	√
SR 124/1 Mile E of Neff Rd to Old BN RR Bridge - Paving	√
SR 127/U.S. 12 I/S to Snake River Bridge - Chip Seal	√
SR 129/Oregon State Line to 1.2 Miles S of Cemetery Rd - Chip Seal	√
SR 14/Whitcomb Island Rd to SR 221 I/S - Chip Seal	√
SR 21/Jct SR 260 to vicinity U.S. 395 - Chip Seal	√
SR 21/Jct SR 260 to vicinity U.S. 395 - Chip Seal	√
SR 241/Sunnyside to Rosa Canal Bridge - Chip Seal	√
SR 26/Lacrosse Airport to Dusty - Chip Seal	√
SR 26/Lacrosse Airport to Dusty - Chip Seal	√
SR 26/Laurel Rd to Washtucna - Chip Seal	√
SR 26/Laurel Rd to Washtucna - Chip Seal	√
SR 261/Snake River to Jct SR 260 - Chip Seal	√
SR 261/Snake River to Jct SR 260 - Chip Seal	√
SR 261/U.S. 12 to Lyons Ferry - Chip Seal	√
SR 261/Washtucna to Sutton Rd - Chip Seal	√
SR 27/Garfield to Rockford - Chip Seal	√
Lewis County Detour for Freight Mobility - ITS Projects	Advanced
SR 14/Clark Co Line to Prindle Rd Vic, with Exceptions - Paving	Advanced
SR 19/S of West Valley Rd to S of Theater Rd - Paving	Advanced
I-5/113th Ave SW Bridge - Special Repair	Emergent
SR 20/Wauconda Summit East	Emergent
SR 26/Vantage Area Eastward - 2013 Seal	Emergent
SR 501/Ridgefield Interchange Stage II - Roadway Improvements	Emergent
Trans-Border Planning	Emergent
U.S. 195/Idaho State Line to Colton - Fog Seal	Emergent
U.S. 97/Pateros to Brewster - 2012 Seal	Emergent
U.S. 97/Satus Creek Bridge - Bridge Replacement	Emergent
U.S. 97/Satus Creek Vicinity - Paving	Emergent

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF)

Pre-Existing Funds (PEF) projects scheduled for advertisement or advertised this quarter

January 1 – March 31, 2012

U.S. 97/Satus Creek Vicinity - Safety Work	Emergent
NCR Pavement Crack Sealing The work was done by staff forces.	Late
SR 10/Bristol Fill Bridge - Deck replacement The project was advertised late due to workload.	Late
SR 172/U.S. 2 Northward - 2012 seal This project was Advertised late due to coordination.	Late
SR 970/SR 903 Spur I/S to U.S. 97 Vicinity - Chip seal Advertised late due to regional workload efficiencies.	Late
U.S. 2/Orondo to Moses Coulee - 2011 seal Advertised late due to changed Americans with Disabilities Act requirement interpretations.	Late
U.S. 2/Stevens Pass - Variable Message Signs Advertised late to combine with U.S. 2/Replace Variable Message Signs project for contract efficiencies.	Late
U.S. 12/ 0.75 Miles E of Clear Creek Falls Viewpoint - Stabilize slope Advertised late in order to allow more time for a design adjustment resulting from a geotechnical report recommendation.	Late
U.S. 12/2 Miles E of Mayview Rd to Alpowa Summit - Chip seal Advertised late to align with regional work load and tie with other projects.	Late
U.S. 12/Alpowa Summit to Howell Grade Rd Vicinity - Chip seal Advertised late to align with regional work load and tie with other projects.	Late
U.S. 12/Rimrock Tunnel Vicinity - Stabilize slope Advertised late to re-scope and design an appropriate solution per the latest geotechnical report.	Late
U.S. 12/Waitsburg to Dayton - Chip seal Advertised late due to staff availability. The advertisement delay will not impact the completion date.	Late
U.S. 97/Desmond Rd to Lower Green Canyon Rd - Chip seal Advertised late due to regional workload efficiencies.	Late
Eastern Region - Safety restoration Delayed for extensive design.	Delayed
I-5/Smokey Point NB/SB Safety Rest Area - RV sewage system rehab Advertisement delayed for City sewer connection negotiations.	Delayed
I-5/Spokane Street Interchange Vicinity - Special bridge repair Staffing issues delayed start of expansion joint design until the end of 2011.	Delayed
I-82/Chandler Canal Bridge EB - Deck rehabilitation Advertisement delayed by FHWA for MPO approvals.	Delayed
I-82/East Selah Bridge EB - Deck rehabilitation Advertisement delayed by FHWA for MPO approvals.	Delayed
I-82/Wine Country Road Bridge - Deck rehabilitation Advertisement delayed by FHWA for MPO approvals.	Delayed
I-90/Asahel Curtis Vicinity EB - Culvert rehabilitation Advertisement delayed for design after combining with another project for efficiency.	Delayed
I-90/Asahel Curtis Vicinity EB - Culvert repair Advertisement delayed for design after combining with another project for efficiency.	Delayed
I-90/Big Creek Bridge EB - Deck rehabilitation Advertisement delayed to avoid conflicts with adjoining project.	Delayed
I-90/Dry Creek Bridge EB - Deck rehabilitation Advertisement delayed to avoid conflicts with another project, and allows additional time to ensure environmental concerns are addressed.	Delayed
I-90/Dry Creek Bridge WB - Deck rehabilitation Advertisement delayed to avoid conflicts with another project, and allows additional time to ensure environmental concerns are addressed.	Delayed
I-90/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF)

Pre-Existing Funds (PEF) projects scheduled for advertisement or advertised this quarter

January 1 – March 31, 2012

I-90/Intelligent Transportation System - Preservation Advertisement delayed for efficiency to combine with another ITS project.	Delayed
I-90/Taneum Creek Bridge EB - Deck rehabilitation Advertisement delayed to avoid conflicts with another project, and allows additional time to ensure environmental concerns are addressed.	Delayed
I-90/Yakima River Bridge WB - Deck rehabilitation Advertisement delayed to avoid conflicts with another project, and allows additional time to ensure environmental concerns are addressed.	Delayed
SR 9/NP Creek - Fish passage Delayed for changes in funding and prioritization.	Delayed
SR 21/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed
SR 261/Tucannon River Bridge - Deck rehabilitation Advertisement delayed by FHWA for MPO approvals.	Delayed
SR 270/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed
SR 904/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed
SR 906/Travelers Rest - Building renovation Advertisement delayed for additional design efforts.	Delayed
U.S. 2/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed
U.S. 2/Intersection Improvements at Peshastin Delayed to request a shorelines permit.	Delayed
U.S. 2/Ebey Slough Br Vic to Bickford Ave Vic - Culvert replacement Advertisement delayed for design evaluation of high water table.	Delayed
U.S. 12/Cowiche Creek Bridge - Deck rehabilitation Advertisement delayed by FHWA for MPO approvals.	Delayed
U.S. 97/N of Riverside - NB passing lane Delayed due to staffing constraints.	Delayed
U.S. 97/Toppenish to Yakima - Replace single strand cable Delayed to further evaluate the design solution.	Delayed
U.S. 101/McDonald Creek Bridge - Bridge replacement Advertisement delayed for efficiency to combine with another project.	Delayed
U.S. 101/Shore Rd to Kitchen Rd - Widening Advertisement delayed due to right of way acquisition issues.	Delayed
U.S. 195/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed
U.S. 395/Illumination retrofit or relocate Work done by state forces. There is no actual advertisement.	Delayed
U.S. 395/Pioneer Memorial Bridge - Joint repair Advertisement delayed to combine with two other projects for cost efficiency.	Delayed
U.S. 730/Oregon State Line to U.S. 730 Spur - Chip seal Revised scope allows delay and achieves more life from existing pavement.	Delayed
I-5/Vicinity of Center Dr - Interchange improvements The project has been deferred because of insufficient funding to deliver the intended scope of work.	Deferred
I-90/Thorp Road Interchange - Replace lighting system Deferred for reprioritization due to funding.	Deferred
SR 20/Ruby Mountain to Pend Oreille Mill - Chip seal Deferred for higher priority emergent project.	Deferred
SR 129/0.3 Miles N of Grande Ronde Rd - Stabilize slope Deferred for higher priority emergent project.	Deferred

Pre-Existing Funds (PEF)

Pre-Existing Funds (PEF) projects scheduled for advertisement or advertised this quarter

January 1 – March 31, 2012

SR 129/7.80 Miles N of Oregon State Line - Stabilize slope Deferred for higher priority emergent project.	Deferred
SR 129/7.86 Miles N of Oregon State Line - Stabilize slope Deferred for higher priority emergent project.	Deferred
SR 129/Grande Ronde Rd Vicinity - Stabilize slope Deferred for higher priority emergent project.	Deferred
SR 129/Oregon State Line Vicinity - Stabilize slope Deferred for higher priority emergent project.	Deferred
I-90/Grant Co Line to Vicinity SR 21 - Fog seal	Deleted
SR 211/Jct U.S. 2 to Jct SR 20 - Fog seal	Deleted

Data source: WSDOT Capital Program Development and Management.

A glossary of PEF advertisement terms

Advertisement date

The date that WSDOT schedules to publicly advertise a project for bids from contractors. When a project is advertised, it has a completed set of plans and specifications, along with a construction cost estimate.

A √ mark in the Advertisement record indicates that a project advertised on time within the quarter.

Advanced

A project from a future quarter which has been advertised in the current quarter.

Early

Project with an ad date originally scheduled for the current quarter but occurred in an earlier quarter.

Late

A project that was advertised in the current quarter but which missed the original ad date.

Emergent

A new project that addresses unexpected needs such as emergency landslide repair, and advertised in the current quarter.

Projects which were not advertised on schedule fall into three categories:

Delayed

A project that has not yet been advertised and which has had the ad date moved out of the quarter being reported to another quarter within the biennium.

Deferred

A project not yet advertised and which has had the ad date moved out of the quarter being reported to a future biennium.

Deleted

A project that, upon review or due to changing circumstances, is no longer required or has been addressed by another project.

Cross-Cutting Management Issues

Real estate and right of way

Real Estate Services Highlights

In the last six months of 2011, 85% of right of way certifications were on time.

Certification delays resulted from design revisions that required additional parcels.

15 condemnation cases were opened in the last six months of 2011, the same as the last six months in 2010.

WSDOT acquired fewer parcels (116) during the last half of 2011 than during the last half of 2010 (130 parcels).

WSDOT manages more than 6,300 parcels outside the operational right of way.

Future real estate performance measures will focus on property management and revenues resulting from sales and leases.

WSDOT had 13 projects scheduled for right of way certification during the last six months of 2011. Of those 13 projects, 11 were certified on-time (85%) and two were reported as late. WSDOT works to acquire real property necessary for improving Washington's transportation system in a timely and cost effective manner. WSDOT's business practices regarding real estate acquisition are strictly guided by state and federal regulations. Before a project is advertised for bidding, WSDOT must certify that all rights necessary to construct, operate, and maintain the project have been acquired. WSDOT's goal is to deliver 100% on-time certification for all projects.

On-time right of way certification results

	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011
Number of projects with a right of way phase	16	44	17	24	13
Number of projects with a right of way certification delay	4	8	6	11	2
Percent of projects with on-time right of way certification	75%	82%	65%	54%	85%

Data source: WSDOT Real Estate Services.

Projects with a right of way certification delay

July-December 2011

Project title	Right of way certification related issue
SR 99/Lincoln Way Vicinity to Airport Road Vicinity—Southbound sidewalk	Design revisions resulted in a change in project scope requiring additional parcels.
U.S. 195/ East Half of Cheney-Spokane Road—New interchange	Scope change and design revisions resulting from additional funding now allows WSDOT to deliver full interchange, and requires additional parcels.

Data source: WSDOT Real Estate Services.

Since 2009, the number of parcels WSDOT acquires for right of way has been falling. As the number of programmed construction projects continues to decline, the number of acquisitions will also continue to fall. There were 116 parcels acquired in the last six months of 2011. The total number of parcels acquired for 2011 was 288, compared with 299 parcel acquired in 2010, 423 parcel acquired in 2009, and 389 parcel acquired in 2008.

However, property acquisition isn't WSDOT's only real estate management effort. WSDOT's Real Estate Services Property Management section manages all department lands and buildings acquired for highway projects, including properties being cleared for project construction purposes and properties requiring management after construction. WSDOT manages over 6,300 parcels of department-owned lands and improvements occurring outside the operational right of way, and makes arrangements to sell or lease properties as appropriate. As WSDOT's real estate focus shifts from predominately acquisitions to real estate management, leases and sales, new performance measures will be featured in the *Gray Notebook* to better reflect changing priorities.

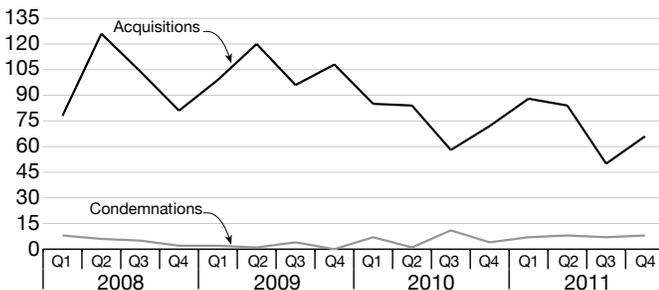
Acquisitions continue to decline while condemnations remain stable

The purpose of the federal Uniform Act is to encourage and expedite the acquisition of real property through negotiation with property owners, thereby avoiding litigation and relieving congestion in the courts. WSDOT successfully acquired 116 parcels during the last six months of 2011, an 11% decrease from the same period during 2010 (130 parcels).

Condemnation involves legal action to acquire property by operation of law. Of the 31 open condemnation cases, 15 are new cases opened in the last six months of 2011, the same as during 2010. The graph below shows the number of open condemnation cases, compared to the total number of parcels acquired during each six-month period.

Acquisitions and condemnations for all Nickel, TPA, and PEF projects

January 2008 – December 2011



Data source: WSDOT Real Estate Services.

Future real estate performance measures will focus on revenues

State law allows WSDOT to surplus property owned by the agency that is no longer required for transportation purposes, and when it is in the public interest to do so. WSDOT may sell or lease the property for fair market value. Revenue from the sale of WSDOT property is deposited in the motor vehicle fund, less the dollars held for other federally funded projects. Revenues received from sales of Tacoma Narrows and SR 520 properties go back to those tolling accounts. State law also allows WSDOT to lease property, and the rental income is deposited in the department's advance right of way revolving fund (except money subject to federal aid reimbursement and money received from rental of capital facilities properties, which is deposited in the motor vehicle fund). WSDOT continues to develop a statewide inventory of all department-owned surplus property that is suitable for development for department facilities, or that should be sold, as requested by the Legislature. Future *Gray Notebook* publications will include reports on revenue generated from the sales of WSDOT property.

Cross Cutting Management Issues

Consultants help WSDOT maximize resources

Use of Consultants Highlights

WSDOT consultant spending totaled \$53.6 million between October 1, 2011 and March 31, 2012.

Consultants contributed to many major programs including the SR 520 Bridge Replacement, the Columbia River Crossing, and the I-90 Snoqualmie Pass project.

WSDOT uses consultants for preliminary engineering, land surveying, real estate negotiation, transportation studies, and other services.

74% of highway program dollars are contracted to the private sector and 54% of the design effort for Nickel and TPA was delivered by consultants.

WSDOT spent \$53,635,137 using consultants between October 1, 2011 and March 31, 2012. WSDOT retains consultants to complete tasks and projects that the agency does not have the resources or expertise to perform internally. Two different types of consultant agreements are used: task order agreements and project-specific agreements.

Task order agreements totaled \$47,725,007 between October 1, 2011 and March 31, 2012. This includes \$20,209,909 for general engineering consultant agreements. During the same period, \$5,910,130 was spent on project-specific agreements. For a cost breakdown, see the *Consultant expenditures* table on the following page.

Most consultant contracts are task order agreements. Each year, WSDOT assesses the types of work services that it regularly uses, including preliminary engineering, traffic engineering, real estate appraisal and negotiation, land surveying, and transportation studies. The agency advertises for predetermined categories of work and initiates task order agreements with qualified consultants.

WSDOT regions determine if work can be completed using a task order agreement; task orders happen only if a master agreement is in place. Those with whom WSDOT has a master agreement are considered prime consultants. Project-specific agreements, which are individually advertised by project, are typically used for work that cannot be performed using a task order agreement. For example, WSDOT might use a project-specific agreement to design a bridge or an interchange.

Task order agreements awarded to 77 prime consultants for Nickel and TPA projects in third quarter FY12

For Nickel projects, WSDOT spent \$588,310 on 31 task order agreements with 26 prime consultants between October 1, 2011 and March 31, 2012. For TPA projects, WSDOT spent \$6,851,863 on 69 task order agreements with 51 prime consultants during this period. The total statewide task order agreement consultant expenditures were \$20,074,925 for the same period, excluding Nickel, TPA, and general engineering agreements. For highlights, see the *Significant authorizations for task order consultants* table on the following page.

Consultant utilization definitions and examples

Authorization type	Description	Project examples	Service performed by consultant
Task Order Agreements	Consultant performs regularly occurring work in one of multiple categories including preliminary engineering, traffic engineering, real estate appraisal and negotiation, land surveying, and transportation studies work.	U.S. 12 - Wallula to Walla Walla Corridor Study (Nickel and TPA)	David Evans and Associates conducted a preliminary environmental investigation on preferred corridor alignments for U.S. 12 from the Wallula junction to the city of Walla Walla.
General Engineering Agreements (a type of task order agreement)	Consultant supervises the planning, design, and program management responsibilities for very large scale mega-projects, or clusters of related projects.	SR 167 Valley Freeway Corridor (Nickel)	Perteet is organizing the corridor project's partnership groups, handling the public involvement process, and evaluating environmental documentation.
Project Specific Agreements	Consultant performs services for a specific project.	SR 520 West Lake Sammamish Boulevard to SR 202 (Nickel)	CH2M Hill was selected as the prime design consultant for stages 3A and 3B of a flyover ramp that will comply with the City of Redmond's stormwater design codes.

Data source: WSDOT Consultant Services Office.

Consultants help WSDOT maximize resources

Project-specific agreements

WSDOT spent \$297,849 for project-specific Nickel agreements and/or supplements among 10 prime consultants between October 1, 2011 and March 31, 2012. WSDOT spent \$3,089,512 for project-specific TPA agreements and/ or supplements divided between 24 prime consultants during the same period. PEF project-specific consultant authorizations totaled \$2,522,769 during the same period. See the *Significant authorizations for project-specific consultants* table on this page for more information a breakdown by project.

Consultant expenditures

October 1, 2011 to March 31, 2012; Dollars in millions

Type of consultant agreement	Nickel	TPA	PEF	Total
Task order consultant agreements (including GEC agreements)	\$0.61	\$13.93	\$33.18	\$47.73
Project-specific agreements/supplements	\$0.30	\$3.09	\$2.52	\$5.91
Totals	\$0.91	\$17.02	\$35.70	\$53.64

Significant authorizations for task order consultants

October 1, 2011 to March 31, 2012; Dollars in millions

Project	Consultant	Total expenditures
Columbia River Crossing Project (Nickel, TPA, PEF)	David Evans and Associates, Inc.	\$7.39
General Tolling Consultant Services (Nickel, TPA, PEF)	Jacobs Engineering Group, Inc.	\$2.02
Lake Washington Congestion Management Project (TPA, PEF)	Jacobs Engineering Group, Inc.	\$1.03
Alaskan Way Viaduct and Seawall EIS (TPA, PEF)	PB Americas, Inc.	\$2.39

Expenditures for general engineering consultants (GECs)

October 1, 2011 to March 31, 2012; Dollars in millions

Project	Consultant	Expended this period
GEC Alaskan Way Viaduct & Seawall Replacement Project (Nickel, TPA, PEF)	Hatch Mott MacDonald	\$5.99
GEC I-90 Snoqualmie Pass East – Hyak to Keechelus Dam	URS Corporation	None
GEC Northwest Region Mt. Baker Area	H.W. Lochner, Inc.	None
GEC Northwest Region Mt. Sno-King Area	AECOM USA, Inc..	None
GEC SR 167 Extension	Jacobs Engineering	None
GEC SR 167 Valley Freeway Corridor	Perteet, Inc.	None
GEC SR 520 Bridge Replacement and HOV Project (Nickel, TPA, PEF)	HDR Engineering, Inc.	\$14.22
GEC Tacoma/Pierce County HOV Program	CH2M Hill, Inc.	None
Total		\$20.21

Significant authorizations for project-specific consultants

October 1, 2011 to March 31, 2012; Dollars in millions

Project	Consultant	Total expenditures
I-405 General Engineering Consultant (Nickel, TPA, PEF)	HNTB Corporation	\$2.47
I-90 Two-way Transit & HOV Operations - Stage 3 PS&E (PEF)	Jacobs Engineering Group, Inc.	\$0.36
I-90 Two-Way Transit & HOV Operations - Stage 3 (PEF)	Jacobs Engineering Group, Inc.	\$0.34

Data source for all tables: WSDOT Consultant Services Office.

Workforce Level and Training Quarterly Update

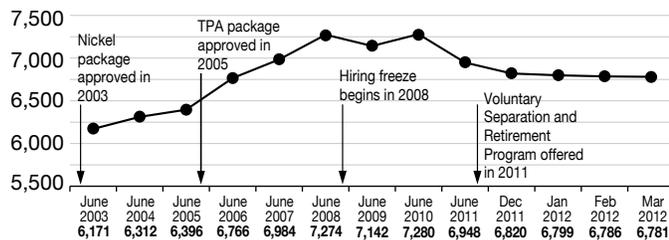
Workforce level 3.8% less than one year ago; videos enhance safety culture

Workforce Level & Training Highlights

WSDOT employed 6,781 full-time permanent workers as of March 31, 2012, 3.8% fewer than in 2011.

Number of permanent full-time employees

From June 2003 to March 2012



Data source: Dept. of Personnel Data Warehouse, HRMS, WSDOT and the Ferry System payroll.

Washington State Ferries launched a new set of training videos titled the Safety Series.

Completion rates for three of the seven mandatory policy and diversity courses met or exceeded the 90% completion goal.

On March 31, 2012, WSDOT employed 6,781 permanent full-time employees, 39 fewer than on December 31, 2011. This represents 268 employees, or 3.8% fewer than the 7,049 employees one year ago, at the end of March 2011.

The current number of permanent full-time employees is about equal to the number in 2006, shortly after the approval of the Transportation Partnership Account (TPA) funding package. WSDOT's current workforce of 6,781 employees represents a decrease of 499 employees, or 6.9% fewer than the June 2010 peak level of 7,280.

WSDOT uses the number of permanent full-time employees as the primary workforce level metric because other metrics such as the total number of full-time equivalencies (FTEs) fluctuate throughout the year to accommodate seasonal, permanent part-time, and non-permanent/on-call workers. FTEs generally exceed the number of permanent full-time employees. Neither metric includes consultants.

Ferries deploys training videos

The Washington State Ferries (WSF) division of WSDOT uses videos as an integral part of employee training. The Maintenance, Terminal, and Deck departments use more than 40 different videos to help train more than 1,600 employees in a

wide variety of topics. Through established training and information programs, WSF strives to meet the safety and health needs of the workforce.

Because of the unique environments in which most WSF employees work, WSDOT determined that videos produced in-house would be far more effective than off-the-shelf products. This ensured control of the message and content by using WSF subject matter experts. It also saved significant costs when compared to hiring outside contractors to produce the videos.

In the past 12 months WSF converted all vessel and terminal video libraries from VHS tape to DVD, and distributed more than 2,500 DVDs to all 23 vessels, 20 terminals, and the Eagle Harbor maintenance facility. WSF will send the hundreds of VHS tapes to a local recycling vendor.

Also in 2011, WSF produced an enhanced video training tool titled the WSF Safety Series, which supplements monthly safety meetings. Seven videos have been released to date, covering the following topics: fire extinguishers, proper lifting, line handling and mooring, hearing protection, hazardous material information system labeling, correct use of PortionPac cleaning products, and sprains & strains. The Safety Series is used in conjunction with a newsletter to provide every WSF employee with resources to enhance their skills and knowledge on safety topics.

Three mandatory courses met completion rate goal; room to improve compliance with four additional mandatory courses

WSDOT conducts seven mandatory training courses for employees to educate and inform a diverse workforce on agency policies and methods for maintaining a respectful workplace. WSDOT also conducts more than 300 courses that may be assigned to develop employee skills or comply with regulations for specific job functions. The rate for training completion of WSDOT employees improved or remained steady for five of the seven mandatory courses for Quarter 1 (Q1) 2012, compared to Quarter 4 (Q4) 2011. A goal of 90% completion applies to each of the seven mandatory classes. Three of the courses met or exceeded this completion rate goal.

Mandatory diversity and policy training completion rates near goal

All of the mandatory diversity and policy training courses are required of every employee upon hire; employees must take periodic refresher classes for three of the mandatory courses. The refresher classes are required to ensure that employees are apprised of any policy changes, and to provide opportunities for discussion and continued learning.

Training completion has mixed results

The graph at right illustrates the completion rates over the past two years for WSDOT diversity training classes compared to the goal of 90% completion. Employee training completion for the three mandatory diversity courses was as follows for Q1 2012:

1. Disability Awareness remained above the goal at 93%,
2. Valuing Diversity remained above the goal at 94%, and
3. The Sexual Harassment and Discrimination class met the goal of 90% in Q4 2011, but dropped to 88% in Q1 2012. A refresher class is required every three years for managers and every five years for employees.

The second graph shows the completion rate over the past two years for the policy training classes compared to the 90% completion goal. Employee training completion for the four mandatory policy courses was as follows for Q1 2012:

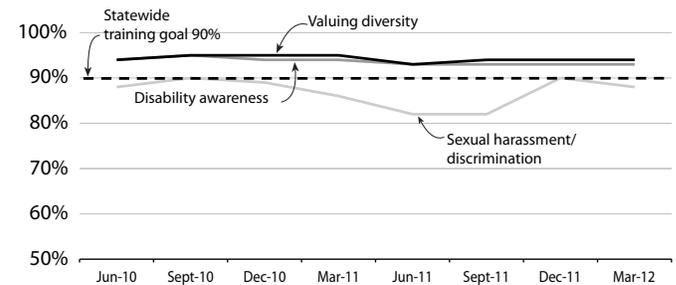
4. The course on violence that affects the workplace remained above the goal, at 91%. This course has held steady between 91% and 92% over the past two years, in part because refresher courses are not required.
5. Information Security training is required annually for all state employees. Training completion dipped to a low of 35% in Q3 2011, but improved over the past two quarters to 54% in Q1 2012.
6. System Security Awareness training was below the goal at 87% in Q1 2012. This course has held steady between 87% and 88% over the past two years, in part because refresher courses are not required.
7. Ethical standards training was below the goal at 73% in Q1 2012, down from 78% in Q4 2011. A refresher class is required every three years for all employees.

Transition to new Learning Management System

WSDOT is upgrading the system used to manage all aspects of employee training to the Learning Management System (LMS). Washington state's Department of Enterprise Services (DES) manages the new LMS, which will be used by all Washington state employees, as well as county, city, and higher-education employees throughout Washington. LMS will enhance

Required diversity training for all WSDOT employees

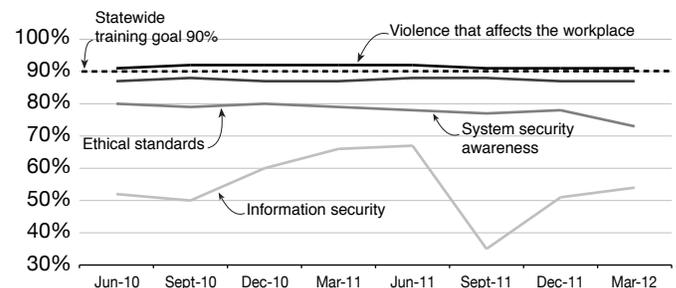
Percentage of employees in compliance, June 2010 to March 2012



Data source: WSDOT Human Resources Office, Staff Development.

Required policy training for all WSDOT employees

Percentage of employees in compliance, June 2010 to March 2012



Data source: WSDOT Human Resources Office, Staff Development.

WSDOT's ability to track compliance, streamline the process for class enrollment, and expand the delivery of online classes (see *Gray Notebook* 44, p. 77). WSDOT began training the identified system training managers in the new LMS in March 2012, and DES currently offers online tutorials to all state employees. Full deployment of LMS for WSDOT employees is scheduled for July 2012.

Enhanced reporting of maintenance and safety training

During the transition to LMS, WSDOT will not be able to comprehensively report on maintenance and safety training compliance (see *Gray Notebook* 44, p. 79). WSDOT will report on the progress of the transition in *Gray Notebook* 46.

Highlights of Program Activities

For the quarter ending March 31, 2012



SR 410 Nile Valley Landslide in November 2009 resulted in an emergency route. Preliminary construction of a permanent fix has begun.

Highways

Project starts

SR 410 Naches (Yakima County)

Ever since a massive landslide took out a quarter-mile stretch of SR 410 in 2009, drivers have relied on a swiftly built emergency route that won the agency national recognition. WSDOT began preparation work this spring on a permanent fix that reroutes SR 410 through the Nile Valley, along the toe of the landslide that destroyed the old route. The \$9.7 million Nile Valley reconstruction project removes SR 410 traffic from the Nile Loop Road, reestablishing the route near the highway's original location before the landslide. Construction crews are currently strengthening the riverbank to prevent the new highway from eroding before the water level rises in the spring. Several buildings are also slated to be removed from the flood plain. Once ground-water levels recede in June, major construction will begin on support walls and the new highway. The reconstructed Nile Valley route, which is about 18 miles west of Naches, will begin carrying traffic by this fall.

I-405 Bellevue to Lynnwood (King and Snohomish counties)

In January, WSDOT selected Flatiron Constructors of Seattle to build the I-405, NE 6th to I-5 Widening and Express Toll Lanes project for \$155.5 million. The project will complete a new express toll lane in each direction adjacent to the general purpose lanes from NE 6th Street in Bellevue to SR 522 in Bothell. Crews will also build new northbound ramps from NE 160th to SR 522 and nine noise walls. The new lanes will reduce

congestion and provide drivers options as they travel between Bellevue and Lynnwood. This is the last I-405 Nickel and Transportation Partnership Act-funded project. Motorists can expect the team to break ground by this summer.

The Legislature authorized WSDOT to move forward with this project in 2011. That same year, the Legislature directed the Washington State Transportation Commission to conduct an independent traffic and revenue study of I-405 express toll lanes. The Legislature will make a decision regarding the purchase of the above-ground toll equipment (gantries, sign bridges, etc.) for this project later this year. WSDOT has the funding needed for purchasing the toll equipment and is awaiting this approval.

SR 500 Vancouver (Clark County)

Crews successfully lifted 14 concrete girders into place above SR 500 in Vancouver during a series of nighttime closures in early March. Each girder measures 120 feet long and weighs more than 50 tons and they form the backbone of a \$48 million project that builds a new interchange at SR 500 and St. Johns Boulevard. The SR 500, St. Johns Boulevard Interchange project replaces the current traffic signal with freeway ramps and a new bridge to carry St. Johns Boulevard traffic up and over the highway. The girder setting marks one of the major construction milestones for this project, which started in May 2011 and is on schedule for completion in 2013. When complete, the new interchange will improve traffic flow for 60,000 daily drivers and should reduce the risk of rear-end collisions.



Crews closed the highway overnight while they installed seven 120-foot long girders into place over SR 500.

For the quarter ending March 31, 2012

U.S. 97 Toppenish (Yakima County)

Work started in March to replace the U.S. 97 Satus Creek Bridge. The project replaces the 70-year-old wooden bridge with a wider concrete bridge, repaves two miles of worn asphalt on U.S. 97, and improves sight distance. Because this is a vital route for 3,400 drivers, including 1,200 truckers who use this section of U.S. 97 daily, crews will maintain access across Satus Creek during the project by constructing a temporary bridge. The temporary bridge is scheduled to open in May; crews will demolish the old Satus Creek Bridge and build the new structure. Construction of the new bridge is scheduled to be completed in November.

Project Updates

I-5 Nisqually to JBLM (Thurston and Pierce counties)

Three new ramp meters, seven new cameras and an updated online travel time estimating tool are helping to improve the commutes for about 130,000 daily drivers who use Interstate 5 between Nisqually and Joint Base Lewis-McChord (JBLM) each day. The ramp meters, as well as new traffic cameras, began running in March. New cameras provide motorists even more options to check traffic conditions and plan ahead before traveling on I-5 between Lacey and Lakewood. Adding meters helps manage traffic flow on this congested section of I-5 in Thurston and Pierce counties. The new ramp meters, located at the northbound I-5 on-ramps at Marvin, Nisqually, and Mounts Roads, provide a proactive way to prevent the onset of congestion.

In addition, seven cameras located along the 11-mile stretch between Marvin Road in Lacey and Berkeley Street in Lakewood will provide motorists a way to view traffic conditions before they head out onto the roadway. Single cameras will be located at Marvin Road, Mounts Road, Center Drive, DuPont/Steilacoom Road and a location just north of DuPont. Two cameras will provide views of congested areas near the JBLM Main Gate. The WSDOT Travel Alerts web pages for Olympia and Tacoma will also offer travel times for Olympia-to-Tacoma commuters. These new traffic tools are part of a \$1 million project to help improve traffic on this crucial section of I-5, and more improvements are on the way.

Project Completions

SR 105 Raymond (Pacific County)

Crews finished work on SR 105 near Raymond for a new bridge designed for a smoother ride for drivers and easier passage for spawning fish. The project replaced an undersized culvert with a new 87-foot long concrete bridge. The new bridge connects the Norris Slough to Willapa Bay and allows fish to pass freely upstream to their spawning grounds in the bay. Prior to this

project, maintenance crews routinely repaired this section of road, which was eroding because of the narrow culvert. The new bridge carries the highway over the slough and will lessen the need for repairs, therefore reducing maintenance costs at this location. The \$2.3 million project was funded through federal and state highway improvement funds.



Senator Haugen and Representative Clibborn make the ceremonial first arc welds on the keel of Washington's new 144-car ferry in March. Photograph by Stuart Isett/Vigor.

Ferries

Construction begins on next-generation ferry

The first arc welds on the keel of Washington's new 144-car ferry were made in March by the leaders of the State Senate and House transportation committees, Senator Mary Margaret Haugen of Camano Island and Representative Judy Clibborn of Mercer Island. The event commemorated the moment when the vessel's keel was laid in place at Vigor Industrial's Harbor Island shipyard in Seattle. Keel laying is a traditional milestone in ship building. This marked the formal start of construction for a new class of ferries designed to carry up to 144 cars and 1,500 passengers across the waters of Puget Sound.

WSF estimates the new 144-car ferry will start service in early 2014. Cost of construction is \$115 million, and the total cost of the vessel is \$147 million, which includes owner-furnished equipment, construction management and contingencies. The design of the ferry is based on the 130-car Issaquah class, proven to be the most versatile vessel in the state fleet. The new ferry will have added comfort and capacity for passengers, improved safety systems and better access for customers with disabilities. WSF has a contract with US Fab for design and construction of up to four 144-car ferries contingent on available funding. The Legislature funded a second 144-car ferry this session.

Highlights of Program Activities

For the quarter ending March 31, 2012

Aviation

WSDOT offers state grants for airport improvements

A total of 39 airports have applied for state funding for improvements, requesting \$3.98 million through the Airport Aid Grant Program in the FY2012 grant cycle. WSDOT's Aviation Division anticipates awarding up to \$1 million in grants to qualifying airports for needed improvements in the areas of pavement, safety, maintenance, security, and planning. The deadline for applications was March 30, 2012. Qualifying projects must be targeted for completion on or before June 30, 2013. Applications were accepted from publicly-owned airports in Washington state. WSDOT will announce grant award recipients the week of June 11, 2012. The maximum amount WSDOT can award to an airport sponsor for a single grant is \$250,000.

Copalis Beach Airport project completed

Crews completed maintenance work in March at Copalis Beach State Airport, installing new navigation and safety aids and improved airport information signs. The safety project is located within North Beach and is done in coordination with Washington State Parks and Recreation, which manages North Beach. It included relocating the northern runway marker approximately 740 feet to the south. The new location is more consistent with the runway's historic landing boundary. Crews also replaced a missing runway end marker near the Copalis River, installed new signs at Boone Creek, and erected a wind cone. Copalis Beach State Airport is one of 17 airports operated by WSDOT. Washington State Parks and Recreation provides WSDOT with condition updates and assists with routine maintenance of the beach airport.

Rail

Federal Railroad Administration, WSDOT and Seattle kick off next phase of King Street Station restoration

Federal, state, and local officials kicked off the next phase of the station's ongoing historic restoration March 15. WSDOT is investing \$16.7 million of federal high-speed rail funds to strengthen King Street Station and its clock tower to better withstand earthquakes. The project also restores the station's main hall as originally built in 1906 with white marble walls, decorative lighting and other features removed during the modernization of the station more than 50 years ago. For more information, see the Rail article on page 18.



The project at Seattle's King Street Station restores the station's main hall as originally built in 1906 with white marble walls, decorative lighting and other features. This section of the ceiling has been covered for more than 50 years.

Traveler Information and Safety

New traffic cameras and traffic flow information added along I-5 in Snohomish County

Crews recently finished a \$3.2 million project that completes a key fiber optic network and brings 16 new miles of traffic information and cameras online for Snohomish County drivers on I-5 north of Everett. The route carries 118,000 vehicles daily and the expanded traveler information network will allow drivers to obtain real-time travel information.

The fiber optic network supports traffic cameras and data, which is streamed live into the WSDOT traffic system management center in Shoreline, as well as shared with media and posted to WSDOT's website. The traffic map now shows real-time traffic conditions in stretches of green, red and black, giving drivers a better way to estimate travel times between Everett and Arlington. New WSDOT traffic cameras stationed between the Snohomish River and Stillaguamish River also give drivers a bird's-eye view of traffic and road conditions.

Announcements, awards and events

WSDOT kicks off disparity study

WSDOT invited vendors, contractors, industry representatives and others who have experience with transportation-related contracts to participate in a new disparity study that will help determine whether WSDOT's contracting activities are fair and equitable for all.

For the quarter ending March 31, 2012

WSDOT held a series of meetings in February to share information about the disparity study and to gather personal accounts of experience with the agency's contracting and Disadvantaged Business Enterprise (DBE) program. The DBE program helps socially and economically disadvantaged businesses compete for government contracts on a level playing field.

WSDOT's disparity study is being conducted by an independent consultant and includes an analysis of the agency's contracting activities. It will determine if discrimination is occurring in WSDOT-administered contracts related to state transportation projects, including highways, ferries, and aviation.

WSDOT also encouraged feedback regarding its outreach efforts and assistance programs for small, woman- and minority-owned businesses. Comments received will become part of the public record for the disparity study. Information from the disparity study will assist WSDOT in implementing the federal DBE program and meeting federal-financial aid requirements.

Mountain Pass clearing efforts begin

Cayuse Pass: Earlier in March, the annual SR 410 clearing effort got under way from the northeast entry to Mount Rainier National Park to the Cayuse Pass summit (elevation 4,675 feet). WSDOT crews faced snow and debris more than 12 feet deep in places. Crews from the east side of the state will begin clearing SR 410 Chinook Pass (elevation 5,430 feet) in mid-April, a few weeks later than Cayuse due to the higher elevation and increased snowfall. Additionally, the snow removal equipment they use is still needed for several more weeks on Snoqualmie Pass. They plan to reopen Chinook Pass before Memorial Day weekend, although that depends on the weather.

After clearing SR 410 to Cayuse Pass, maintenance crews from Greenwater worked to clear SR 123 from the summit down to U.S. 12. Cayuse Pass reopened to traffic May 8.



A view of the hairpin curve from the Liberty Bell avalanche zone taken when WSDOT crews checked snow depths and conditions in advance of clearing the North Cascades Highway.

North Cascades: The North Cascades Highway reopened May 10. On March 26, a five-person maintenance crew and their collection of snow-clearing equipment headed west up SR 20, past Mazama, to the winter closure point at the Early Winters Information Center. The annual trek marked the first day of work to clear the North Cascades Highway which had been closed to traffic since November 21. WSDOT's annual reopening work started almost three weeks earlier than last year. Using a Kodiak snow blower, road grader and a scoop loader, east-side crews will clear the first eight miles of the highway between the Early Winters Information Center and the Silver Star gate.

During a scouting trip up the highway March 7, crews found snow up to 60 feet deep burying the road below the Liberty Bell Mountain avalanche zone.

Navigating the WSDOT Information Stream

Linking performance measures to strategic goals

The *Gray Notebook* is the basis for WSDOT performance reporting that links performance measures for the strategic plan, legislative and executive policy directions, as well as federal reporting requirements.

State transportation policy goals

The Governor and Legislature have enacted laws establishing policy goals for transportation agencies in Washington (Chapter 516, Laws of 2007).

The six state transportation policy goals are:

Safety: To provide for and improve the safety and security of transportation customers and the transportation system.

Preservation: To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.

Mobility (Congestion Relief): To improve the predictable movement of goods and people throughout Washington.

Environment: To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.

Stewardship: To continuously improve the quality, effectiveness, and efficiency of the transportation system.

Economic Vitality: To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.

WSDOT develops the necessary business direction plans to achieve these goals through the agency's strategic planning process, which takes place every two years.

The Transportation Progress Report

Under this law, the Washington State Office of Financial Management (OFM) is responsible for setting objectives and establishing performance measures for each of the goals. OFM must report on the attainment of the goals and objectives to the Governor and Legislature each biennium. In January 2008, OFM published a "baseline" report to get feedback from the Governor and Legislature on draft objectives and performance measures.

The most recent Attainment Report, for 2010, is available online at www.wsdot.wa.gov/Accountability/PerformanceReporting/Attainment.htm, or on OFM's performance and results website: www.ofm.wa.gov/performance/.

WSDOT Strategic Plan

WSDOT's 2011-2017 strategic plan *Business Directions* summarizes WSDOT's work plan based on the programs and budgets authorized by the State Legislature and the Governor. The plan describes the agency strategic directions and initiatives to address critical programs and service delivery mandates. The table on page vi illustrates this alignment. WSDOT's 2011-2017 strategic plan is available online at: www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm.

Other performance reporting requirements

Priorities of Government (POG)

POG is an investment prioritization process used to help the Governor and Legislature develop agency budgets. Every biennium, workgroups composed of government agency and private sector representatives identify results that citizens expect from government, and evaluate the performance of state agency activities and services against those expected results. Information about the 2001-2013 POG process is available at: www.ofm.wa.gov/budget/pog.

Government Management Accountability and Performance program (GMAP)

GMAP is a management tool that promotes the sharing and evaluation of current performance to improve results. Under GMAP, the Governor and her leadership team meet in "GMAP forums" with agency directors to review results and develop action plans to improve results. These meetings provide an opportunity for candid conversations about what is working, what is not, and how to improve results.

WSDOT regularly reports to the Governor during the Transportation GMAP forums. WSDOT's GMAP reports can be found at: www.wsdot.wa.gov/Accountability/PerformanceReporting/GMAP.htm.

About WSDOT's Performance Dashboard

The 'dashboard' of performance measures on page viii offers readers a snapshot glance at WSDOT's progress against the statewide policy goals and WSDOT's strategic plan. Some results are discussed in depth within this edition of the *Gray Notebook*, while others are in previous editions or will be updated in coming editions based on established reporting cycles. Turn to the Subject Index (pp. 90-95) to find earlier coverage; all previous editions are available online at www.wsdot.wa.gov/accountability.

Navigating the WSDOT Information Stream

Linking performance measures to strategic goals

Through more than 44 editions, in fact eleven years, WSDOT has published a quarterly performance report known as the *Gray Notebook*. It presents articles in a way that clarifies the topics' relationship to the six Legislative policy goals and to WSDOT's own strategic business directions.

The *Gray Notebook* is organized into sections devoted to those strategic goals. Contents include quarterly and annual reports on key agency functions, providing regularly updated system and program performance information. Annual system performance updates are rotated over four quarters based on data availability and relevant data cycles, to provide in-depth analysis of topics such as capital facilities, aviation, freight, and a post-winter report on highway maintenance. Quarterly topics, such as worker safety, incident response, Amtrak Cascades, and Washington State Ferries, are featured in each edition since data is generally available more frequently.

Matters pertaining to WSDOT's Federal Recovery Act-funded projects, including high speed rail and TIGER grant projects, finance, capital project delivery, workforce, and agency highlights appear in the Stewardship section. The Beige Pages address the delivery of the projects funded in the 2003 Transportation Funding Package (Nickel), 2005 Transportation Funding Package (TPA), and Pre-Existing Funds (PEF).

More easily tracked business plan results

By aligning the *Gray Notebook*'s articles with WSDOT's business goals as outlined in the strategic plan, *Business Directions*, WSDOT hopes to make tracking performance results against specific strategic actions more simple.

Business Directions reflects WSDOT's program and project delivery responsibilities with the goal of demonstrating the best possible return for taxpayers' dollars. For a copy of *Business Directions*, please visit: www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm.

Publication frequency and archiving

The *Gray Notebook* is published quarterly in February, May, August and November. This edition and all past editions are available online at www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm.

A separate detailed navigation folio is available at www.wsdot.wa.gov/Accountability/GrayNotebook/.

Gray Notebook Lite

WSDOT publishes a quarterly excerpt of selected performance topics and project delivery summaries from the *Gray Notebook*, called *Gray Notebook Lite*. The folio-style *Lite* allows for a quick review of WSDOT's most important activities in the quarter. It can be accessed at www.wsdot.wa.gov/Accountability/GrayNotebook/navigateGNB.htm.

Navigate the WSDOT website

WSDOT prepares information for legislators, state and local officials, interested citizens, and the press on the progress of the state's three capital delivery programs, and an array of detailed information can be found online at the WSDOT website.

WSDOT's online project reporting uses several different tools, including the *Gray Notebook* (as a downloadable PDF), web-based Project Pages, and Quarterly Project Reports (QPRs). There is a Project Page on the website for each major WSDOT project, and QPRs for Nickel-funded projects in the 2003 Transportation Funding Package.

The WSDOT home page (www.wsdot.wa.gov) offers several ways to find information on projects. The Projects tab on the top navigation bar links to the WSDOT's Projects page; there, you'll find information and links to detailed descriptions of all WSDOT projects. The Accountability navigation menu offers links to several important topics (including Congestion Relief, Safety, and Preservation).

Project pages

Project pages (www.wsdot.wa.gov/projects/) report on virtually all WSDOT capital delivery program construction projects. Project pages provide details on overall project vision, funding components, financial tables, milestones, status description, problem discussions, risks and challenges, forecasting, maps, photos, links and more, which are updated regularly. Project pages cover the overall project vision, financial details and funding components, milestones, roll-up cash flow, contact information, maps and links to QPRs.

Quarterly Project Reports

The Quarterly Project Reports (QPRs) are reached by a link on the Project Page. They summarize quarterly activities such as highlights, milestones, status description, problem statement, risks and challenges, project costs, cash flow, and contact information.

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All editions can be accessed at: www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm
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*Note: Some performance measures for *Gray Notebook* 35, 39, & 42 are featured in the stand-alone annual Congestion Report, available online at www.wsdot.wa.gov/Accountability/Congestion/

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*Note: Some performance measures for *Gray Notebook* 35, 39 & 42 are featured in the stand-alone annual Congestion Report, available online at www.wsdot.wa.gov/Accountability/Congestion/

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*Note: Some performance measures for *Gray Notebook* 35, 39 & 42 are featured in the stand-alone annual Congestion Report, available online at www.wsdot.wa.gov/Accountability/Congestion/

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Acronyms used in the *Gray Notebook*

A partial list of acronyms and abbreviations appearing in this issue

AASHTO	American Association of State Highway and Transportation Officials	NOAA	National Oceanographic and Atmospheric Administration
ADA	Americans with Disabilities Act	NB	Northbound
AIRS	Automated Infrared Roadside Screening	NBI	National Bridge Inventory
ARRA	American Recovery and Reinvestment Act	NEPA	National Environmental Policy Act
ATM	Active Traffic Management	NPDES	National Pollutant Discharge Elimination System
BMP	Best management practice	NTUs	Nephelometric Turbidity Units
BTD	Biennium to date	OEO	Office of Equal Opportunity
CalTrans	California Department of Transportation	OFE	Owner furnished equipment
CLRS	Center line rumble strips	OFM	Office of Financial Management
Corps	Army Corps of Engineers	OSHA	Occupational Safety and Health Administration
CVISN	Commercial Vehicle Information Systems Network	PASER	Pavement Surface Evaluation and Rating System
CY	Calendar year	PEBB	Public Employees Benefits Board
DART	Days away/restricted duty or transfer	PEF	Pre-Existing Funds
DBE	Disadvantaged business enterprise	PNB	Preservation need percent
DES	Department of Enterprise Services	RIR	Recordable incident rate
DVD	Digital video disc	ROTR	Run off the road
EB	Eastbound	ROTRR	Run of the road to the right
EHB	Engrossed House Bill	RV	Recreational vehicle
EOB	End of biennium	SAO	Strategic Assessment Office
ESA	Endangered Species Act	SB	Southbound
FIS	Facilities Inventory System	SCDP	Seattle Community Design Process
FPM	Freight Performance Measures	SEPA	State Environmental Policy Act
FTA	Federal Transit Administration	SR	State Route
FTEs	Full time equivalents	SRA	Safety rest area
FRA	Federal Railroad Administration	SRS	Shoulder rumble strips
FY	Fiscal year	SWPPS	Stormwater Pollution Prevention Plans
GEC	General Engineering Consultant	TESC	Temporary Erosion and Sediment Control
GIS	Geographic Information System	TEUs	Twenty foot equivalent units
GMAP	Government Management, Accountability and Performance	TIFIA	Transportation Infrastructure Finance and Innovation Act
GNB	Gray Notebook	TIGER	Transportation Investment Generating Economic Recovery
HSIP	Highway Safety Improvement Program	TPA	Transportation Partnership Account
IR	Incident Response	UCO	Urban Corridors Office
ICC	Interstate Commerce Commission	USDOT	United States Department of Transportation
JBLM	Joint Base Lewis McCord	UTL	Unable to locate
JOPS	Joint Operations Policy Statement	VMS	Variable message signs
LCCM	Life cycle cost model	VMT	Vehicle miles traveled
LEAP	Legislative Evaluation and Accountability Program	WB	West bound
LID	Low impact development	WITS	Washington Incident Tracking System
LMS	Learning Management System	WSBIS	Washington State Bridge Inventory System
MAP	Maintenance Accountability Process	WSDOT	Washington State Department of Transportation
MOUs	Memorandum of Understanding	WSF	Washington State Ferries
		WSP	Washington State Patrol

Americans with Disabilities Act (ADA) Information

Americans with Disabilities Act (ADA) Information

Persons with disabilities may request this information be prepared and supplied in alternative formats (large print, Braille, cassette tape, or on computer disk) by calling the Washington State Department of Transportation Office of Equal Opportunity (OEO) at (360) 705-7097. Persons who are deaf or hard of hearing may contact OEO through the Washington Relay Service at 7-1-1.

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Other WSDOT Information Available

The Washington State Department of Transportation has a vast amount of traveler information available. Current traffic and weather information is available by dialing 5-1-1 from most phones. This automated telephone system provides information on:

- Puget Sound traffic conditions and travel times,
- Statewide construction impacts,
- Statewide incident information,
- Mountain pass conditions,
- Weather information,
- State ferry system information, and
- Phone numbers for transit, passenger rail, airlines and travel information systems in adjacent states and for British Columbia.

For additional information about highway traffic flow and cameras, ferry routes and schedules, Amtrak Cascades rail, and other transportation operations, as well as WSDOT programs and projects, visit www.wsdot.wa.gov.

For more information about performance measurement and reporting, visit www.wsdot.wa.gov/accountability/.

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