Washington State
Department of Transportation

The Gray Notebook

GNB
35

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

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Secretary of Transportation

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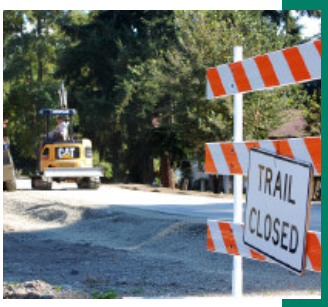

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Annual Reports
- Measuring Delay and Congestion Excerpts
- Ferries Vessel & Terminal Preservation
- Air Quality
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- Incident Response
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- Ferries
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- Federal Recovery Act-funded Projects
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http://www.wsdot.wa.gov/accountability

Executive Summary

Performance highlights in this edition of the *Gray Notebook*

This edition of the *Gray Notebook* presents information on WSDOT's performance for the quarter ending September 30, 2009, as well as four annual and three semi-annual reports. Selected highlights from this edition include:

- **Statewide, travel delay on state highways declined by 13% in 2008 compared to 2006.** Higher fuel prices, the economic recession, and the completion of numerous congestion relief projects helped reduce congestion on state highways in 2008. For the high demand commute routes in the central Puget Sound, the duration of the congested period improved on 31 of 38 routes and the average peak travel time improved on 30 of 38 routes. (*Annual Congestion Report Dashboard;* pp. 12-16). (The full *Annual Congestion Report* is available online at http://www.wsdot.wa.gov/Congestion/)
- **In the third calendar quarter of 2009, WSDOT's Incident Response Team cleared 11,943 incidents with an average clearance time of 12.9 minutes.** This clearance time is the same as last quarter. (*Incident Response Quarterly Update;* pp. 17-19)
- **As of September 30, 2009, WSDOT has delivered a total of 215 Nickel and Transportation Partnership Account (TPA) projects valued at $3.274 billion**, on target with the funding provided in the 2009-11 Transportation Budget. At quarter end, September 30, 2009, WSDOT had completed 215 projects, 64 projects were under construction, and two projects advertised for construction bids. An additional 29 projects are scheduled to be advertised by March 31, 2010. 88% of Nickel and TPA projects combined are early or on time and 87% are under or on budget. (See the *Beige Pages* for a quarterly report of WSDOT's *Capital Project Delivery Program;* pp. 40-57) Also in this edition is the second special report on the *Construction of the New 64-Auto Ferry* for the Port Townsend-Keystone route. (p. 72)
- **More than 160 American Recovery and Reinvestment Act (Recovery Act) highway projects were awarded to contractors by the end of September, including 47 that were completed.** Washington State and local government agencies are working quickly to spend the $492 million in highway and $179 million in transit funds the state received. The *Special Report* includes September employment data on how Washington's Recovery Act projects are creating and preserving jobs. (pp. 34-39)
- **Eighty-four percent of ferry terminals components are in good or fair condition.** Eighty-five percent of ferry vessels vital systems and 51% of other systems are designated good or fair, when rated against their standard life cycle. (*Ferry Vessel & Terminal Preservation Update*; pp. 8-10)
- **Ferries ridership increased 1% to 7.0 million riders from one year ago, but remains 0.6% below projected levels for the quarter.** On-time performance for the ferry system averaged 86%, a 1% decline from the 87% recorded in the same sailing season one year ago. (*Washington State Ferries Quarterly Update;* pp. 20-23)
- **WSDOT added nearly two miles of noise walls in 2009.** WSDOT also has three quiet pavement test sections under evaluation for noise mitigation. (*Noise Quality Annual Report*; pp. 30-32)

On this quarter's cover (from top):

Workers guide a 112-foot-long, 70,000-pound girder to its position on a new bridge for the SR 20, I-5 on- and off-ramps project.

WSDOT's projects are helping thin commute-time congestion on I-5 near Seattle and in other WA regions.

Recovery Act funds fuel construction of a 2.4 mile path that will connect the Woodland Trail to the Chehalis Western Trail through Lacey.

New 64-auto ferry, under construction at Todd Pacific Shipyards.

WSDOT executives and local officials launch a shovel-ready project to add HOV lanes to I-5 between Tacoma and the King County line.

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5 :: **Roadside safety improvements** offer low-cost but highly effective strategies to reduce and prevent accidents.

8 :: This semi-annual update examines preservation and life cycle condition of **Ferries vessels and terminals.**

12 :: WSDOT's annual report **Measuring Delay and Congestion** appears in this *Gray Notebook* as a special executive summary. The entire Congestion Report is available on line at http://www.wsdot.wa.gov/accountability/congestion.

28-32 :: The annual **Air Quality** and **Noise Quality** reports cover WSDOT's efforts to comply with federal standards and to meet state goals.

40 :: The **2007-09 Biennium Review** wraps up schedule, scope, and budget performance data.

68 :: The final report on the SR 104 Hood Canal Bridge retrofit and replacement project covers schedule and budget issues, including a timeline.

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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.

Statewide transportation policy goals

In 2007, the Governor and Legislature enacted a law establishing five policy goals for transportation agencies in Washington State (Chapter 516, Laws of 2007).

The five statewide 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; and
- **Stewardship:** To continuously improve the quality, effectiveness, and efficiency of the transportation system.

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 second report will be published in March 2009.

The Attainment Report is available on OFM's performance and results website: http://www.ofm.wa.gov/performance/.

WSDOT Strategic Plan

WSDOT's 2009-2015 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 pages viii-ix illustrates this alignment. WSDOT's 2009-11 strategic plan is available online at: http://www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm.

About WSDOT's Performance Dashboard

The 'dashboard' of performance measures on the facing page offers readers a snapshot glance at WSDOT's progress against the five 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. 94-104) to find earlier coverage; all previous editions are available online at www.wsdot.wa.gov/accountability.

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 2009-11 POG process is available at: http://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: http://www.wsdot.wa.gov/Accountability/PerformanceReporting/GMAP.htm.

Performance Dashboard

✓ Goal has been met. ↑ Performance is trending in a favorable direction. ↔ Trend is holding. ↓ Performance is trending in a 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: 2007 & 2008)	1.00	0.94	1.00	✓	↑	The rate of highway fatalities continues to decline (a lower rate is better)
Rate of **sprains and strains / hearing-loss injuries** per 100 WSDOT workers[1] (quarterly measure: FY09 Q4 & FY10 Q1[7])	2.8/ 1.2	2.6/ 0.7	2.4/ 0.4	---	↑	New rate measure supplements injury counts (a lower rate is better)
Preservation						
Percentage of state **highway pavements** in fair or better condition (annual measure, calendar years: 2006 & 2007)	93.5%	93.3%	90.0%	✓	↔	Recent Recovery Act funded projects will improve future condition ratings
Percentage of **state bridges** in fair or better condition (annual measure, calendar years: 2007 & 2008)	97.0%	97.0%	97.0%	✓	↔	Performance level meets goal - trend remains flat
Mobility (Congestion Relief)						
Highways: annual weekday **hours of delay** statewide[2] (annual measure: calendar years 2006 & 2008)	37 million	32 million	N/A	N/A	↑	Delay reduction of 13% due to gas prices, economic downturn, and completed mobility projects
Highways: Average clearance times for **major (90+ minute) incidents** on key western Washington corridors (quarterly: FY09 Q4, FY10 Q1[7]))	154 minutes	156 minutes	155 minutes	---	↔	Clearance time remains steady
Ferries: Percentage of trips departing on-time[3] (quarterly, year to year: FY09 Q1, FY10 Q1[7])	87%	86%	90%	---	↓	Summer season ridership effected on-time performance
Rail: Percentage of **Amtrak *Cascades*** trips arriving on-time[4] (quarterly, year to year: FY09 Q1, FY10 Q1[7])	75%	72%	80%	---	↓	Performance has declined, but is higher then historical average
Environment						
Cumulative number of WSDOT **stormwater treatment facilities** constructed or retrofitted[5] (annual measure: calendar years 2007 & 2008)	809	850	N/A	N/A	↑	New stormwater facilities permit will expand WSDOT's responsibilities
Cumulative number of WSDOT **fish passage barrier improvements** constructed since 1990 (annual measure: calendar years 2007 & 2008)	205	225	N/A	N/A	↑	2009 construction season will fix additional barriers
Stewardship						
Cumulative number of Nickel and TPA **projects delivered, and percentage of on-time** (quarterly: FY09 Q4, FY10 Q1[7])	194/ 89%	215/ 88%	90% on-time	---	↔	Currently at the peak of the Nickel and TPA programs - performance is steady
Cumulative number of Nickel and TPA **projects completed and percentage on-budget** (quarterly: FY09 Q4, FY10 Q1[7])	194/ 88%	215/ 87%	90% on-budget	---	↔	Currently at the peak of the Nickel and TPA programs - performance is steady
Variance of total project costs compared to **budget expectations**[6] (quarterly: FY09 Q4, FY10 Q1[7])	over-budget by 0.6%	over-budget by 0.4%	on-budget	---	↔	Total Nickel and TPA construction program costs are within 1% of budget

[1] Sprains/strains and hearing loss are current high priority focus areas for WSDOT. Hearing loss rate based on preliminary data.
[2] 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 (usually 50 miles per hour)
[3] '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.
[4] 'On-time' arrivals for Amtrak *Cascades* are any trips that arrive at their destination within 10 minutes or less of the scheduled time.
[5] Facilities in Clark, King, Pierce, and Snohomish counties.
[6] Budget expectations are defined in the last approved State Transportation Budget.
[7] Washington state's fiscal year (FY) begins on July 1 and ends on June 30. There are eight fiscal quarters in the biennium, and are organized as follows: Quarters 1 & 5: July 1 - September 30, Quarters 2 & 6: October 1 - December 31, Quarters 3 & 7: January 1 - March 31, Quarters 4 & 8: April 1 - June 30

Navigating the WSDOT Information Stream

Linking performance measures to strategic goals

This table illustrates the alignment of WSDOT's performance measures with the five statewide transportation policy goals and the WSDOT strategic plan, *Business Directions*. (See also page vi.)

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
1. Safety: To provide for and improve the safety and security of transportation customers and the transportation system	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.	Number of traffic fatalities	annual	GNB 34 p. 5
		Rate of traffic fatalities per 100 million miles traveled	annual	GNB 34 p. 6
		Percent reduction in collisions before and after state highway improvements	annual	GNB 32 pp. 5-7
		Number of recordable workplace injuries and illnesses	quarterly	GNB 35 pp. 2-4

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
2. Preservation: To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.	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.	Percent of state highway pavement in fair or better condition	annual	GNB 32 pp. 12-16
		Percent of state bridges in fair or better condition	annual	GNB 34 pp. 16-17
		Percent of targets achieved for state highway maintenance activities	annual	GNB 32 pp. 17-20
		Number of ferry vessel life-cycle preservation activities completed	annual	GNB 35 pp. 8-9
		Percent of ferry terminals in fair or better condition	annual	GNB 35 p. 10

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
3. Mobility (Congestion Relief): To provide for the predictable movement of goods and people throughout the state.	Move people, goods, and services reliably, safely, and efficiently by adding infrastructure capacity strategically, operating transportation systems efficiently, and managing demand effectively.	Travel times and hours of delay on the most congested state highways	annual	GNB 35 pp. 12-15
		Reliable travel times on the most congested state highways around Puget Sound	annual	GNB 35 pp. 12-15
		Percentage of commute trips while driving alone	annual	GNB 27 p. 92
		Average length of time to clear major incidents lasting more than 90 minutes on key highway segments	quarterly	GNB 35 pp. 17-19
		Ferry ridership	quarterly	GNB 35 p. 20
		Ferry trip reliability	quarterly	GNB 35 pp. 22-23
		Percent of ferry trips on-time	quarterly	GNB 35 pp. 22-23
		Amtrak *Cascades* ridership	quarterly	GNB 35 p. 24
		Percent of Amtrak *Cascades* trips on time	quarterly	GNB 35 p. 24

Linking performance measures to strategic goals

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
4. Environment: Enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.	Protect and restore the environment while improving and maintaining Washington's transportation system.	Conformance of WSDOT projects and programs with environmental legal requirements	annual	GNB 30 p. 36
		Number of fish passage barriers fixed and miles of stream habitat opened up	annual	GNB 30 p. 39
		Number of WSDOT stormwater treatment facilities constructed or retrofitted	annual	GNB 32 pp. 40-41
		Number of vehicle miles traveled	annual	GNB 31 p. 41
		Transportation-related greenhouse gas emissions (measure to be developed)	n/a	n/a

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
5. Stewardship: To continuously improve the quality, effectiveness and efficiency of the transportation system	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.	Capital project delivery: on-time and within-budget	quarterly	GNB 35 pp. 43-44
		Recovery Act-funded project reporting	quarterly	GNB 35 pp. 34-39

Navigating the WSDOT Information Stream

Organization of the Gray Notebook

Through more than 30 editions, in fact eight years, WSDOT has published a quarterly performance report titled *Measures, Markers & Milestones*, but known far and wide by its informal moniker, the *Gray Notebook*. Between its gray covers, it was organized in two sections:

- the Beige Pages, so-called for the color of paper they were printed on, which covered project delivery on the Nickel, Transportation Partnership Account (TPA), and Pre-Existing Funds project programs, and
- the White Pages, which presented quarterly and less frequent reports on a wide variety of transportation-related topics.

With the 30th edition, the *Gray Notebook* (now its formal title) made a host of other changes. This page will help you find the information and reports you are looking for.

How is the Gray Notebook organized?

The Gray Notebook (GNB) presents articles in a way that makes the topics' relationship to the five Legislative policy goals – and WSDOT's own strategic goals – more clear. (These goals are discussed in detail on page vi.)

The *Gray Notebook* is organized into five sections devoted to those strategic goals, each marked by a page that recaps WSDOT's goals for Safety, Preservation, Mobility/Congestion Relief, Environment, and Stewardship. Each section divider carries a mini-directory to the topics covered within the section, and points to other articles within the *Gray Notebook* that contain information relevant to that goal.

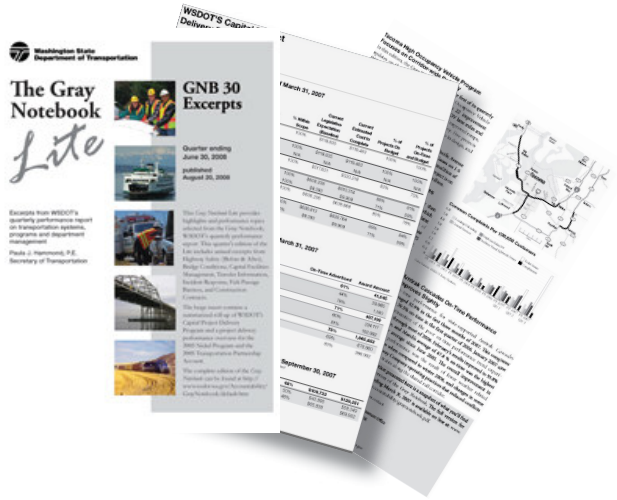
The first four sections primarily feature quarterly and annual reports on key agency functions, providing regularly updated system and program performance information that was previously covered in the White Pages. Annual system performance updates are rotated over four quarters based on data availability 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.

The Beige Pages are still beige; reporting on the delivery of the projects funded in the 2003 Transportation Funding Package (Nickel), 2005 Transportation Funding Package (TPA), and Pre-Existing Funds (PEF), they appear in the Stewardship section. They contain summary tables, detailed narrative project summaries, and financial information supporting WSDOT's "no surprises" reporting focus. The Stewardship section also presents articles covering finance, workforce, and similar issues. Starting in *Gray Notebook* 33, this section contains pages dedicated to the reporting of WSDOT's Federal Recovery Act-funded projects.

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: http://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 http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm.

A separate detailed navigation folio is available at http://www.wsdot.wa.gov/Accountability/GrayNotebook/.

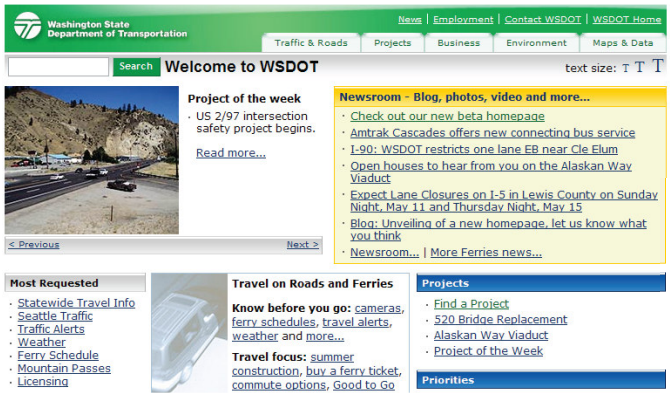
Gray Notebook Lite

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 http://www.wsdot.wa.gov/Accountability/GrayNotebook/navigateGNB.htm.

Online capital project reporting and using the 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. The *Gray Notebook*, in the Beige Pages section, highlights each quarter's progress and reports on financial and other program management topics, but much more detailed information can be found on-line at the WSDOT website.

WSDOT's on-line 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.



Navigate the WSDOT website

The WSDOT home page (shown above; 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) and the most recent edition of the *Gray Notebook*.

Project Pages

Project Pages (found at www.wsdot.wa.gov/projects/, typical page shown below) 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:

- Overall project vision
- Financial table, funding components
- Roll-up 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:

- Highlights
- Milestones
- Status description
- Problem statement
- Risks and challenges
- Project costs, cash flow
- Contact information.

Contributors

The work of many people goes into the writing, editing, and production of the *Gray Notebook* every quarter. This list of contributors reflects the efforts of data analysts, engineers, project leads, and many more individuals behind the scenes. Information is reported on a preliminary basis as appropriate and available for internal management use; it is subject to correction and clarification. On-line versions of this publication are available at www.wsdot.wa.gov/accountability

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Safety

Statewide policy goal:

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

WSDOT's business goal:

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.

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See also

Incident Response 17
Workforce Training 88

Earlier safety-related articles

Highway Safety, GNB 30, 32, 34

Worker Safety Quarterly Update

WSDOT employees: Rates of injuries and illnesses

Worker Safety Highlights

- WSDOT is continuing its strong commitment to improve worker safety into the 2009-11 biennium.
- New safety goals focusing on injury rates for sprains/ strains and hearing loss have been established. Using rate information will help regions and work units better understand their progress towards meeting the new injury reduction goals.
- WSDOT's Wellness Program is helping employees prepare for the 2009-10 flu season.

WSDOT has a strong commitment to improving the safety of its employees as they perform their jobs. In 2006, WSDOT established a goal of zero workplace injuries by 2019. Significant progress has been made toward this goal, but maintaining improved safety requires daily attention, both by managers and front-line workers.

2009 Safety Stand-Down

WSDOT observed its annual agency-wide "Safety Stand-down" in August 2009. During the stand-down, Secretary Hammond and managers communicated WSDOT's commitment to improved safety, and employees participated in meetings to identify and address safety hazards and concerns. Safety performance goals focusing on reducing sprains and strains, as well as hearing loss, were also announced. Sprains, strains, and hearing loss are the most frequent injuries across the agency. Injury data and information about approaches to reducing injuries were discussed by individual work units.

New injury reduction performance goals and tracking method

Tracking and understanding the types and causes of injuries are key elements of improving safety. Beginning in July 2009, WSDOT began focusing on injury rates - the number of injuries per 100 workers – in addition to the number of injuries. Measuring injury rates normalizes data across organizational units, and will help each unit better understand progress towards meeting its safety goals. Goals are tailored to each organizational unit based on past injury rates. A significant improvement in safety will be achieved if the goals are met.

During the first quarter of state fiscal year 2010, four of six regions (67%) were on track to achieve the new sprains and strains goal. Of the two regions that have conducted audio testing to date, only one is on track to achieve its hearing loss goal. Headquarters is not on track to meet the sprains and strains goal, and has not conducted audio testing to date. The ferry system is not on track to meet either goal.

WSDOT has established annual awards for organizational units that meet the new goals. In order to receive the team award, the unit must achieve both goals.

WSDOT strain/sprain and hearing loss injury rates by organizational unit

Number of injuries per 100 workers

Organizational unit	FY 2010 Sprain / strain goal	Rate of sprain / strain injuries Q1 FY 2010 (July – September 2009)	On-track to achieve FY 2010 sprains and strains goal?	FY 2010 Hearing loss goal	Rate of hearing loss injuries Q1 FY 2010 (July - September 2009)	On-track to achieve FY 2010 hearing loss goal?
Northwest Region	2.2	1.8	Yes	0.4	0.3	Yes
North Central Region	2.2	5.8	No	0.4	N/A*	N/A*
Olympic Region	2.2	1.0	Yes	0.4	N/A*	N/A*
Southwest Region	2.2	1.5	Yes	0.4	N/A*	N/A*
South Central Region	2.2	1.6	Yes	0.4	5.5	No
Eastern Region	2.2	3.7	No	0.4	N/A*	N/A*
All Regions combined	**2.2**	**2.1**	**Yes**	**0.4**	**0.8**	**No**
Ferry System	4.7	5.5	No	0.4	1.3	No
Headquarters	0.4	0.9	No	0.0	N/A*	N/A*
Agency-wide	**2.4**	**2.6**	**No**	**0.4**	**0.7**	**No**

Data Source: WSDOT Safety Office.

* Audio testing has not yet been conducted for this organizational unit

OSHA-recordable injuries and illnesses / Wellness Program

Regional accident mitigation plans target sprains and strains

Each region is establishing region-specific mitigation plans that target reducing sprains and strains and hearing loss. The implementation of the plans will be monitored and adjusted over time to improve results. Key elements of these mitigation plans include:

- Training for supervisors and employees on sprains and strains and hearing loss risk factors
- Training on hazard recognition and proper preparation and implementation of a pre-activity safety plan
- Promoting stretch and flex pre-work exercises
- Integrating wellness into regional safety and health promotions
- Emphasizing personal responsibility for employee safety and health.

Number of OSHA-recordable injury/illnesses by category of worker, July to September 2009

In addition to tracking the highest priority injuries, WSDOT will continue to track all OSHA-recordable injuries and illnesses. An OSHA-recordable injury is any occupational injury or illness that requires medical treatment beyond simple first aid. During the first quarter of FY 2010 (July – September 2009), employees sustained 102 OSHA-recordable injuries and illnesses, 16 more than the corresponding period last year, though six fewer than the previous quarter (April–June 2009).

Highway maintenance workers

Highway maintenance workers reported 37 injuries, 36% of all injuries agency-wide, 19 less than the previous quarter. There were 251 days away from work associated with all injuries. Eleven of the 37 were sprain/strain, with 127 days away from work associated with these injuries.

Highway engineering workers

Highway engineering workers reported 23 injuries, 23% of all injuries agency-wide, five more than the previous quarter. There were 17 days away from work associated with all injuries. Eleven of the 23 were sprain/strain, with four days away from work associated with these injuries.

Administrative staff

Administrative staff reported two injuries, both of which were sprain/strain injuries. This is one less than the previous quarter and the same as the first quarter of FY 09. There were two days away from work associated with these injuries.

Ferry system

Ferry system workers reported 40 injuries, 39% of all injuries agency-wide, and nine more than the previous quarter. There were 1,234 days away from work associated with all injuries. Twenty-one of the 40 were sprain/strain, with 744 days away from work associated with these injuries.

Wellness Program

The WSDOT Wellness Program continues to promote the Health Risk Assessment (HRA). The HRA collects data on the health and lifestyles of employees while providing feedback to participants encouraging healthy behaviors. WSDOT has completed more assessments than last year, but the agency's ranking compared to other agencies has fallen.

WSDOT has established a goal of 30% of employees completing the HRA. As WSDOT moves closer to the goal, a more accurate snapshot of employee health will emerge, particularly regarding medical screening, chronic disease management, and health promotion.

Health Risk Assessments completed

August 31, 2009	2008	2009
Health risk assessments completed	729	811
Percent of assessments completed	10	12
Ranking among 83 state agencies	40	51

Data Source: Health Care Authority and WSDOT Wellness Program.

Flu prevention

The Wellness Program has created a statewide, workplace flu shot schedule. Regions participate by giving their employees information and providing opportunities to receive the seasonal flu vaccine. To reach as many WSDOT employees as possible, the Wellness Program has also disseminated seasonal flu educational information through many media sources, including the wellness webpage and newsletter, and by posting information in various work areas throughout the regions. By October 1, 2009, approximately 1,300 visitors had viewed the newsletter online. WSDOT employees report that the website is a valuable source of information for seasonal flu, H1N1 virus, and wellness information.

Worker Safety Quarterly Update

Other Workforce Safety-Related Activities

Return to Work Unit Update

The Return to Work Unit assists injured employees in recovering from a workplace injury and to return to work more quickly. Goals of the program include:

- Improving communication with the injured worker to ensure the right medical care is provided,
- Working with medical providers and vocational counselors to monitor recovery,
- Developing return-to-work options when appropriate,
- Informing supervisors about the status of recovery and the prognosis for the future, and
- When appropriate, facilitating independent medical exams to assist in claim closures.

Helping employees return to work more quickly not only benefits the employee and work team, but also reduces time-loss and medical costs.

The program works closely with supervisors and the Department of Labor and Industries (L&I) to facilitate timely return to work and streamline processes. Working together, WSDOT and L&I have identified the top 50 claim types that affect insurance rates paid by the agency and employees. In less than four months, the unit closed 29% of these high impact claims. Other program initiatives include improving options and benefits available to WSDOT's injured workers, and coordinating leave with regional payroll offices to maximize benefit coverage.

Emergency Preparedness Month activities

WSDOT marked September's National Preparedness Month and NOAA Weather Radio Awareness Month by asking staff to focus on the importance of preparing for disasters and emergencies.

Agency staff participated in several events, including:

- State Capitol Campus Safety and Preparedness Fair
- Statewide "Drop, Cover and Hold" earthquake drill
- Business Resiliency webinar

The earthquake drill formed part of a nationwide test of emergency news dissemination and communication systems. In Washington, the National Weather Service (NWS) West Coast/Alaska Tsunami Warning Center in Palmer, Alaska, initiated a tsunami warning communications test along the entire west coast of the lower 48 states. WSDOT participated by initiating its "Drop, Cover and Hold" drill upon receiving the test message.

WSDOT HQ Safety Committee launches safety awareness campaign

In September, the WSDOT Transportation Building Safety Committee launched a light-hearted "Bee Safe" awareness campaign targeting strains and sprains with a new activity booklet. It highlighted ergonomics, trips and falls, ladder safety, and proper lifting as likely causes of such injuries. The Bee Safe mascot appears throughout the booklet; employees were encouraged to bring the activity booklet home to share with children, family members, and friends.

A poster addressing the prevention of hearing loss from the "Bee Safe" campaign.

Evaluating Specific Roadside Safety Strategies

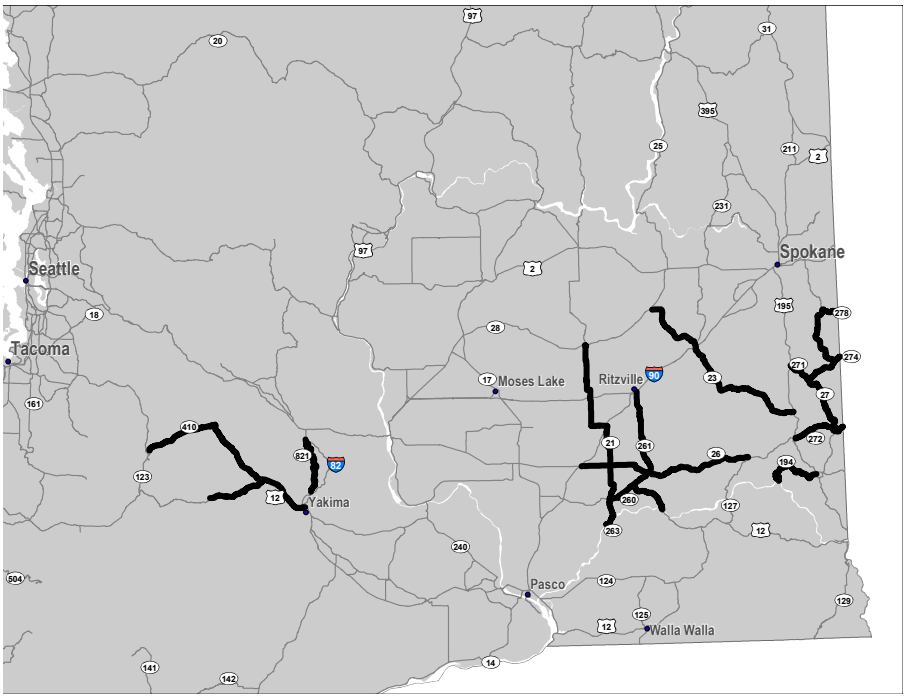
This article provides a preliminary look at Before and After data on completed roadside safety projects and summarizes recent evolutions in WSDOT's highway safety strategy. In 2006, Governor Gregoire signed the Washington State Strategic Highway Safety Plan, Target Zero, which re-established the goals and strategies for improving the safety of all Washington State highways. The plan involves a broad cross-section of organizations involved in traffic safety including WSDOT, the State Patrol, the Washington Traffic Safety Commission, representatives from cities and counties and emergency responders. The goals and strategies in Target Zero also serve as the basis of WSDOT's traffic operations and capital safety program. WSDOT is constantly evaluating the effectiveness of its strategies to reduce the severity of collisions on the state's highways. More of these results can be found in the Highway Safety Annual Update article in the June 30, 2009, *Gray Notebook 33*, pages 5-11.

Preliminary analysis for roadside safety: Guardrail and shoulder rumble strips

WSDOT developed a roadside safety strategy as part of its capital program recommendations for safety to the Legislature. The Legislature included several of these projects as part of its 2005 Transportation Partnership Act (TPA).

WSDOT is starting to evaluate the effectiveness of its roadside safety efforts to reduce the number and severity of run off the road collisions on rural highways, one of the leading types of serious collisions in Washington. Roadside safety projects to date include installing safety counter-measures such as guardrail and shoulder rumble strips, which are intended to reduce the severity of run-off-the-road collisions initiated by human factors such as drinking and driving, excessive speed, and distracted, fatigued, or aggressive driving. In the future, other cost-effective strategies may also be used.

Locations of initial Before & After data for roadside safety improvement corridors



Highway Safety Highlights

- WSDOT has begun preliminary analysis on the effectiveness of roadside safety projects, including guardrail and shoulder rumble strips to reduce the severity of run-off-the road collisins.
- Washington uses a two-pronged approach to program safety projects, focusing on collision reduction and prevention.
- WSDOT evaluates strategies based on performance (reduction in severity of collisions) and cost effectiveness.

Highway Safety Strategy: Collision reduction and prevention

Many such projects have been constructed and WSDOT has begun a preliminary assessment of their effectiveness. For full analysis of effectiveness, WSDOT compares three years of Before data to three years of After data.

Preliminary Before and After roadside safety data: Guardrail and shoulder rumble strips*
By collision type

Collision type	Year 1 Before	Year 2 Before	Year 3 Before	Year 1 After
Fatal and/or serious	4	2	11	4
Minor injury	26	23	21	25

Data Source: WSDOT.
*Analysis is on-going. WSDOT uses three years of After data for full analysis of effectiveness.

These projects only have one year of After data to analyze to date, and analysis is on-going. The map on the previous page shows corridors that have been complete for at least one year. Safety counter-measures such as guardrail and shoulder rumble strips were installed at priority run-off-the-road collision locations on 15 corridors, totaling more than 460 miles. As the remainder of projects are completed and more data is gathered, WSDOT will more thoroughly review the effectiveness of these strategies.

Highway safety strategy: Collision reduction and prevention

WSDOT uses a two-pronged approach to program safety projects, focusing on reducing and preventing collisions. Collision reduction focuses on addressing locations with an above-average number of collisions, which are also often more severe. Before 1993, prevention addressed bringing roadways up to federal safety standards when repaving highways, an approach that was limited to locations where WSDOT was paving.

Approach is driven by performance data

WSDOT identifies corridors more than a mile long with an above-average number and severity of collisions. WSDOT analyzes historical collision data and identifies locations with clusters of collisions and serious collisions. Based on analysis of Before and After data of completed safety projects, appropriate strategy is used for high risk corridors.

Future strategies to identify locations for preventative safety projects

WSDOT has carefully reviewed collision data by location and type, as well as by the contributing factors, to identify where the most serious collisions are occurring. This scrutiny has led to the development of new methods for identifying collision reduction locations and corridors with above-average numbers serious and fatal collisions.

Refining safety strategies to address remaining collisions

WSDOT continues to evaluate counter-measures for future strategies, weighing results for performance (reducing the severity of collisions) and cost-effectiveness.

As the program has progressed, collisions now appear more random and spread-out. Targeting the remaining collisions appears to require more expensive solutions because longer distances are involved and and new environmental issues must be addressed; some sites may also require retrofitting past practices. As a result, the recent pace of performance improvement may slow, however fatal collisions on state highways have declined by more than 10 percent in four of the past five years, and this year appears to be on track for a similar outcome.

WSDOT has observed a growing trend in the number of accidents involving drivers under the influence of alcohol, speeding, and failing to yield the right of way. WSDOT is exploring options that will focus on implementing design guidance in a tiered fashion to reduce risk for a reasonable investment of public funds.

Guardrail improvements in WSDOT's eastern region.

Preservation

Legislative policy goal:

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

WSDOT's strategic goal:

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

Ferries Vessel & Terminal Preservation 8

See also

Washington State Ferries (Mobility) 20
Special Report: Federal Recovery Act-funded Projects 34
Capital Projects Quarterly Report (Beige Pages) 40

Previous GNB reports

Pavement Condition, GNB 32
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Safety Rest Areas GNB 33
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Washington State Ferries
Ferry Vessel & Terminal Preservation Update

Ferries Vessel Preservation

Ferry Vessel & Terminal Preservation Highlights

85% of ferry vessels vital systems and 51% of other systems are designated good or fair, when rated against their standard life cycles.

84% of ferry terminals components are in good or fair condition.

WSDOT's Ferry System is part of the state's highway system and a regional mass-transit provider. It provides a critical link to communities separated by water or long driving distances, and is essential to the movement of people and goods in the Puget Sound. WSDOT places high priority on preserving terminals and vessels, and is working with the Governor and Legislature to find long-term solutions to Ferries' preservations needs.

WSDOT transitioning to terminal and vessel condition ratings

WSDOT is transitioning to reporting terminal and vessel asset preservation data using condition ratings in accordance with recent statutory and budget direction. The reporting schedule will be changed to align with the annual frequency of reporting used with other capital asset preservation programs. The *Gray Notebook* will next report on ferries preservation using these measures in the March 31, 2010, edition. The process for reporting vessel condition is under development and the vessel system life cycle assessment used in this edition is an interim measure. Terminal condition ratings will be modified slightly to incorporate more detail.

WSF vessel system life cycle status definitions

Status	Description
Good	More than 10% of standard life cycle remaining.
Fair	Has not reached the end of its standard life cycle but only has 10% or less remaining.
Poor	Has reached the end of its standard life cycle but is only past the end of it by 10% or less.
Sub-standard	Has reached the end of its standard life cycle and is past the end of it by more than 10%.

Source: WSDOT Ferry System.

Vessel preservation performance

WSDOT uses a life cycle approach to assess the preservation status of vessel systems and measure performance in reducing preservation needs.

The WSDOT Ferry System tracks the life cycle status of vessel systems in terms of how close each system is to the end of its standard life cycle interval. The table at left displays the number of vessel systems designated "good," "fair," "poor" or "sub-standard," rated on how close each is to the end of its standard life cycle (see the definitions table above). Ratings of "poor" or "substandard" do not indicate that the system is unsafe, but should receive more intensive evaluation to determine its preservation needs. At the beginning of the 2009-2011 biennium, 72% of the fleet's systems are designated "good" or "fair."

There are two categories of vessels systems. Category 1 systems are designated in law by the U.S. Coast Guard as "vital to the protection of people, the environment and the vessel." All other vessel systems are designated Category 2. At the beginning of the 2009-2011 biennium, 85% of Category 1

Vessel system life cycle assessment*

	# of systems	Good	Fair	Poor	Sub-standard
Category 1 systems					
Communication, navigation, lifesaving systems	451	80%	1%	12%	7%
Major mechanical/electrical systems	104	86%	7%	7%	0%
Piping systems	60	63%	5%	8%	23%
Propulsion systems	245	89%	2%	2%	7%
Security systems	34	100%	0%	0%	0%
Steel structural systems	40	68%	0%	17%	15%
All Category 1 systems	**934**	**83%**	**2%**	**8%**	**7%**
Category 2 systems					
Major mechanical/electrical systems	139	47%	9%	4%	40%
Passenger and crew spaces	58	45%	5%	7%	43%
Piping systems	80	34%	2%	9%	55%
Steel structural systems	116	50%	4%	10%	36%
Structural protection systems	176	51%	0%	14%	35%
All Category 2 systems	**569**	**47%**	**4%**	**9%**	**40%**
All vessel systems	**1503**	**69%**	**3%**	**9%**	**19%**

Source: WSDOT Ferry System. * Note: These assessments are under review and will be replaced with condition ratings in 2010.

Ferries Vessel Preservation

systems are designated as "good" or "fair." For Category 2 systems, 51% are designated "good" or "fair."

The vessel system life cycle assessment is also conducted by types of system. The types of systems are communication-navigation and life saving equipment, major mechanical and electrical equipment, piping systems, passenger and crew spaces, propulsion systems, security systems, steel structures and structural protective systems. The Vessel System Life Cycle Assessment table on the previous page shows the status of all these types of systems. All types of Category 1 systems have a higher percentage designated "good" or "fair" than any type of Category 2 system. This reflects WSDOT's emphasis on preserving systems that the US Coast Guard designates as "vital to the preservation of people, the environment, and the vessel."

Planned vessel preservation activities will reduce backlog

State law requires a strategic plan for reducing backlogs of ferry vessel repair projects (RCW 43.88.030(3)(d)). The performance measurement for the Ferries vessel preservation activity measures the outcome of investments directed at reducing these backlogs. The table below shows preservation needs projected through the end of the 2009-2011 biennium, projected reductions of these needs resulting from planned preservation investments and progress in achieving planned reductions in needs based on biennium-to-date investments.

Preservation needs are measured in terms of the percentage of vessel systems, weighted by their life cycle model cost factors, that have reached the end of their standard life cycles. Preservation needs consist of the backlog of preservation needs existing prior to the 2009-2011 biennium and additional preservation needs for systems that reach the end of their life cycles

Planned vs. actual reduction in Ferries capital preservation investments
In percentage of the weighted value of systems past their standard life cycles
First quarter, 2009-2011 biennium; Actual reductions are July 1–September 30, 2009

	System preservation needs			Planned reductions		Actual reductions	
	Backlog prior to 2009-11	Additions to backlog in 2009-11	Backlog at end of 2009-11 before reductions	Planned backlog reduction in 2009-11	Planned backlog at end of 2009-11	Reductions to date	Projected end of biennium backlog to date
Category 1 systems							
Communications, navigation, lifesaving systems[1]	17%	8%	25%	-8%	17%	0%	25%
Major mechanical/electrical systems[2]	8%	7%	15%	-5%	10%	0%	16%
Piping systems[2]	28%	7%	36%	-4%	32%	0%	16%
Propulsion systems[1]	6%	1%	8%	-4%	3%	0%	8%
Security systems[1]	0%	0%	0%	0%	0%	0%	0%
Steel structural systems[1]	29%	2%	31%	-13%	18%	-5%	26%
All Category 1 systems	**12%**	**3%**	**15%**	**-6%**	**9%**	**-1%**	**14%**
Category 2 systems							
Major mechanical/electrical systems[2]	23%	18%	41%	-13%	28%	0%	40%
Passenger and crew spaces[1]	36%	27%	63%	-29%	34%	0%	63%
Piping systems[1]	60%	15%	74%	-17%	57%	0%	74%
Steel structural systems[2]	37%	8%	45%	-4%	40%	0%	45%
Structural protection systems[1]	51%	7%	58%	-19%	39%	-2%	56%
All Category 2 systems	**40%**	**16%**	**56%**	**-19%**	**37%**	**-1%**	**56%**
All vessel systems	**28%**	**10%**	**38%**	**-13%**	**25%**	**-1%**	**37%**

Source: WSDOT Ferry System.

1 Planned decrease or no change in preservation needs. 2 Planned increase in preservation needs.

Ferries Terminals Preservation

in the 2009-2011 biennium. Planned preservation investments will offset some of the needs projected to exist by the end of the biennium. This vessel preservation performance measure shows the biennium-to-date progress in achieving the planned backlog reduction outcome for the biennium.

If no preservation investments are made during the biennium, 38% of the weighted value of the systems comprising the vessels of the fleet will be operating beyond their standard life cycles. Of this need, 28% accumulated prior to the 2009-2011 biennium and 10% of this need will be added during the 2009-2011 biennium. Planned preservation investments will reduce preservation needs by 13%, resulting in a decrease of fleet-wide preservation needs from 38% to 25%. Planned 2009-2011 biennium investments will reduce or hold steady the backlog of preservation for four of the six types of category 1 systems and three of the five types of category 2 systems.

Ferries terminals preservation

Currently, WSDOT manages 20 ferry terminals and a repair facility, comprised of 597 separate components. WSDOT evaluates terminals like other state bridges, using the Washington State Bridge Inventory System to track the condition of all ferry terminal and repair facility components. Included in the condition assessment are all of the critical components of super- and sub-structures, including landing aids (wingwalls and dolphins), vehicle transfer span systems, overhead loading systems, trestles, bulkheads, and pavements. Ferry terminals are part of WSDOT's inventory of over 3,600 bridges and related structures.

Terminal components are assessed based on four condition ratings: "good," "fair," "poor," and "sub standard." (The "sub-standard" condition rating is unique to the ferry system compared with other WSDOT bridge programs. This rating does not mean the system is unsafe, but is in greater need of preservation.) The rating system evaluates the level of deterioration, damage, and compromised functionality on terminal components before giving them a structural condition rating. What distinguishes "good" from "fair," for example, is defined in the table below.

WSF bridge structural condition definitions

Category	Description
Good	The structure is performing as designed with all elements functioning as intended.
Fair	All primary structural elements are sound but may have deficiencies such as crushed timbers, deterioration, and some section loss of anchor chain.
Poor	There is moderate deterioration of some of the elements due to section loss or rotten and crushed timbers, and moderate loss of anchor chain are present.
Sub-standard	There is advance deterioration due to section loss of steel elements, rotten or crushed timbers, broken or leaning pilings, broken hardware, and severe section loss of anchor chain. Flotation structure may be compromised.

Source: WSDOT Ferry System.

WSDOT last reported on terminal condition ratings in the December 31, 2008 *Gray Notebook 32*. Since the last report, the percentage of components has remained stable. The table below details the condition levels of these components for all 20 of WSDOT's terminals and its repair facility.

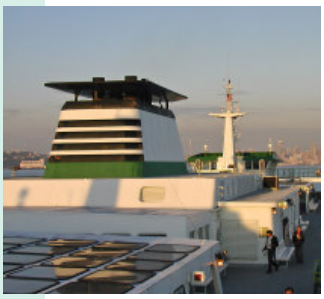
WSF structural condition rating for terminal systems

System	# of systems	Good	Fair	Poor	Sub-standard
Landing aids[1]	176	53%	19%	16%	11%
Vehicle transfer spans	210	27%	59%	13%	1%
Overhead loading systems	66	55%	42%	3%	0%
Trestle & bulkheads	72	24%	69%	7%	0%
Pavement	73	58%	33%	5%	4%
Total average	**597**	**41%**	**43%**	**11%**	**4%**

Source: WSDOT Ferry System. [1] Includes dolphins and wingwalls.

The majority of structures that were rated "poor" or "sub-standard" in the last WSDOT assessment were landing aids such as wing-walls and dolphins. Many of these aging components are deteriorating, creosote-soaked wood pilings that are susceptible to rot from being submersed in the marine environment. WSDOT's plan is to replace these systems with concrete and steel structures to improve the usable life-span of these components, and to reduce marine contamination by removing creosote sources from the water.

mobility



Mobility
(Congestion Relief)

Statewide policy goal:

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

WSDOT's business goal:

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

Measuring Delay and Congestion Annual Report

Congestion Report Dashboard of Indicators

Many factors contributed to reduced congestion in 2008

Even in the face of continued population growth, the dynamics of higher fuel prices, the economic recession, and the completion of numerous congestion relief projects helped reduce congestion on state highways in 2008. Drivers drove less and experienced less delay during peak traffic periods on the most congested state highways. The efficiency of the highway system increased, reducing economic costs of delay to businesses and citizens.

2009 Congestion Report Dashboard of Indicators	2006	2007	2008	Difference 2006 vs. 2008*
Demographic and Economic Indicators				
State population (millions)	6.4	6.5	6.6	+3%
Average gas price per gallon (January)	$2.23	$2.65	$3.16	+42%
Average gas price per gallon (July)	$3.02	$2.96	$4.36	+44%
Unemployment rate (annual)	4.9%	4.5%	5.3%	+0.4%
Rate of annual economic growth (Gross Domestic Product—Washington)[1]	2.8%	4.4%	2.0%	-0.8%
Rate of change in real personal income[1]	5.6%	5.3%	0.5%	-5.1%
System-wide Congestion Indicators				
Less Travel				
Statewide vehicle miles traveled (VMT), in billions	56.5	57.0	55.6	-2%
Statewide per capita VMT, in miles	8,867	8,779	8,440	-5%
Less System Congestion				
Lane miles of state highway system congested[2]	1,030	1011	930	-10%
Percent of state highway system congested[2]	6%	6%	5%	-1%
Less Delay				
Total vehicle hours of delay on state highways, in millions of hours[2]	37	32	32	-13%
Per capita delay on state highways, in hours of delay/capita[2]	5.7	4.9	4.8	-16%
Reduced Costs				
Estimated economic costs of delay on state highways in millions[1,2]	$880	$770	$765	-13%
Corridor Specific Congestion Indicators				
Congestion on 38 High-Demand Commute Routes in the central Puget Sound[3]				
Number of routes where the duration of the congested period improved[2]	1	8	31	30
Number of routes where average peak travel time improved	3	9	30	27
Number of routes where 95% reliable travel time improved	2	10	26	24
WSDOT Congestion Relief Projects				
Number of completed Nickel and TPA mobility projects as of September 30th of each year (cumulative)	12	34	46	34
Cumulative Project Value (millions)	$172	$708	$1,154	$982

Data sources include: WSDOT, Office of Financial Management; Economic and Revenue Forecast Council; Bureau of Economic Analysis, U.S. Department of Commerce.

***Note:** Analysis in the Congestion Report examines 2006 and 2008 annual data, to more accurately capture congestion trends. 2007 data is provided for information only. **1** Adjusted for inflation. **2** Based on maximum throughput speed thresholds. 'Maximum throughput' is defined as the optimal traveling speed, where the greatest number of vehicles can occupy the highway at the same time; usually measured at between 70% and 85% of posted speeds. For delay 50 mph is used for the threshold, and for duration of the congested period, 45 mph is used. **3** 2008 data not available for four of the 38 routes. For more information please see gray box on p. 15 of the 2009 Annual Congestion Report.

2009 Congestion Report: Executive Summary of Measures and Results

The full *2009 Annual Congestion Report* has been published separately; it is available on request or on line at http://wsdot.wa.gov/accountability/congestion. This summary provides a menu of measures to readers of the *Gray Notebook* that are elaborated on in greater detail in the full report. The page numbers shown in this executive summary refer the reader to the full analyses on each measure topic in the *Annual Congestion Report*.

The *2009 Annual Congestion Report* examines 2008 calendar year data focusing on the most traveled commute routes in the central Puget Sound region, and where data are available around the state. The Annual Congestion Report's detailed analysis shows where and how much congestion occurs, and whether it has grown on the state highway system.

Gas prices, the economic recession, and WSDOT's *Moving Washington* projects and strategies helped reduce congestion in 2008

The dynamics of higher fuel prices, the economic recession, and the completion of numerous WSDOT *Moving Washington* projects helped reduce congestion on state highways in 2008. Overall, individuals in Washington traveled over 400 miles less in 2008 compared to 2006 with per capita VMT dropping from 8,867 miles to 8,440 miles. Statewide, travel delay on state highways declined by roughly 13% in 2008 compared to 2006. On major Puget Sound corridors travel delay was reduced by 25%. Commute times and reliability also improved on most of the tracked high-demand commute routes in the central Puget Sound.

2009 Congestion Report Executive Summary of Measures and Results – Looking at 2008 data

Trend is moving in a favorable direction. | Trend is holding. | Trend is moving in an unfavorable direction.

		Trend	Where to find in the 2009 Annual Congestion Report
Statewide Indicators: Percent system congested, Hours of delay, and vehicle miles traveled			
***NEW* Percent System Congested:** Roughly 5.7% of state highways (in lane miles) were congested in 2006, meaning they dropped below the maximum throughput speed defined as being 70% below posted speeds. This measure dropped to 5.2% in 2008, mirroring the decrease in travel seen throughout the country. As expected, most of the congested state highways are in urban areas (4.7% of all state highways in 2008).	Percent of state highways that are congested dropped by 0.5% from 2006 (5.7%) to 2008 (5.2%).	↑	p. 11
Total statewide delay: Statewide delays, relative to posted speeds and maximum throughput speeds (roughly 50 mph) decreased by 10% and 13% respectively. The decrease in delays indicates that many highways across the state became less congested between 2006 and 2008.	Total statewide vehicle hours of delay declined by 13% relative to max flow speeds.	↑	p. 10
***NEW* Per capita delay:** On a statewide per capita basis, between 2006 and 2008, delay declined from about 5.7 hours/capita/year to 4.8 hours/capita/year as measured using maximum throughput speeds (roughly 50 mph).	Per capita delay declined by 16% between 2006 and 2008.	↑	p. 10
Vehicle miles traveled: Total VMT on state highways declined by 3.8% between 2007 and 2008 and 3.2% between 2006 and 2008. VMT on all public roads dropped by 2.4% between 2007-08 and 1.7% between 2006-08. Associated with this, statewide per capita VMT dropped by 3.9% between 2007-08 and 4.8% between 2006-2008.	Per capita VMT on all public roadways declined by 4.8% between 2006 and 2008.		pp. 11-12
Central Puget Sound corridors: Hours of delay and vehicle miles traveled			
Vehicle hours of delay on major central Puget Sound corridors: Between 2006 and 2008, vehicle hours of delay relative to the posted speeds (60 mph) and maximum throughput speeds decreased by approximately 19% and 25% respectively. All surveyed corridors saw drops in travel delay.	Travel delay dropped by 25% relative to max flow speeds.	↑	p. 12
Vehicle miles traveled (VMT) dropped overall in the central Puget Sound in 2008. On the selected major Puget Sound corridors, VMT dropped by 2.1% in 2008 compared to 2006. The steepest drop was over 4% seen on SR 167 while VMT on I-5 dropped the least at just above 1%.	VMT dropped by 2.1% in 2008 compared to 2006.		p. 12

Measuring Delay and Congestion Annual Report

Executive Summary of Measures and Results

Trend is moving in a favorable direction. | Trend is holding. | Trend is moving in an unfavorable direction.

	Trend	Where to find in the 2009 Annual Congestion Report
Central Puget Sound corridors: Throughput Productivity		
Throughput productivity compares the observed average vehicle flow (vehicles per lane per hour – vplph) for a selected location to the observed highest average five minute vehicle flow at that location. Six of the eight selected Puget Sound monitoring locations, show improvements in vehicle throughput from 2006 to 2008. Two locations saw worse throughput productivity (I-5 at I-90 and I-405 at SR 169). I-405 at SR 169 in Renton continues to experience the greatest loss in throughput productivity, whereby congested conditions result in an approximate 45% reduction in vehicle throughput during the morning peak period.	Six of eight locations saw improvements in throughput productivity between 2006 and 2008.	pp. 13-14
Travel Times Analysis: High Demand Puget Sound Commute Routes		
Average peak travel times improved on 30 of the surveyed high demand commute routes between 2006 and 2008, with improvements ranging from 1 to 9 minutes. Average travel times became worst by between one and two minutes on two commutes (Bellevue to Tukwila evening commute and Bellevue to Lynnwood evening commute) during the same period and remained unchanged on two.	Average peak travel times improved on 30 commutes, remained the same on 2, and became worse on 2 between 2006-2008.*	pp. 15-22
95% reliable travel times: Between 2006 and 2008, 26 of the 38 high demand commutes saw improvements in 95% reliable travel time, with improvements ranging from one to 16 minutes. Five commutes saw reliable travel times worsen between one and seven minutes, while reliable travel times remained unchanged on three commutes.	Reliable travel times improved on 26 commutes, remained the same on 3, and became worse on 5 between 2006-2008.*	pp. 15-22
Duration of congested period: The duration of congestion—defined as the period of time in which average speeds fall below 45 mph—improved on 31 routes between 2006 and 2008 with improvements ranging from 5 minutes to 1 hour 35 minutes. One route did not show a change in the duration of congestion, and two routes do not typically fall under the 45 mph threshold.	Duration of congestion improved on 31 commutes, remained the same on 1, and 2 without congested periods.*	pp. 15-22
Additional Performance Analyses for the High Demand Puget Sound Commute Routes		
***NEW* Range of percentiles reliability analysis:** This year, WSDOT is introducing a new analysis of reliability to complement the existing average travel time and 95% reliable travel time discussion. This new analysis includes looking at travel times at the 50th percentile (median), 80th percentile, and 90th percentile values for the 38 high demand routes, in addition to the standard 95th percentile. The percentile analysis also provides a way to track changes in travel times over the years at a finer level, in order to evaluate operational improvements.		pp. 23-25
Percent of days when speeds were less than 35 mph – Stamp graphs: The most visual evidence of peak periods improving in 2008 can be seen in the graphs on pages 25-27 of the 2009 Annual Congestion Report. These "stamp graphs", comparing 2006 and 2008 data, show the percentage of days annually that observed speeds fell below 35 mph (severe congestion).		pp. 25-27
Travel time comparison graphs: These bar graphs on pp. 28-30 show four of the travel time performance indicators: travel times at posted speeds, travel time at maximum throughput speeds (50 MPH), average peak travel times, and 95% reliable travel times. For each of the surveyed high-demand commutes general purpose (GP) and HOV travel times are shown. The graphs also illustrate the travel time advantages HOV lane users have compared to GP lane users.		pp. 28-30

* 2008 data not available for four of the 38 routes. For more information please see gray box on p. 15 of the 2009 Annual Congestion Report.

Executive Summary of Measures and Results

Trend is moving in a favorable direction. Trend is holding. Trend is moving in an unfavorable direction.

	Trend	
Travel Time Analysis: 14 Additional Puget Sound Commutes		
In addition to the high demand commute routes, WSDOT tracks 14 other commutes in the central Puget Sound where data are available. Average travel times for eight of these 14 routes improved by 1 to 2 minutes between 2006 and 2008. One route showed an increase in average travel times with five unchanged in 2008 compared to 2006. In terms of the 95% reliable travel time, nine of the routes saw improvements in travel times ranging from 1 and 7 minutes between 2006 and 2008, with the rest showing no change.	Average peak travel times improved on 8 of 14 commutes, remained the same on 5, and became worse on 1 between 2006-2008.	pp. 31-32
Travel Time Analysis: Spokane Commutes		
For 2008, incidents remained the major cause of delay and congestion on the two tracked Spokane commute corridors as reflected in the increase in the 95% reliable travel time and measured hours of congestion during the evening peak. Reliable travel times for Spokane remain good being no more than 3 minutes more than travel times at posted speeds. Spokane traffic volumes on I-90 decreased this past year with a peak flow near Altamont Street of 110,000 vehicles per day. This is a decrease of 2.6% since 2006. An overall decrease was measured not only in volume but also vehicle miles traveled which decreased by 3% during the peak periods in 2008 as compared to 2006.	Average peak travel time increased on one route and stayed the same on the other. Reliable travel times increased on both tracked Spokane commutes.	p. 32
HOV Lane Performance		
Person Throughput: Most HOV lanes continue to be more effective at moving more people during peak periods than general purpose (GP) lanes. At the monitoring locations, the average HOV lane carries about 35% of the people on the freeway in the morning and evening peak periods. At eight of the ten monitoring locations HOV lanes move more people than adjacent GP lanes.	HOV lanes carry more people than average GP lanes at 8 of 10 monitoring locations.	pp. 33-34
HOV Lane Reliability Standard: The reliability standard requires the HOV lane to maintain a speed of 45 mph for 90% of the peak hour. Five of the seven HOV corridors in the peak direction during the evening peak hour have high enough traffic volumes that the corridors are below the HOV performance standard, and three of the seven corridors in the peak direction during the morning peak period are below the performance standard. The graphs on pages 38-39 compare general purpose lane performance and HOV lane performance at the HOV lane reliability speed of 45 mph.	8 of 14 HOV commute corridors did not meet the reliability standard, as compared to 2007 when 9 corridors failed.	p. 35
HOV Lane Travel Times: Average travel times and 95% reliable travel times are almost always faster in HOV lanes than in general purpose (GP) lanes. In 2008 Average HOV travel times beat GP lane travel times on 38 out of 44 instances. Forty-one HOV lanes provide better reliability (95% reliable travel time) than their general-purpose lane counterparts.	In terms of average travel time HOV lanes are faster than GP lanes in 38 of 44 instances.	pp. 35-39
On-going tracking of performance for operational strategies		
Operate Efficiently–Incident Response Quarterly Update: In Quarter 3 of 2009, the statewide average clearance time was 12.9 minutes, up 2.4% from the same quarter last year. The average duration of the 70 over-90-minute lane-blocking incidents on the nine key corridors was 156 minutes during Quarter 3, 2009, and the annualized average for the three quarters of 2008 to date is 156 minutes, just above the target of 155 minutes.	The average clearance time for 90+ minute incidents on the key congested corridors was 156 minutes this quarter, 1 min above the GMAP target.	pp. 49-50

Measuring Delay and Congestion Annual Report

Executive Summary of Measures and Results

Before and after analyses for selected Moving Washington projects

WSDOT's program for addressing congestion is Moving Washington—a three part strategy comprised of adding highway capacity strategically, operating the system more efficiently, and managing demand. WSDOT performs before and after studies to assess the effectiveness of Moving Washington projects and strategies in reducing congestion and to report their impacts to the public. Governor Gregoire challenged WSDOT to broaden its reporting of Nickel and TPA project outcomes important to Washington citizens, specifically, measuring the results from the driver's perspective for each completed project. This includes measuring congestion benefits. An overview of WSDOT's Moving Washington Program to fight congestion can be found on pp. 53-55 of the Annual Congestion Report. Page numbers on this page refer to the relevant section of the 2009 Annual Congestion Report.

Moving Washington: Add Capacity Strategically

As our state continues to grow, it is necessary to develop additional traffic capacity. To get the most from limited resources, WSDOT plans projects wisely by targeting the worst traffic-flow chokepoints and bottlenecks in the highway system. The following project examples show that this strategy is working to ease congestion.

Add Capacity Strategically – Nickel and TPA Mobility Projects, p. 40
A study of 15 completed Nickel and TPA projects statewide resulted in a 15% improvement in combined peak period travel times through these segments after construction was completed. These projects showed a 7 MPH average improvement in travel speeds during peak periods with travel times through the project segments improving by up to 2.5 minutes. The improvements occurred despite the fact that volumes increased by 14% on these segments.

Add Capacity Strategically – I-5/SR 502 interchange project in Clark Co., pp. 41-43
This project helps improve commute times on I-5 during peak periods by seven minutes during the morning peak and two minutes during the evening peak.

Add Capacity Strategically – I-405 South Bellevue widening project, p. 43
The peak morning commute in 2008 was 45 minutes from 7:30 am-8:30 am before construction. After the new lane was opened to traffic, that peak morning commute was reduced to less than 30 minutes.

Moving Washington: Operate Efficiently

Operating efficiently means taking steps to smooth-out traffic flow and avoid or reduce situations that constrict road capacity. Collisions account for at least 25% of traffic backups, so making our roads safer will go a long way toward easing congestion. Technology, such as driver information signs, enables WSDOT to react quickly to unforeseen traffic fluctuations. Among the tools that provide this efficiency are metered freeway on-ramps, incident response teams, variable speed-limit systems, variable tolling and integrated traffic signals.

Operate Efficiently–I-5 to US 2 Hard Shoulder Running, pp. 44-45
WSDOT added signs and restriped the US 2 trestle to allow shoulder use during the evening peak and installed nine ramp meters. During the evening peak hour, these projects have reduced travel times by six minutes, or more than 50%.

Operate Efficiently–SR 167 HOT Lanes, pp. 45-46
Drivers paid an average of $1 to save eight minutes on average during the morning peak hour and four minutes during the evening peak hour. Travel times for carpools and transit have been maintained.

Operate Efficiently – Signal Coordination Before and After Analysis, p. 46
Analysis of two representative signal coordination projects on SR 525 and SR 104 have reduced vehicle hours of delay by 130 hours a day and 121 hours a day respectively.

Operate Efficiently–Intelligent Transportation Systems Annual Update, pp. 47-48
Active Traffic Management expands the use of ITS technology to dynamically manage traffic based on the prevailing conditions to help improve safety and traffic flow.

Moving Washington: Manage Demand

WSDOT can make the best use of the highways' capacity if it can better distribute the demand travelers place on the most congested bridges and highways. That means offering commuters more choices, such as convenient bus service, incentives to carpool or vanpool, and promoting workplace environments more conducive to telecommuting. Managing demand strategies encourage drivers to use less congested routes and times to travel by displaying real-time traffic information on the internet and intelligent transportation systems.

Manage Demand–I-90 Homer Hadley Bridge Construction Mitigation, pp. 51-52.
Construction mitigation efforts during the I-90 Homer Hadley Bridge Repair Project helped divert 40% to 60% of traffic every weekday during the construction.

Manage Demand– Spokane Growth and Transportation Efficiency Center (GTEC), p. 52
The Spokane GTEC's goal is to achieve a 10% cut in the drive-alone rate along with an 11% cut in VMT per employee in the GTEC. Since the program began in 2007, the Spokane GTEC has recorded a 12.2% reduction in its drive-alone rate, and a 10.6% reduction in VMT.

Intelligent Transportation Systems/Smarter Highways Annual Report

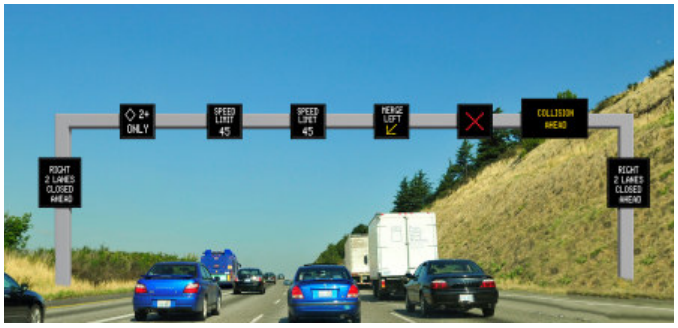
As a nationwide leader in implementing new traffic technology, WSDOT allows roadways to work as efficiently as possible by using new tools to reduce collisions and smooth-out traffic flow on the state's busiest routes. WSDOT's high-tech approach to active traffic management is called 'Smarter Highways'.

WSDOT continues to utilize advances in intelligent transportation systems

WSDOT already uses several smarter highways tools, such as high-occupancy toll (HOT) lanes and reversible express lanes. Next year, WSDOT will be taking Smarter Highways to a new level, installing and activating a series of informational signs in central Puget Sound to improve highway safety and address congestion-causing collisions. This technology will also play an increasing role as capacity needs are constrained by two future mega projects, the *SR 99 Alaskan Way Viaduct Replacement* and the *SR 520 Floating Bridge Replacement*, will most likely re-channel existing traffic to nearby corridors such as I-5 and I-90, respectively.

What will smarter highways look like?

Smarter Highways detect changing traffic flows and automatically adapt to mitigate congestion and blockages by adjusting the speed limit. New overhead electronic signs will alert drivers with a lighted 'X' when the lane is closed ahead or will display a lighted decreased speed limit, such as '45,' to slow traffic before it reaches backed up or blocked traffic. Drivers will see varying speeds, alerts, or even blank signs, depending on traffic conditions. In addition to the variable speed limit signs, each sign bridge will have either two changing message signs, (one on each side of the road), or one larger message sign just above the far right lane. The two side signs will alert drivers about the cause of the slowing traffic. Giving drivers advance notice of incidents further ahead on the highway reduces stop-and-go traffic and the number and the severity of collisions associated with congestion.



An artist's rendering of what a 'Smarter Highway' ITS system over I-5 might look like. Signs alert drivers to reduced speeds to maintain traffic flow and which lanes are blocked due to collisions. Visit www.smarterhighways.com for more information.

Smarter Highways will help make the most efficient use of roads, reduce congestion-related collisions, and give drivers the information they need to make better travel decisions. Smarter Highways projects are planned for I-90, I-5, and SR 520. For more information on these plans, please see the *Annual Congestion Report* pp. 47-48.

Inventory of ITS elements continues to grow

Making highways move more efficiently is a key element of WSDOT's congestion relief program, Moving Washington. Intelligent transportation systems (ITS) uses technology to increase safety and efficiency on Washington's highways, and better prepare the transportation system for increasing traffic demands. As the table below shows, ramp meters, cameras, and data collection stations have formed a backbone of transportation system technology and communications in the state for many years. As the ITS inventory continues to grow, so does the need to maintain these systems. WSDOT monitors the performance of ITS maintenance as part of its Maintenance Accountability Process which will be published as part of the December 31, 2009, *Gray Notebook*.

WSDOT's Intelligent Transportation Systems inventory
State-wide inventory as of September 30, 2009

	Number of devices or sites			
Device Type	**2007**	**2008**	**2009**	**Approximate cost per-device or site**
Closed circuit television cameras (CCTV)	521	542	555	$15,000-$30,000
Variable message signs (VMS)	179	181	186	$100,000 - $250,000
Highway advisory radio transmitters (HARS)	70	72	76	$50,000
Road/weather information systems (RWIS)	94	97	100	$25,000-$50,000
Metered ramps	137	137	143	$10,000-$100,0002
Traffic data stations	530	554	565	$10,000-$20,000

Data Source: WSDOT Maintenance Office.

Incident Response Quarterly Update

Incident Response Highlights:

- The total number of incidents responded to was 11,943, up 1.9% from last quarter.
- The average clearance time was 12.9 minutes, the same as last quarter.
- The annualized, average-time for clearing 90-minute-and-over incidents was 156 minutes in Q3.

The mission of WSDOT's Incident Response (IR) program is to safely and quickly clear traffic incidents on state highways. Quick clearance minimizes congestion and dangerous traffic blockages that can lead to secondary collisions. IR roving units, which operate during peak traffic periods, also offer a variety of free assistance that reduces motorists' exposure to risk, such as providing fuel and jump starts, changing flat tires, and moving blocking vehicles safely off the roadway. IR units are trained and equipped to assist Washington State Patrol (WSP) troopers at collisions and other traffic emergencies. Available for call out 24 hours a day, seven days a week, IR units assist WSP with traffic control, mobile communications, clean-up, and other incident clearance functions as needed during major incidents. More information on the IR program can be found at www.wsdot.wa.gov/Operations/IncidentResponse/.

Third quarter 2009 response times the same as second quarter

In Q3, 2009, WSDOT's Incident Response Team cleared 11,943 incidents with an average clearance time of 12.9 minutes. This clearance time is the same as last quarter's clearance time of 12.9, and up 2.4% from 12.6 minutes in the same quarter of 2008. The average clearance time has stabilized at approximately 13-14 minutes since data collection changed in Q1 2008. WSDOT is now focusing on limiting the duration of longer incidents, as discussed in the GMAP goal on over-90-minute incidents on the next page The number of incidents responded to in Q3 is up 1.9% from last quarter's 11,721 incidents, and down 3.4% from the 12,383 incidents attended in Q3, 2008.

Number of incidents responded to by Incident Response program by quarter

July 1, 2008-September 30, 2009

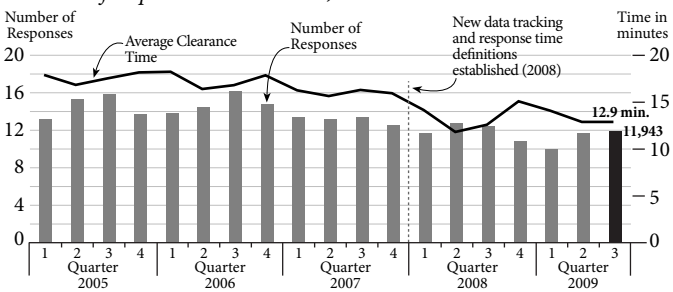
Quarter	# of incidents
Q3 (July 1 - September 30) 2009	11,943
Q2 (April 1 - June 30) 2009	11,721
Q1 (January 1 - March 31) 2009	9,961
Q4 (October 1 - December 31) 2008	10,843
Q3 (July 1 - September 30) 2008	12,383

Data Source: WSDOT Traffic Office's Washington Incident Tracking System.

Number of responses and overall average clearance time

January 1, 2005 - September 30, 2009

Number of responses in thousands, clearance times in minutes



Data Source: Washington Incident ResponseTracking System, WSDOT Traffic Office.

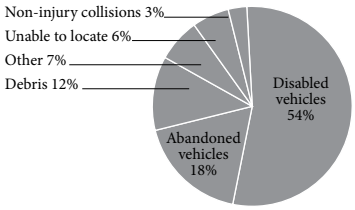
Note: Program-wide data is available since January 2002. Prior to Q3 of 2003, the number of responses by IRT are shown. From Q3 2003 to Q2 2007, responses by Registered Tow Truck Operators and WSP Cadets have been reported in the total. From Q1 2002 to Q4 2007, Average Clearance Time do not include "Unable-to-Locate" (UTL) responses into calculation. Average number of responses does include UTLs, because this represents work performed on behalf of the Incident Response Program. In Q1 2008, WSDOT's Incident Response Program moved to a new database system and began calculating average clearance time in a different way. This accounts for the apparent decrease in the average clearance time value.

Number and percentage of responses by category

Third Quarter, July 1 - September 30, 2009

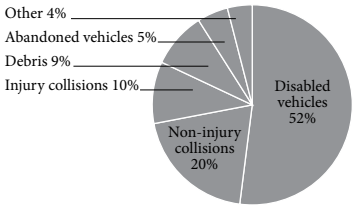
Incidents lasting less than 15 minutes (8,961)

Injury and Police Activity were less than 1% (not shown). There were 27 Fires, 16 Hazardous Materials events involved incidents in addition to or as a result of above incidents. 13 incidents involved WSDOT property damage, and 480 were located in work zones.



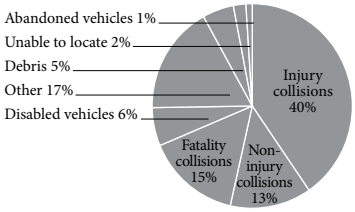
Incidents lasting 15 to 90 minutes (2,852)

Fatality, Police Activity and Unable to Locate were less than 1% (not shown). There were 149 Fire, and 2 Hazardous Materials involved incidents in addition to or as a result of above incidents. 97 incidents involved WSDOT property damage, and 293 were located in work zones.



Incidents lasting 90 minutes and longer (130)

There were 20 Hazardous Materials and 37 Fire involved incidents in addition to or as a result of above incidents. 54 incidents involved WSDOT property damage, and 6 were located in work zones.



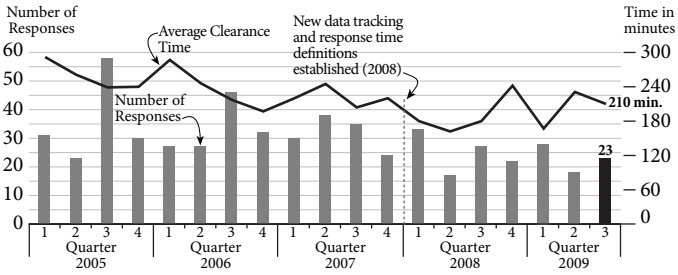
Data Source: WSDOT Traffic Office and Washington State Patrol.

Fatality and Over-90 Minute Incidents on key Western Washington Corridors

Fatality incident clearance times remain high

In Q3 2009, Incident Response (IR) units attended to 23 fatality events across the state. The average clearance time for these incidents was 210 minutes, down 8.8% from the Q2 2009 average of 231 minutes. This value is above the more recent trend of a 162-180 minute average clearance time in the past year and a half, with the exception of Q4 2008, which saw a similarly high average fatality clearance time of 242 minutes. It is not clear why fatality clearance times are periodically higher at select times. A statistical analysis showed that quarters with longer average clearance times are not statistically significantly different from quarters with shorter average times.

Number of responses and average clearance time of fatality collisions
January 1, 2005 - September 30, 2009



Data Source: Washington Incident Tracking System, WSDOT Traffic Office.

Note: In Q1 2008, WSDOT's Incident Response Program moved to a new database system and began calculating average clearance time in a different way. This accounts for the apparent decrease in the average clearance time value.

The Governor's GMAP goal for WSDOT and WSP responses to 90-minutes and over incidents

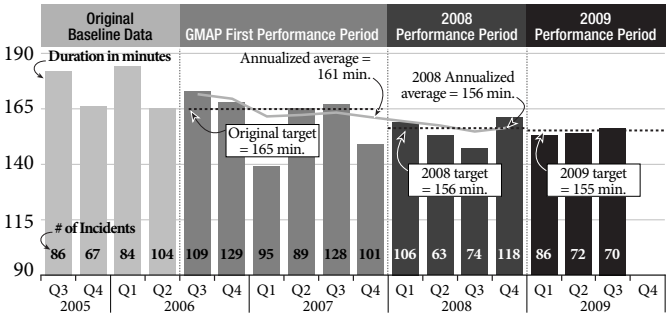
In 2006, under the Government, Management, Accountability and Performance program (GMAP), Governor Gregoire charged WSDOT and the Washington State Patrol (WSP) with reducing the average duration of 90-minute-and-longer blocking incidents on nine key highways in Washington state. WSDOT and WSP accepted that challenge and exceeded the 5% reduction goal at the end of 2007, coming in at 159 minutes. In 2008, the agencies agreed to an additional 7% reduction to 155 minutes, but missed that goal by one minute. The two agencies have re-committed to working toward the 155-minute goal in 2009.

Over-90 minute clearance times increase on key western Washington corridors

During the third quarter of 2009 70 over-90-minute incidents occurred on the nine key routes, producing an average duration of 156 minutes for the quarter. To date the annual 2009 average over 90 minute clearance time is 156 minutes, one minute above the annual goal.

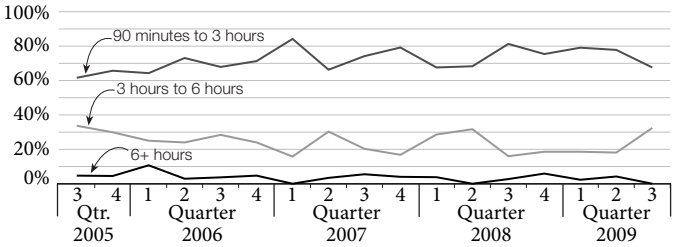
In Quarter 3, there were no extraordinary (6+ hour) incidents. However, one-third of the total number of over 90-minutes incidents lasted between three to five hours compared to only 20% lasting three to five hours during the first two quarters of the year. It is not clear why these medium-length incidents took such a jump in Quarter 3. WSDOT and WSP will continue to track and analyze these trends.

Progress toward the goal for reducing average clearance times for over-90 minute incidents on nine key western Washington highway segments
July 1, 2005 - September 30, 2009
Average duration in minutes



Data Source: Washington State Patrol and WSDOT Traffic Office.

Duration of blocking incidents by type & percentage
Quarter 3, 2005 - Quarter 3, 2009



Data Source: WSDOT Traffic Office and WSP.

Washington State Ferries Quarterly Update

Ridership and Farebox Revenue

Washington State Ferries Highlights:

- Ridership increased 1% to 7.0 million riders from one year ago, but remains 0.6% below projected levels for the quarter.
- Farebox revenue was 1.1% below projected levels, at $47.3 million.
- The average number of complaints increased to 2.5 from 2.0 per 100,000 customers from the previous quarter.
- The missed-trip reliability average showed an annualized average of 2.9 missed trips, an increase of 1.6 missed trips over last quarter.
- The ferry system completed 99.3% of all scheduled trips, a slight decline from the 99.7% recorded in the same sailing season one year ago.
- On-time performance for the ferry system averaged 86%, a 1% decline from the 87% recorded in the same sailing season one year ago.
- The average sailing delay for the ferry system was 5.0 minutes past the 'on-time window', a 4% increase over the 4.8 minutes recorded in the same sailing season one year ago.

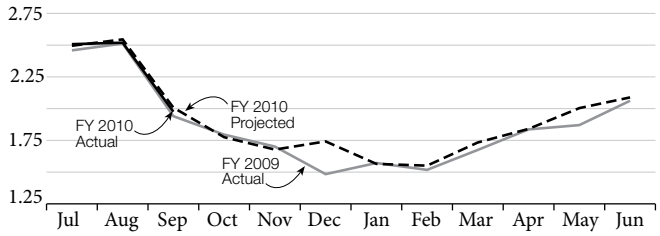
Washington State Ferries (WSF) serves as both an extension of the state's highway system and as a regional mass-transit provider. It provides a critical link to communities separated by water or longer driving distances, and is essential to the movement of goods and people in the Puget Sound region. It is the largest operating auto-ferry fleet in the world, carrying almost 10 million vehicles and 23 million ferry passengers each year.

Ridership levels increase from one year ago, but remain below projected levels for the same period

For the first fiscal quarter (July 1 – September 30) of the 2009-11 biennium, seven million people traveled on the ferry system. For this quarter, WSF ridership was 0.6% below projected levels, or 45,000 fewer riders than projected. The gap between projected and actual ridership fluctuated during the quarter, with more riders than projected in July (13,000 more riders) and fewer riders than projected in August and September (58,000 fewer total riders for August and September). As compared to the same quarter one year ago, WSF ridership this quarter was 1.0% higher, an increase of 39,000 riders. Ridership figures show a mixed picture with more ridership than one year ago but ridership remaining below projected levels. It is likely ridership will continue to lag behind projected levels until the economy is growing at a sustained level and the public chooses more discretionary travel.

Ferries ridership by month

Actual ridership for FY 2010 vs. planned ridership for FY 2010*
Ridership in millions



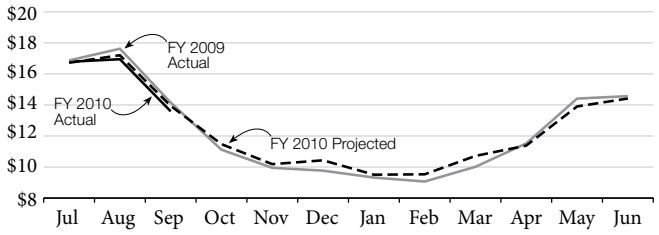
Data Source: WSDOT Ferry System.
* Data Note: Ridership for FY 2010 is (fiscal) year-to-date.

Farebox revenue below projections for third consecutive quarter

Similar to ridership trends, WSF farebox revenue was 1.1% below projected levels for this quarter, or $543,056 less than expected. As compared to the same quarter one year ago, WSF farebox revenue was 1.6% lower (as noted in the September 30, 2008, *Gray Notebook*, revenue included a prior period adjustment and this is taken out for year-to-year comparisons). As with ridership, it is expected farebox revenue will continue to lag behind projected levels until the economy improves.

Ferries farebox revenues by month

*Actual revenues for FY 2010*vs. planned revenues for FY 2010*
Dollars in millions



Data Source: WSDOT Ferry System.
* Data Note: Farebox revenue for FY 2010 is (fiscal) year-to-date.

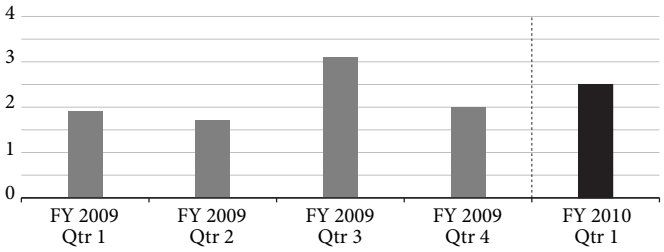
Customer Feedback

Unforeseen incident increases the number of customer complaints

After a near-record low complaint rate the previous quarter, the rate of complaints increased by 0.5 complaints per 100,000 riders to 2.5 complaints per 100,000 riders, compared to 2.0 complaints per 100,000 for the previous quarter.

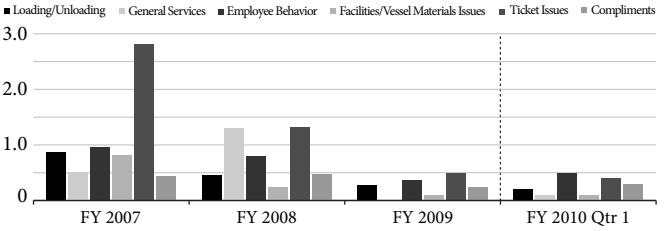
The overall increase in complaints came from more complaints about crewing, reservations, and miscellaneous complaints; the latter primarily concerned the handling of birds at Seattle's Colman terminal. The birds had built a nest and were acting in a threatening manner towards ferry riders at the terminal. WSDOT notified the Washington State Patrol (WSP) as required by law, however WSP's response triggered many complaints. For the major areas of customer feedback (see the column chart below), the only area with an increase in complaints was employee behavior, which increased from 0.3 complaints per 100,000 riders the previous quarter to 0.5 complaints per 100,000 riders this quarter. Employee behavior is taken seriously and any complaint results in a meeting between the employee and his or her supervisor to determine if corrective action is needed. As compared to one year prior (first quarter of fiscal year 2009) complaints were 0.6 more per 100,000 passengers than a year ago.

Average number of complaints per 100,000 customers



Data Source: WSDOT Ferry System.

Common complaints per 100,000 customers

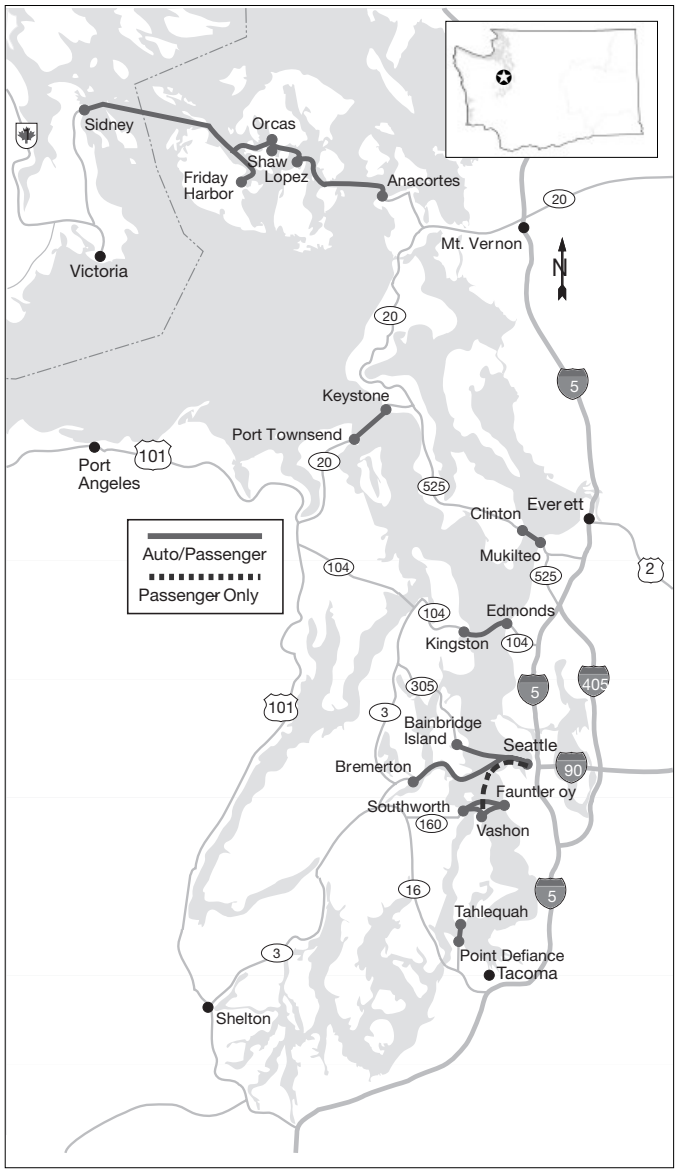


Data Source: WSDOT Ferry System.

WSF's customer feedback methodology

WSF monitors customer complaints, comments, and compliments in order to evaluate its service within 30 categories. The department uses a quality ratio to measure the number of service complaints per 100,000 customers. This measure is used to make accurate performance comparisons over time and to compare against other transportation service providers.

Washington State Ferries route map



Map Source: WSDOT Ferry System.

Washington State Ferries Quarterly Update

Service Reliability

Number of missed trips reaches highest level in over a year

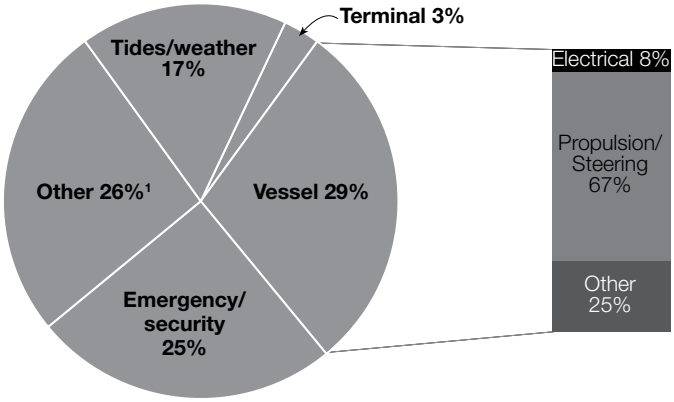
The 'missed trip reliability' average for the first quarter was 2.9 missed trips a year. This is an increase of 1.6 missed trips as compared to 1.3 missed trips a year for the fourth quarter of fiscal year 2008. The missed trip index is at its highest since the third fiscal quarter of the 2007-09 biennium (January 1 – March 31, 2008) when the missed trip index reached an all-time high of 6.5 missed trips a year. As compared to the same quarter a year ago (1.1 missed trips a year) this quarter had 1.8 more missed trips a year than the same quarter a year ago.

WSF's missed trip index measures trip reliability averages, and is annualized based on quarterly data, assuming 400 trips a year for each commuter. In the fourth quarter of FY 2009, 42,720 regular service sailing trips were scheduled. Of those trips, 355 were cancelled and 42 were replaced, resulting in a total of 42,407 during the quarter (42,720 scheduled – 355 cancelled trips + 42 replacement trips = 42,407 net trips).

The ferry system had a 99.3% overall service reliability rating for the quarter. There were three issues that affected performance during the quarter. An engine problem on the M/V *Tillikum* contributed to multiple vessel cancellations on the multiple trip-legs of the Fauntleroy-Vashon-Southworth ferry route (known as the "triangle route"). The M/V *Evergreen State* had electrical problems and missed multiple trips along the San-Juan inter-island route. Tidal conditions and weather affected the Port Townsend-Keystone route, and the smaller ferry M/V *Steilacoom II*. For more information related to the performance of the M/V *Steilacoom II* on the Port Townsend - Keystone route, please see pp. 36 of the June 30, 2009 *Gray Notebook* 34.

Reasons for trip cancellations

First quarter, FY 2010



Data Source: WSDOT Ferry System.

Data Note: [1] Most of the 92 trips categorized as "other" did not fit the usual trip cancellations categories. Twentytwo cancellations occurred for medical emergencies. Eighteen cancellations occurred on the Fauntleroy-Vashon-Southworth route, 12 cancellations occurred on the Edmonds-Kingston route, and 10 cancellations occurred on the Anacortes-San Juan Island routes in order to maintain the ferry schedule during peak loading times and for related issues. Another 11 cancellations occurred on the Seattle-Bremerton route when two passenger-only ferries were used for replacement service but could not maintain the auto-ferry schedule on this route.

Washington State Ferries quarterly missed-trip comparison

	First quarter, fiscal year 2009			First quarter, fiscal year 2010		
Route	**Number of missed trips[1]**	**Missed trip index (average)[2]**	**Overall reliability average[3]**	**Number of missed trips[1]**	**Missed trip index (average)[2]**	**Overall reliability average[3]**
San Juan (Domestic)	9	0.47	99.9%	39	2.1	99.5%
Anacortes-Sidney, B.C. (International)	1	1.11	99.7%	0	0.0	100.0%
Edmonds - Kingston	16	1.39	99.7%	33	2.9	99.3%
Seattle - Vashon (Passenger Only)	0	0.0	100.0%	0	0.0	100.0%
Fauntleroy - Vashon - Southworth	17	0.63	99.8%	86	3.2	99.2%
Keystone - Port Townsend	50	10.01	97.6%	60	12.1	97.1%
Mukilteo - Clinton	26	1.49	99.6%	4	0.2	99.9%
Pt. Defiance - Tahlequah	0	0.00	100.0%	7	0.9	99.8%
Seattle - Bainbridge Island	3	0.29	99.9%	8	0.8	99.8%
Seattle - Bremerton	0	0.0	100.0%	2	0.3	99.9%
TOTAL	**122**	**1.14**	**99.7%**	**313**	**2.9**	**99.3%**

Data Source: WSDOT Ferry System.

[1] 'Number of missed trips' is the difference (net) between the number of cancelled trips and the number of replaced trips.

[2] 'Missed trip index' is based on the number of missed trips per year for one commuter making 400 trips per year, including a departure and return trip on the same day, or 200 days per year. In previous editions of the *Gray Notebook*, this measure was referred to as the 'trip reliability index'.

[3] The overall reliability average is calculated by dividing the recorded number of net trips (scheduled trips - cancelled trips + make-up trips) divided by the number of scheduled trips.

Service Reliability

On-time performance declines for second straight quarter

WSF's system-wide on-time performance for the first fiscal quarter declined by 7.4% as compared to the previous quarter, with 86% of trips being on-time. Compared to the same quarter one year ago, on-time performance was lower by 1% (86% of trips on time this past quarter versus 87% of trips on time for the same quarter in FY 2008). In terms of sailing delay, the average sailing delay increased from 3.4 minutes for the fourth quarter of FY 2009 to 5.0 minutes of delay for the first quarter of FY 2010.

A trip is considered delayed when a vessel does not leave the terminal within 10 minutes of the scheduled departure time. The average delay is the quarterly average of delay after 10 minutes after the scheduled departure time. WSF calculates its on-time performance rating using an automated tracking system on each of its vessels that records when a vessel leaves the dock. If a vessel is recorded as leaving the dock within 10 minutes of the scheduled departure time, then the trip is considered 'on time'.

WSF's on-time performance rating is calculated on the number of trips recorded by its automated tracking system; however, marine and atmospheric conditions may prevent all trips from being detected when a vessel leaves a terminal. This quarter's system-wide on-time performance rating and average sailing delay includes completed trips on the Port Townsend-Keystone route. A change in the technology that records vessel location allows for this route to be included in on-time performance measures. It had not been possible to report the data for this route for the five previous quarters.

How does WSDOT evaluate performance?

Several variables can affect the analysis of WSF quarterly performance measures in the *Gray Notebook*. For example, for some measures, WSDOT compares quarter-to-quarter to determine WSF performance, and for others, year-to-year performance.

Why different comparison standards?

When weather or sailing conditions might contribute to the performance of WSF, WSDOT will typically measure performance year-to-year. This way, a winter season is not compared to a summer season when there are a greater number of sailings but much less dramatic weather conditions. Where these conditions matter less, WSDOT will primarily compare quarter-to-quarter.

Thus, most service reliability measures (on-time performance, missed-trip index) are measured year to year. As a reference point, WSDOT will include the previous quarter's performance rating where it has historically been given. For other measures, such as customer comments, WSDOT will perform quarter-to-quarter comparisons to evaluate trends over the course of a fiscal biennium.

Washington State Ferries quarterly on-time performance comparison

	First quarter fiscal year 2009			First quarter fiscal year 2010		
Route	Number of actual trips[1]	Percentage of trips 'On-time'	Average delay from scheduled sailing time	Number of actual trips[1]	Percentage of trips 'On-time'	Average delay from scheduled sailing time
San Juan Islands (Domestic)	7,280	80%	6.1 minutes	5,362	75%	7.6 minutes
Anacortes-Sidney, B.C. (International)	355	72%	8.4 minutes	241	68%	9.3 minutes
Edmonds-Kingston	4,511	77%	6.8 minutes	3,322	74%	7.0 minutes
Seattle-Vashon (Passenger Only)	332	98%	2.9 minutes	360	98%	1.3 minutes
Fauntleroy-Vashon-Southworth	10,573	92%	3.9 minutes	9,431	90%	4.1 minutes
Keystone-Port Townsend	N/A[2]	N/A[2]	N/A[2]	1,439	73%	7.9 minutes
Mukilteo-Clinton	6,656	91%	4.1 minutes	6,423	92%	3.6 minutes
Pt. Defiance-Tahlequah	2,850	87%	5.2 minutes	2,957	95%	7.9 minutes
Seattle-Bainbridge Island	4,110	88%	4.0 minutes	3,650	88%	0.0 minutes
Seattle-Bremerton	2,527	95%	3.7 minutes	2,384	97%	3.0 minutes
TOTAL	**39,194**	**87%**	**4.8 minutes**	**35,569**	**86%**	**5.0 minutes**

Data Source: WSDOT Ferry System.

[1] Number of Actual Trips represents trips detected by the Automated Tracking System. It does not count all completed trips during the quarter, nor all trips counted are 'On-Time'.

[2] The Port Townsend - Keystone route is being serviced by a substitute vessel, the M/V *Steilacoom II*, which was not equipped with WSF's standard automated tracking system equipment, and could not report on-time performance for this route for the first quarter of fiscal year 2009. A substitute tracking system has since been implemented, which allows WSDOT to report reliable performance statistics for this route.

Rail
Quarterly Update

Passenger Rail: Amtrak *Cascades*

Rail Performance Highlights

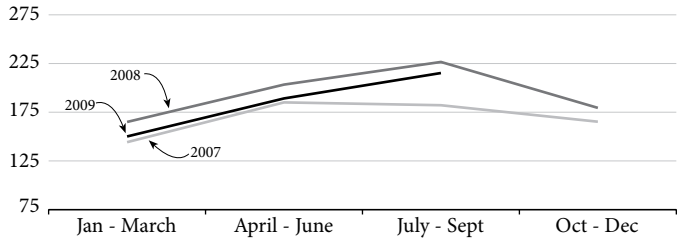
Amtrak *Cascades* ridership dipped 5% from the third quarter in 2008, but is still higher compared to 2007.

Washington is one of 13 states to provide operating funds to Amtrak for intercity passenger rail service. Amtrak *Cascades* train operations span 466 miles of rail between Eugene, Oregon and Vancouver, BC. Amtrak uses five European-designed, Talgo trains for daily operations. Three are owned by Washington State, and the other two are owned by Amtrak.

Amtrak *Cascades* service is jointly funded by Amtrak, and the states of Washington and Oregon. Amtrak provides operating funds for one daily round-trip route, Oregon provides for two routes, and Washington, through WSDOT, provides for four roundtrips.

State-supported Amtrak *Cascades* quarterly ridership

Number of passengers per quarter, calendar year 2007-2009
Riders in thousands



Data Source: Amtrak and WSDOT State Rail and Marine Office.

Amtrak *Cascades* by funding entity

Ridership by funding entity

Funding partner	Jan-Sept 2007	Jan-Sept 2008	Jan-Sept 2009
Washington	347,114	403,561	381,258
Oregon	80,209	95,295	79,603
Amtrak	84,184	96,114	93,646
Total ridership	**511,507**	**594,970**	**554,507**

Data Source: WSDOT State Rail and Marine Office.

Note: Washington-funded trains: Amtrak *Cascades* 501, 506 507 (Seattle/Portland), 508, 510, 513, 516, and 517. Oregon-funded trains: Amtrak *Cascades* 500, 504, 507, and 509 between Portland and Eugene. Amtrak-funded trains: Amtrak *Cascades* 500 and 509 between Seattle and Portland.

On-time performance for the quarter was 72%, a 17% improvement compared to the previous year.

For more information on WSDOT's applications for Recovery Act high-speed passenger rail funding see p. 36.

Amtrak *Cascades* third quarter ridership is down 5% from previous year

After demonstrating record growth in ridership during 2008, ridership has shown a decrease in 2009. There were 215,244 riders in the third quarter of 2009, which represents a 5% decrease from the same period in 2008. Even though ridership was lower in 2008, this quarter's ridership total is still higher compared with the same period in 2007, which demonstrates continued growth.

Amtrak *Cascades* ridership by funding entity

Eleven daily Amtrak *Cascades* trains connect major cities along the I-5 corridor. Washington, Oregon, and Amtrak jointly fund their operation. The table at left breaks out ridership proportionately to the funding entity.

3rd quarter on-time performance up 17% from previous year

On-time performance for Amtrak *Cascades* trains was 72.4% for the quarter. This represents a 17.6% improvement when compared to the same period in 2008.

Substantial track improvements, including tie replacement and bridge work, were performed during the peak summer construction season. This construction contributed to slow track conditions in and around construction zones that hindered performance of some Amtrak *Cascades* trains.

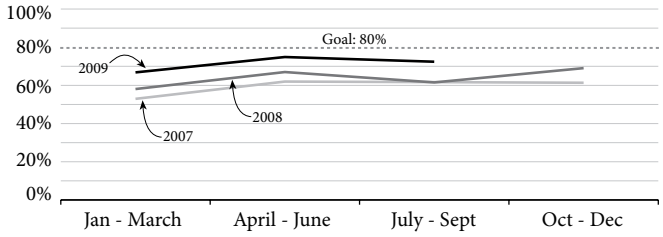
Ticket revenues

State-supported Amtrak *Cascades* ticket revenues were below 2008 ticket revenues for the first two quarters of 2009, mirroring the ridership performance. However, third quarter revenues have exceeded 2008 figures as a result of a price strategy implemented in June. This price strategy discounts some tickets while maintaining standard market pricing on others. This type of pricing is effective because different types of travelers differ in how much they are willing to pay for Amtrak *Cascades* train travel. This new type of pricing explains the third quarter ticket revenue increase despite decreases in ridership relative to the third quarter of 2008.

Amtrak *Cascades* / Rail Capital Project Benefits

State-supported Amtrak *Cascades* on-time performance

Percent of trains on time, 2007 - 2009

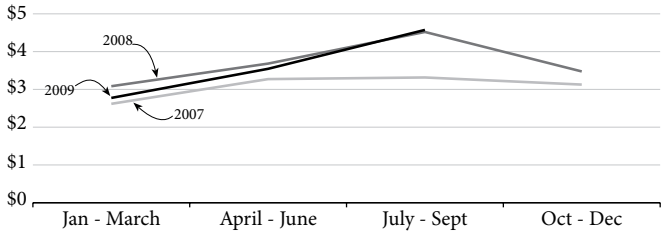


Data Source: Amtrak and WSDOT State Rail and Marine Office.

The on time performance goal for Amtrak *Cascades* is 80% or better. A train is considered on-time if it arrives at its final destination within 10 minutes or less of the scheduled arrival time.

State-supported Amtrak *Cascades* ticket revenues by quarter

Dollars in millions, 2007 - 2009



Data Source: Amtrak and WSDOT State Rail and Marine Office.

Second train service to Vancouver, B.C., began August 2009

A second train to Vancouver, B.C., was originally planned to start service in August 2008, but was delayed due to unanticipated complications with crossing the Canadian border. WSDOT worked with Amtrak, BNSF Railway, U.S. Customs, and other stakeholders to get the additional Amtrak *Cascades* service operational beginning August 19, 2009.

The second train provides direct service between Portland, Oregon, and Vancouver. With the addition of this market, ridership is expected to increase by 65,000 to 95,000 travelers annually. This train service is an extension of trains #516 and #513 that were operating between Portland and Bellingham, and supplements the daily round trip between Seattle and Vancouver, B.C., that has operated since 1995. Two trains will also give people more travel options and help prepare for the 2010 Winter Olympics in Vancouver.

The total economic impact of Amtrak *Cascades* on Vancouver, B.C., is expected to be between $29.24 million (CAD) and $48.66 million (CAD).

Rail projects improving passenger and freight services through Washington

WSDOT completed several rail projects in the most recent quarter and in the 2007-2009 biennium that directly benefit the movement of both passenger and freight trains around the state.

Blaine - Customs facility siding (Whatcom)

This project, budgeted for $6 million, realigned the existing rail siding along Portal Way south of Blaine. The realigned siding will allow customs inspections to be done safely while another train passes on the main track. Completed in August 2009, this will improve the on-time performance of the state-sponsored Amtrak *Cascades* trains by reducing freight train congestion in the area.

Geiger Spur/Airway Heights – New rail connection (Spokane)

This project, budgeted for $6.8 million, built a new rail connection to Spokane County's Airway Heights Industrial Park to replace the connection that passed through Fairchild Air Force Base. The new spur connects the Geiger Spur with the former Palouse River and Coulee City (PCC) rail line, which in turn connects with the BNSF main line at Cheney. It maintains the connections of the rail-dependent companies already at the industrial park to the national rail system, and can help attract new industries to the industrial park. Completed in November 2008, the project was funded by Nickel and TPA programs; all construction work was managed by Spokane County.

Rail
Quarterly Update

Rail Freight Update

Lewis and Clark RR - Vancouver Rail Improvements (Clark)

This project, completed in December 2008 and budgeted for $1.21 million, upgraded 14 miles of the southern portion of the Lewis and Clark (Chelatchie Prairie) rail line. Located between Rye Junction in Vancouver and Battleground, it is the only rail access for Clark County to the BNSF mainline into the Port of Vancouver. The upgrades – allowing for faster, more frequent service – helped convince a shipper of LP gas products to locate on the line, retaining 30 jobs. The project also included critical culvert repairs to prevent the rail line from washing out.

Tacoma Yard Switching Upgrades (Pierce)

This project, budgeted for $850,000, installed an automated switching system that will substantially increase yard capacity, train speeds, and safety. The Tacoma Rail Yard processes hundreds of trains through its switching yard. Without an automated system, railroad operational procedures and federal regulations all require that train crews stop the train, disembark, and activate each switch by hand. This antiquated, time-consuming process may block the yard's arrival and departure tracks for extended periods of time. Funded with Pre-Existing Funds and contributions from the Port District and City of Tacoma, it was completed in August 2009.

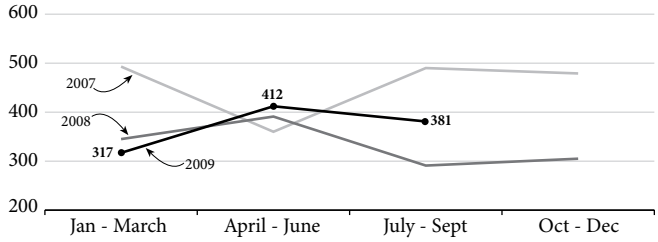
Grain Train usage improves

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.

The economic downturn affected Washington's agriculture and grain shippers. Use of the WSDOT grain train cars was higher when compared to the third quarter of 2008, but lower than 2007. There were 381 carloads shipped in the third quarter of 2009 compared to 291 in the third quarter of 2008.

Washington State Grain Train carloads

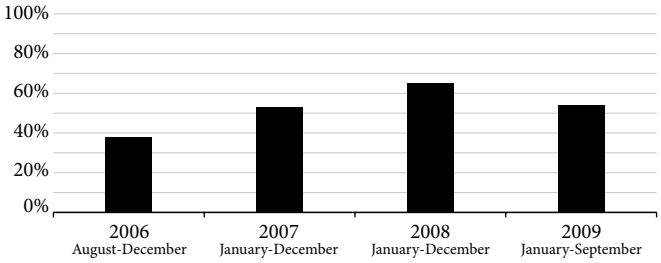
Carloads per quarter, 2007 - 2009



Data Source: WSDOT State Rail and Marine Office.

Produce rail car average monthly utilization rate

Percent of time produce cars are in operation
August 2006 - September 2009



Data Source: WSDOT State Rail and Marine Office.

Produce rail car program use on the rise

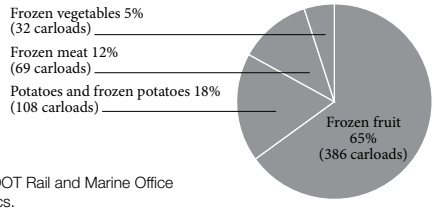
In 2006, the Legislature authorized WSDOT to provide a pool of refrigerated rail cars to haul perishable agricultural commodities. The program began operation in 2006 using a federal grant and state funds. The produce cars are used by shippers in Washington State to transport produce throughout the U.S.

A total of 595 shipments have been made since the program began in 2006. This has resulted in an average utilization ratio of 55%. Since 2006, the utilization rate has been increasing. The utilization ratio increased from 38% in 2006 to 54% so far in 2009.

The produce rail cars are used to ship frozen fruits, fresh and frozen potatoes, frozen meat, and frozen vegetables. Frozen fruit has been the most heavily shipped product through this program, 65% of all produce types.

Produce rail car shipments by product

August 2006 to September 2009



Data Source: Compiled by WSDOT Rail and Marine Office from data reports of Rail Logistics.

Environment

environment

Statewide 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 goal:

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

In this section

Air Quality 28

Noise Quality 30

See also

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Earlier environment-related articles

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Environmental Compliance Assurance, GNB 32

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Erosion Control, GNB 32

Construction Site Water Quality, GNB 32

Wetlands Preservation Annual Report, GNB 33

Endangered Species Act Annual Report, GNB 33

Special Report: NEPA, GNB 33

Special Report: Climate Change, GNB 34

Programmatic Permits, GNB 34

Air Quality Annual Report

Compliance with Federal Standards and Emission Reduction Strategies

Air Quality Highlights

The Obama administration has placed all air quality designations from the prior Bush administration on-hold until a final review can be completed.

In 2008, two areas in western Washington were found to be in non-attainment for two different air quality designations: ground level ozone and 24-hour fine particulate matter.

WSDOT continues to manage and deploy initiatives to reduce emissions for compliance with federal air quality standards and to meet state goals for climate change.

Focus areas include reducing emissions that occur during construction, congestion, and Washington State Ferries operations.

WSDOT's methods to improve transportation-related air quality are changing as scientists and health experts throughout the country look more deeply at the effects of toxic air pollutants, fine particulates, ground level ozone (smog), and greenhouse gas emissions.

Update on federal non-attainment designations for air quality in western Washington

In the September 30, 2008, *Gray Notebook 31* (pp. 70), WSDOT reported that for the first time since the 1990s, several areas in western Washington were in danger of being in 'non-attainment' for federal standards for both ground-level ozone (O_3) and 24-hour fine particulate matter ($PM_{2.5}$). The U.S. Environmental Protection Agency (EPA), the federal agency authorized to monitor compliance with the O_3 and $PM_{2.5}$ standards, declared two areas in western Washington to be in non-attainment: the central Puget Sound area had exceeded the standard for O_3 and the Puyallup River Valley area had exceeded the standard for $PM_{2.5}$.

Both areas were found to be in non-attainment under tighter standards proposed by the Bush administration. Since the Obama administration took office in January 2009, all non-attainment designations have been put on hold until further notice. Although there is little WSDOT can do with regard to EPA's final designation, WSDOT is committed to taking appropriate emission control efforts when designing, constructing, and maintaining the state transportation system, to help the state meet federal air quality standards.

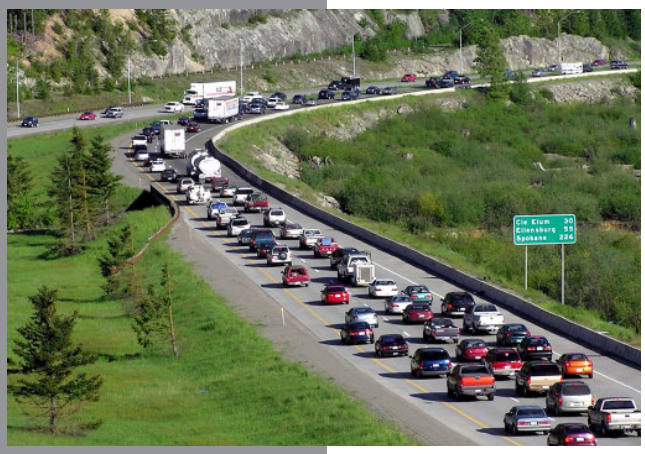
The EPA also released the draft version of its new air quality modeling software in 2009. The final version is planned for release in early 2010, at which point, all criteria pollutants and greenhouse gas emissions will need to be evaluated using the new EPA MOVES model (Motor Vehicle Emissions Simulator). In the next *Gray Notebook* air quality report, WSDOT will report on the attainment status of the central Puget Sound and Puyallup River Valley areas for federal air quality standards.

WSDOT's mitigation strategies for air quality

WSDOT works with its federal and state clean air partners – the Puget Sound Clean Air Agency (PSCAA), the Department of Ecology (ECY), and the Governor's office – to address transportation-related air quality through a variety of programs and operations.

Preventing pollution during construction

WSDOT complies with existing air quality regulations through the active monitoring of fugitive dust at its construction sites. Fugitive dust is an air quality concern because of the health problems it poses to sensitive populations, including the young, the elderly, and people with respiratory problems such as asthma. To control fugitive dust, WSDOT uses best management practices that include tasks such as spraying water over unpaved roads, reducing vehicle speeds, creating rock aprons at unpaved intersections, and reducing the amount of open earth, covering, and rock piles at active construction sites.



Congestion on I-90/Snoqualmie Pass. Congestion impacts air quality, but WSDOT is evaluating how efforts to reduce congestion can reduce emissions as well.

Emission Reduction Strategies at WSDOT

Reducing emissions during operations

WSDOT has taken steps to improve its facilities and maintenance vehicle fleet with emission-reducing technologies and retrofits. Many retrofits have been financed in part by the Federal Highway Administration's Congestion Mitigation Air Quality Program. For more information on these programs, see the Climate Change Report from the June 30, 2009, *Gray Notebook 34* (pp.42)

Reducing air pollution by reducing congestion

Reducing congestion has the added benefit of reducing the overall levels of emissions by improving the flow of traffic, and reducing stop-and-go driving and idling. WSDOT is in the early stages of analyzing many of its congestion mitigation measures to see how much air pollution reduction is possible. Existing WSDOT programs such as the Incident Response program (see pp. 17-19) help to expedite the return of normal traffic flow following non-recurrent incidents like accidents and vehicle breakdowns. This helps reduce fuel consumption by eliminating the stop-and-go effect caused by drivers "rubber necking." WSDOT is also testing a propane-fueled truck for the Incident Response program. Propane is a cleaner-burning fuel that can produce 18% fewer greenhouse gas emissions, 20% less nitrogen oxides (NO_x), and 60% less carbon monoxide (CO), while also emitting lower particulate matter emissions per gallon than gasoline.

Reducing emissions at WSDOT's Ferry System

Washington State Ferries (WSF) is working to improve the air quality of the Puget Sound region by using two complimentary strategies. First, to improve the operational efficiency of the fleet by reducing fuel consumption, which reduces the volume of emissions, and second, to implement environmental mitigation tools which can reduce the potency of emissions. Both strategies will help WSDOT meet existing and future federal maritime air quality standards.

Operational efficiencies reduce emissions

Since 2003, WSF, one of the largest users of diesel fuel in the Puget Sound region, has been taking steps to improve fuel conservation to improve emissions. The fuel conservation initiative, begun in 2003, has set a goal to reduce fuel consumption levels by 8% over two years, measured from April 2007. WSDOT began by evaluating how and when its vessels consume fuel during operations in order to develop baseline vessel and route profiles.

Some of the measures that will contribute to reducing fuel consumption include:

- Reconfiguring propulsion systems to run on fewer engines,
- Carrying less fuel aboard vessels to reduce weight,
- Reusing waste heat generated by engines to heat passenger cabins instead of steam boilers, and
- Reducing the need to use propulsion engines for holding the ferries at dock during loading and unloading.

WSF also participated in a national competition for the Federal Highway Administration's Ferry Boat discretionary funding program. This grant will be used to leverage existing funding in an effort to upgrade existing diesel engines throughout the fleet, with a goal of burning less lubrication oil and produce fewer harmful emissions. WSF also recently received a $2.1 million federal grant as part of the 2009 Washington State Surface Transportation Program/Congestion Mitigation Air Quality 2009 regional competition. These diesel engine retrofit projects will further improve efficiencies and improve air quality for the region.

Clean fuels add to gains in fuel conservation

Clean fuels contribute to the emissions savings gained through operational efficiencies. Past Air Quality reports have reported on the success of low and ultra-low sulfur diesel fuels in reducing the amount of sulfur particles released into Puget Sound. WSF has also studied ways in which bio-diesels may be able to help reduce sulfur dioxides even further. Governor Gregoire had originally set a goal of using 20% bio-fuels by the 2009-2011 biennium, but that goal was reduced to 5% in 2009. The reduced goal took into account the limited bio-diesel infrastructure for in-line fuel injection compared to the more difficult and costly manual blending. WSF's second bio-fuel evaluation was completed in 2009, and showed no noticeable problems when using a 5% bio-fuel blend on ferries' fuel filter life and no additional purifier cleanings.

The M/V Walla Walla comming into port. WSF's second round of bio-fuel testing in 2008-2009 was successful. Bio-fuels represent one strategy to reduce the ferry system's overall emission contributions.

Noise Quality Annual Report

Federal Noise Obligations

Noise Quality Highlights:

- WSDOT added nearly two miles of noise walls to the inventory in 2009. There are now 86 miles of noise walls.
- Almost all of the 2009 construction was dedicated to retrofit walls: installations in older neighborhoods adjacent to highways.
- In addition to noise from tires and pavement, WSDOT has performed mitigations on other highway features to reduce noise (see pp. 31)
- WSDOT's quieter pavement research is one method under evaluation for mitigating noise on roadways (see pp. 31-32)
- WSDOT has three quieter pavement test sections constructed in 2006, 2007, and 2009.
- The quieter pavement test sections are evaluating new rubberized, polymer-based, and hot mix asphalt surfaces, as well as finishing techniques for established materials.
- In addition to quiet pavement testing, WSDOT is evaluating quieter concrete for potential long-term use.

Noise from roadway traffic is unavoidable as long as engines whine, people modify exhaust pipes on vehicles, tires touch the road, compression brakes don't have mufflers, and heavy trucks travel against the wind at high speed. Federal noise rules require that states evaluate noise when they expand or change the roadway in a way that will affect the noise environment, and when an expansion or realignment project brings highway traffic closer to adjacent residents or is located in an already high-noise area. WSDOT follows a three-step process to develop a noise study that complies with federal regulations. First, does noise meet or exceed federal impact criteria (in Washington state, it is set for 66 decibels or higher). Next, WSDOT evaluates whether a mitigation solution is logistically possible. Finally, the proposed solution is evaluated for meeting federal cost/benefit criteria.

If mitigation is deemed reasonable, the most common solution WSDOT employs is a noise barrier. These barriers are free-standing structures made of concrete which may be anywhere from six to 30 feet tall. The noise barriers aid in diminishing decibel levels to acceptable standards.

WSDOT adds two additional miles of noise barrier in 2009

WSDOT finished construction on about two new miles of noise barrier (sometimes referred to as 'noise walls') in 2009, for a total of almost 16 miles of barrier since 2003, and more than 86 miles of barriers since 1963. The majority of barriers built in the past year were retrofit-noise barriers. The state-funded noise retrofit-noise barrier program is WSDOT's effort to improve the noise levels near highways in an organized and equitable way, since traffic noise was not studied when I-5 and other roadways were first built in the 1950s and 1960s. For example, a portion of the new barrier construction in 2009 was to shield an elementary school along I-5 in Skagit County, near Burlington.

Additional planned retrofits in the 2009-11 biennium include one along I-5 in the Maple Leaf neighborhood in Seattle and two barriers in Lacey. These retrofits are made possible through targeted funding from the state legislature and qualify as top priority retrofits due to community age, density, and the high level of noise that they experience. There remain about 60 other prioritized, but unfunded locations statewide at this time.

Expanding WSDOT's noise-reduction options

Sometimes traditional noise protection methods, such as noise barriers (including noise walls) or earth berms, may not perform as needed for logistical or financial reasons. WSDOT is researching other means of addressing noise quality by the use of "quieter" pavements (see pp. 31), alternative materials for noise barriers, and retrofits for unconventional noise-sources, such as bridge expansion joints (see the following page for more information).

Quieter pavement testing

Over 70% of roadway noise comes from tires on pavement when vehicles travel at high speeds. Therefore, WSDOT is looking into new methods of reducing traffic noise, including measuring tire/pavement noise on various pavement types. WSDOT currently has three specifically designated quieter pavement test sections: I-5 Lynnwood in (constructed in 2006), SR 520 Medina (2007), and I-405 Bellevue (2009).

Location, materials, and applications affect noise quality

WSDOT is comparing three different pavement types on the I-5 and SR 520 test sections and four pavement types on I-405. The pavements are being tested for both acoustics and life cycle costs, which considers both initial cost and durability (or pavement life). The two

Quieter Pavements Testing and Research

pavements designed to be quieter have air pockets and different asphalt glue holding the gravel together (rubber and polymer). WSDOT is comparing these two types with a control section made up of standard dense asphalt with fewer air pockets. On I-405, WSDOT is also evaluating the sound intensity originating from newly ground concrete using a process called diamond grinding.

Traffic volumes on the test section of SR 520 are lower than the I-5 Lynnwood and I-405 test sections and have about half of the heavy trucks in the total vehicle mix (approximately 5% on SR520). Another difference between the sections is that SR 520 and I-405 were paved during the day when temperatures were higher than during the nighttime paving of I-5. Finally, SR 520 and I-5 were installed on top of asphalt pavement, while the test sections on I-405 were installed on top of concrete pavement.

Quieter pavements have been successfully used in some southern states but those states have very different climatic and driving conditions than Washington state, which sees more studded tires and chains, frequent freeze/thaw cycles, and lower ambient paving temperatures. For example, the physical damage to the SR 520 quieter pavement test sections was visible to the traveling public after the plowing, tire chains, tire studs, and cold temperatures from the storms of the 2008/2009 winter season.

Quieter pavement testing continues

A-weighting of decibels (the measurement of sound pressure levels) is done to better reflect sound levels according to the range of human hearing: three A-weighted decibels (dBA) is considered the minimum sound level change audible to a young, healthy, human ear. The noise levels from the two test pavements on I-5 and SR 520, compared to the standard control pavement under evaluation, were less than three dBA (not audibly quieter) than the control section of conventional asphalt on I-5 and SR 520 within six months. Pavement on I-405 was installed in August 2009 and no useful comparisons can be made as only two sets of measurements have been taken since September 2009.

WSDOT will continue to evaluate these pavement sections for acoustic changes and structural durability throughout the life of the pavement. The following summary results are from monthly measurements of the test sections over about three years for I-5 in Lynnwood, two years for SR 520 in Medina, and one month for I-405 in Bellevue.

WSDOT corrects noise quality issues on bridge expansion joints and rumble strips

In addition to highway surfaces, other transportation features can generate noise. In 2009, WSDOT worked to correct two noise quality issues related to the use of bridge expansion joints and rumble strips.

Bridge expansion joints

In 2007, WSDOT began a noise evaluation on the SR 16 Tacoma Narrows Bridge and discovered a unique noise quality issue: vehicles passing over the bridge expansion joints produced a sound similar to that of a zipper being pulled open. Since this was the first time that this type of expansion joint had been used in Washington State and the noise was unexpected, WSDOT decided to mitigate it. Multiple WSDOT offices and a private contractor worked together to design a mitigation strategy that was structurally safe, consistent with the iconic bridge design, and acoustically effective. The final design expanded the housings that anchor the suspension cables, and coated these expanded walls, and the crash barriers along SR 16, with an absorptive material to capture the sound before it bounced into the adjacent neighborhoods. Work was completed in September 2009, and the nearby sound-level measurements show that the mitigation has decreased the low and high frequency noise coming from the bridge as vehicles pass over the joint.

Rumble strips

WSDOT's design standards specify rumble strips be installed along the centerline or the shoulder of highways until points where other roads intersect with the highway. In 2008, WSDOT hired a contractor to install centerline rumble strips on several miles of US 12 through Lewis County. The contractor accidently placed rumble strips through several intersections that crossed US 12. As local drivers crossed the intersection, they passed over the rumble strips generating unnecessary noise with no improvement to driver safety. In response to public inquires, WSDOT identified the locations where rumble strips had been incorrectly placed and filled in the grooves to eliminate the noise problem in September 2009.

Currently, WSDOT is examining whether shallower grinding and/or different shaped rumble strips can effectively reduce crossover collisions while reducing the amount of noise. However, given the safety benefits of the current design, significant research and testing needs to be conducted before any new rumble strip design change could be approved by WSDOT.

Quieter Pavements Case Study Initial Findings

Lynnwood Open Graded Asphalt on Southbound I-5

The test section in Lynnwood, near the Alderwood Mall, was installed in August 2006. Since the installation, the two quieter pavements' average sound intensity levels have increased faster than sound levels on the conventional asphalt pavement control section installed at the same time. The quieter pavement test sections are no longer audibly "quieter" than conventional asphalt pavement.

Results for rubberized surfaces

The rubberized section on I-5 was not audibly quieter (>3 dBA) within five months of installation. It has been louder than the conventional asphalt pavement since February 2009, following the 2008-2009 winter storms.

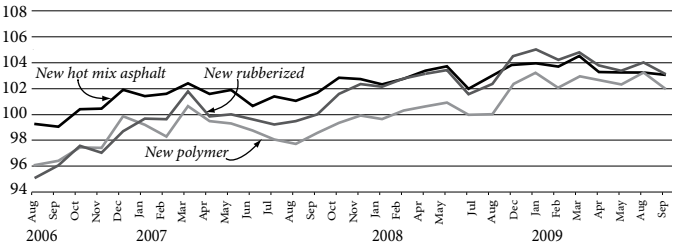
Results for polymer surfaces

The polymer pavement was two to three dBA quieter than the conventional asphalt for about 1 year, but it stopped being audibly quieter after November 2007. Polymer was first measured louder than the conventional asphalt in August 2009.

Results for rutting measurements

WSDOT starts scheduling pavement replacement at 10 mm (3/8 inch) of rutting (physical wear). Rutting measurements made in January 2009 show that the rubberized test section is raveling (loosing aggregate from the surface of the pavement in the wheel tracks) faster than the control section. The outside lane is showing the deepest rut depth at 7.7 mm (between 1/4 and 5/16 inches). Rutting measurements for the outside lane of the polymer test section showed a rut depth of only 4.8 mm (3/16 inches). The HMA is not showing any raveling.

Quiet pavement test results
I-5 Lynnwood (Snohomish County)
August 2006 - September 2009
Average sound intensity in A-weighted decibels (dBA)



Data Source: WSDOT Environmental Services.

SR 520 Medina Vicinity Test Section

The test section immediately east of Lake Washington, near Medina was installed in July 2007. A total of five lanes were paved: two general purpose eastbound and westbound and one westbound HOV lane. Since the installation, the two quieter pavements' sound intensity levels have increased faster than sound levels on the conventional asphalt pavement control section installed at the same time. The quieter pavement test sections are no longer audibly "quieter" than conventional asphalt pavement.

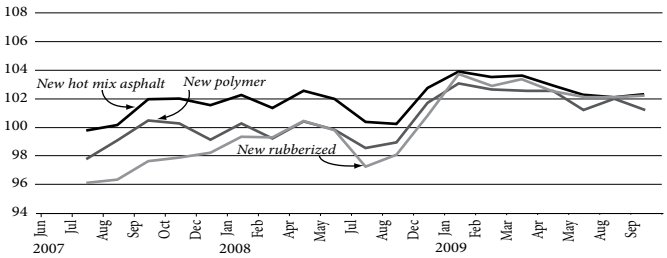
Results for rubberized surfaces

The rubberized test section on SR 520 was not audibly quieter (>3 dBA) than the conventional asphalt after six months and was within one a-weighted decibel (1 dBA) during the last measurement in August 2009.

Results for polymer surfaces

The polymer test section on SR 520 was never audibly (>3dBA) quieter than the conventional asphalt pavement. Rutting measurements made on the SR 520 sections in January 2009 showed raveling on the rubberized section occurring at more than twice the rate of the polymer section: 8.3 mm vs. 3.1 mm (about 1/4 and 5/16 inches), respectively. In contrast, the outside lane of the polymer test section showed a rut depth of only 3.1 mm (1/8 inches).

Quiet pavement test results
SR 520 Medina vicinity (King County)
July 2007 - September 2009
Average sound intensity in A-weighted decibels (dBA)



Data Source: WSDOT Environmental Services.

I-405 Bellevue Vicinity Test Section

The test section immediately south of downtown Bellevue, on either side of I-90 was installed in August 2009. As of September 30, 2009, only two measurements have been taken of the new pavements. Future *Gray Notebooks* will report on this project's results.

For more information about WSDOT's quieter pavement test program and updated tracking of testing results, visit the quieter pavement website at: http://www.wsdot.wa.gov/Projects/QuieterPavement/

Stewardship

Statewide policy goal:

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

WSDOT's business goal:

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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Special Report on Federal Recovery Act-funded Projects

Recovery Act-funded projects overview

Recovery Act Highlights

192 state and local highway projects receiving stimulus funds have been identified and certified by Governor Gregoire as of September 30, 2009.

47 Recovery Act projects were completed as of September 30, 2009.

Surplus funds due to low bids on Recovery Act funds are helping to pay for additional projects on Tier 2 lists. The first Tier 2 project was completed in September.

Employees have worked over 776,000 hours on stimulus-funded projects as of September 30, 2009, earning over $29.1 million in payroll.

The state has met the requirement to obligate 50% of funds by June 30, 2009 and has obligated 73% of funds by September 30, 2009. The state is on track to obligate all funds by the March 1, 2010 requirement.

For additional information on Recovery Act-funded projects and their benefits, please visit http://www.wsdot.wa.gov/Funding/stimulus/

WSDOT and local governments completed 47 highway projects receiving Recovery Act funds by September 30, 2009, and continue to advance more projects to construction. By the end of the quarter, 192 projects were certified to receive funds, 170 were advertised, and 162 were awarded to contractors or under construction.

Since the $787 billion American Recovery and Reinvestment Act's passage on February 17, 2009, WSDOT and local governments have used federal stimulus funds to improve the transportation system and create and retain jobs. The state received $492 million for highway projects and $179 million for transit investments. Washington met the June 30, 2009 deadline to obligate 50% of federal stimulus highway funds and is on pace to obligate all money by the March 1, 2010, deadline.

The 47 highway projects completed to date include:

- Ten state highway projects including three paving projects on I-90 near Keechelus Lake, Ellensburg, and Moses Lake, and projects on US 2 near Monroe and near Newport
- Eighteen county projects including two each in Lewis, Skamania and Spokane counties
- Eighteen city projects
- One project for Jamestown Tribe

The updated, complete project list is available at www.wsdot.wa.gov/funding/stimulus.

Transit projects receiving Recovery Act funds are helping governments and transit agencies provide more than 250 passenger vehicles (buses, minibuses, and vans) and other improvements across the state. The Federal Transit Administration has obligated 98% of the state's funds to projects. In addition, Sound Transit received $44 million in advanced funds for its University Link light rail extension and three transit agencies won $7.4 million for energy-saving projects in a competitive grant process for improvements that will reduce emissions.

WSDOT is carefully tracking the stimulus investments to provide regular updates for the public, U.S. Department of Transportation, and Congress. The agency publishes weekly updated delivery statistics on the WSDOT webpage and provides comprehensive reports to the Federal Highway Administration and U.S. House Committee on Transportation and Infrastructure each month. The reports track project advertisements, awards, completions, and include employment data on projects under way. Reports are available at www.wsdot.wa.gov/funding/stimulus/reporting.htm.

Projects receiving stimulus funds have helped create and retain jobs for companies working in Washington. Employees have earned $29.1 million in payroll working nearly 781,000 hours on highway projects through September 30, 2009. The table below shows how payroll and labor hours grew each month since the first stimulus spending in March.

Recovery Act employment

Calendar year 2009; Dollars in millions

	March	April	May	June	July	August	September	Total
Total labor hours	1,864	11,278	28,708	57,698	144,308	252,125	280,927	776,908
Total payroll value	$0.1	$0.5	$1.1	$2.2	$5.4	$9.3	$10.4	$29.1
Full time equivalents	11	65	166	334	834	1,458	1,624	–
Individuals paid with Recovery Act funds	12	283	850	1,811	3,413	5,433	6,638	–

Data Source: Monthly Recovery Act employment data is collected from contractors, subcontractors, and WSDOT then uploaded to the FHWA Recovery Act Data System (RADS).

Note: The number of full time monthly equivalents is computed based on a 2,080 hour work-year. More employment information is available on-line at www.wsdot.wa.gov/funding/stimulus/measuredemployment.

Recovery Act-funded highway projects

Number of projects by jurisdiction; dollars in millions

Project information	State	Local	Total	Notes
Individual highway projects	37	153	190	State projects specified in the Legislative Evaluation & Accountability Program (LEAP) list. Five state and 12 local projects were added to the list and received federal approval. Six other local projects are no longer receiving funds.
Certified by Governor	37	153	190	Governor must certify that projects were reviewed and represent an appropriate investment of taxpayer dollars. Including the two safety buckets separated below, 192 projects have been certified.
Projects advertised	31	139	170	
Contracts awarded/Under construction	28	134	162	
Projects completed	10	37	47	This is an increase from 3 reported complete by July 28
Financial information	**State**	**Local**	**Total**	**Notes**
Recovery Act dollars provided	$340	$152.1	$492.1	$4 million in state enhancement funds provided to locals. While WSDOT controls $340 million, the total obligation authority is $344 million.
Recovery Act dollars obligated to date	$222.6	$134.8	$357.4	Obligated dollars represent projects approved by the federal government with an executed project agreement. The state obligation amount has decreased since July 28, 2009, after low bids reduced the funding required for projects. The state must obligate 50% of funds by June 29, 2009. This requirement has been met. All dollars must be obligated by March 2010. Local jurisdictions must obligate 100% of funds by March 2010.
Total cost of obligated projects	$713.3	N/A	N/A	Also includes non-Recovery Act leveraged fund sources; represents total project funds positioned to enter the economy. Data not available for all local projects due to timing of project phases.

Data as of September 30, 2009. Data Sources: WSDOT Project Control & Reporting Office, Highways and Local Programs Office.
Note: Project totals are cumulative, so advertised projects include projects awarded and completed, and projects awarded include projects completed.

Recovery Act-funded state highway 'bucket' projects

Number of bucket projects by type; dollars in millions

	Rumble strips	Cable median barrier	Total
Project status			
Certified by Governor	27	7	34
Projects advertised	27	7	34
Contracts awarded / Under construction	17	6	23
Projects completed	10	0	10
Financial information			
Funds available for buckets	$3.1	$9.2	$12.3
Recovery Act dollars obligated	$2.8	$6.7	$9.5
Total cost of obligated projects	$2.6	$6.7	$9.3

Data Sources: WSDOT Project Control & Reporting Office.

Recovery Act project definitions

Tier 1 Priority shovel-ready projects selected for Recovery Act funding.

Tier 2 The projects selected for funding with Recovery Act surplus funds and/or additional Recovery Act funds.

Bucket projects State projects using Recovery Act funds to address programmatic safety priorities statewide.

Obligated funds An obligation is a commitment—the Federal government's promise to pay the State for the Federal share of a project's eligible cost. This commitment occurs when the project is approved and the project agreement is executed. Obligated funds are considered "used" even though no cash is transferred.

Special Report on Federal Recovery Act-funded Projects

Recovery Act Grant Applications, Rail, and Aviation projects

WSDOT applied for TIGER Discretionary Grants

The state is actively pursuing additional funds for transportation projects through competitive grants for major infrastructure improvements.

The state submitted applications on September 15 for three high priority transportation projects in King County, Vancouver, and Spokane to compete for the $1.5 billion in Surface Transportation Discretionary Grants, called TIGER grants. TIGER stands for Transportation Investment Generating Economic Recovery.

WSDOT applied for grants to build portions of the SR 520 Bridge Replacement program ($300 million), the Columbia River Crossing ($147 million), and the North Spokane Corridor ($35 million). Each of the projects proposed to receive funding will improve mobility in major freight corridors, complement current state highway investment, and provide jobs in communities experiencing significant business closures and unemployment.

WSDOT applied for a $300 million TIGER grant to help build portions of the SR 520 Bridge Replacement program.

In addition, other Washington government agencies including cities, towns, and ports, submitted 46 applications for funding. The U.S. Department of Transportation has until February 17, 2010, to make the grant decisions, and is expected to announce the grants before the deadline.

WSDOT submitted applications for high-speed rail

WSDOT applied for more than $1.3 billion in stimulus funds for the Pacific Northwest Rail Corridor on August 24 and October 2, 2009. The corridor is one of 11 federally designated high-speed rail corridors and qualifies for grants under the President's High-Speed Intercity Passenger Rail program. The Recovery Act included $8 billion for the new program, which represents the federal government's first significant investment in the nation's passenger rail transportation network.

WSDOT proposed a list of 26 capital rail projects that qualify for federal funding, including both rounds of applications.

WSDOT applied for $1.3 billion in grants for high-speed rail projects on the Pacific Northwest Rail Corridor serving Amtrak Cascades.

If Washington is awarded grants through the ARRA High-Speed Intercity Passenger Rail program, the projects will improve on-time performance as well as speed and reliability between the Columbia River and Canadian border. There will be considerable benefits to the region including energy savings and congestion reduction, transportation options, job creation, environmental, and economic benefits.

The Federal Rail Administration received widespread interest in the grant offering and delayed the first announcements until this winter to review the applications. For $8 billion in available funds, the agency received requests for approximately $57 billion from 34 states. More information on the application, including a review of both applications and a complete list of the proposed projects is available at www.wsdot.wa.gov/funding/stimulus/passengerrail.htm

Eight Washington airports received aviation funds

The Recovery Act specifically includes $1.3 billion for projects and programs administered by the Federal Aviation Administration. These programs will protect and promote jobs through construction projects at airports and investments in FAA's air traffic control infrastructure.

Eight Washington airports received nearly $50 million in Recovery Act funding to improve airport facilities and rehabilitate runways and taxiways. The projects include almost $18 million for Spokane International Airport, $11.4 million for Paine Field in Everett, and $8.7 million for Tri-Cities Airport in Pasco.

Airport agencies applied for and received funding directly from the Federal Aviation Administration and WSDOT is not overseeing the grants.

Completed Project Summaries

Between July 28 and September 30, WSDOT completed nine Recovery Act highway projects. The following summaries describe the projects' costs, benefits, and performance. The employment data is reported as of September 30, 2009, and though the projects are operationally complete, additional work may be reported. The number of employees is a best estimate of the unique number of employees using the monthly employment reports. However, it is not an exact count and may include double-counting. More information can be found at the projects' webpages at www.wsdot.wa.gov/funding/stimulus/projectlist.htm.

I-90/Slide Curve Vicinity to Cabin Creek EB - Pavement (Kittitas County)

This project paved nearly four miles of eastbound I-90 near Keechelus Lake, extending the life of pavement on the state's busiest east-west thoroughfare.

Project benefits: The project provides a smoother, safer driving surface on eastbound I-90 and better preserve the roadway.

Highlights and challenges: The winning bid by Columbia Asphalt and Gravel was 30% below the engineer's estimate. This was the third state Recovery Act highway project to be completed.

Reported employment: An estimated total of 170 employees worked 19,180 hours on the project and earned $662,004 in payroll.

Budget performance: This project was completed for approximately $3.3 million, below the original 2009 approved budget of $4.6 million. The surplus funds can be used to help fund additional Recovery Act projects.

Schedule performance: This project was completed weeks ahead of schedule on August 3, 2009.

SR 155/Omak Eastward – Chip Seal (Okanogan County)
SR 243/Mattawa Vicinity – Chip Seal (Grant County)
SR 262/Potholes Reservoir Area – Chip Seal (Grant County)

Three projects paved 68 miles of state highway in Grant and Okanogan counties: 16 miles of SR 155 east of Omak, all 28 miles of SR 243 from Vantage to Vernita, and all 24 miles of SR 262 past Potholes State Park.

Project benefits: The project will provide a smoother, safer driving surface and preserve state highways.

Highlights and challenges: The three projects were combined into one contract for efficiencies. The winning bid by Central Washington Asphalt was 9.5% below the engineer's estimate.

Reported employment: An estimated total of 249 employees worked 5,556 hours and earned $209,034 in payroll. The employee count is more difficult to calculate due to multiple projects on one contract.

Budget performance: This project was completed for approximately $3.7 million, below the original 2009 approved budget of $4.2 million. The surplus funds can be used to help fund additional Recovery Act projects.

Schedule performance: These projects were completed on August 6, 2009.

Crews work on on the SR 262 resurfacing project in Grant County.

Special Report on Federal Recovery Act-funded Projects

Completed Project Summaries

SR 14/Cliffs Rd Vicinity to Chamberlain/Goodnoe Rd – Chip Seal (Klickitat County)

This project paved nearly six miles of SR 14 in Klickitat County, extending the life of pavement of a highway that receives a heavy amount of freight traffic.

Project benefits: The project will protect the existing pavement from further damage, rejuvenate the road surface, and extend the life of the highway.

Highlights and challenges: The winning bid by Granite Northwest was 1.2%, or $4,420, above the Engineer's Estimate.

Reported employment: An estimated total of 70 employees worked 1,916 hours on this project and earned $72,421 in payroll.

Budget performance: This project was completed for approximately $632,001, below the original 2009 approved budget of $1.1 million. The surplus funds can be used to help fund additional projects.

Schedule performance: The project was completed on August 22, 2009.

SR 103/177th St to Bay Street – Chip Seal (Pacific County)

This project paved more than seven miles of SR 103 near Long Beach, extending the life of the highway.

Project benefits: The project will protect the existing pavement from further damage, rejuvenate the road surface, and extend the life of the highway.

Highlights and challenges: This project was combined with other work already planned in the area for efficiencies. It was the second WSDOT stimulus project completed.

Reported employment: An estimated total of 156 employees worked 11,117 hours on this project and the accompanying state-funded project and earned $481,827 in payroll.

Budget performance: This project was completed for about $484,156, below the original 2009 approved budget of $714,918. The surplus funds can be used to help fund additional projects.

Schedule performance: This project was completed weeks ahead of schedule on July 30, 2009.

Crews completed resurfacing work on SR 103 in July.

US 395/Spokane Co Line to Loon Lake – Paving (Stevens County)

This project paved almost 15 miles of US 395, extending the life of pavement on a major north-south highway.

Project benefits: The project will provide a smoother, safer driving surface.

Highlights and challenges: The winning bid by Knife River was 17% below the engineer's estimate.

Budget performance: This project was completed for about $2.42 million, below the original 2009 approved budget of $2.47 million. The surplus funds can be used to help fund additional Recovery Act projects.

Reported employment: An estimated total of 171 employees worked 7,736 hours on this project, and earned $415,371 in payroll.

Schedule performance: This project was completed on September 8, 2009.

Completed Project Summaries

I-90/Snoqualmie Pass Vicinity – Camera Replacement (King County)

This project replaced existing cameras on I-90 near Snoqualmie Pass with cameras that can function in low light conditions and provide better information to the public about the pass conditions.

Project benefits: The project will provide views of current weather and road conditions around the clock instead of having limited visibility at night. The cameras are a vital part of WSDOT's strategy to keep motorists informed and safe.

Highlights and challenges: This project was conducted by WSDOT maintenance staff after purchasing the cameras.

Reported employment: Two employees worked for 138 hours on this project earning $6,946 in payroll.

Budget performance: This project was completed for about $61,224, the original 2009 approved budget.

Schedule performance: This project was completed on September 29, 2009.

SR 206/Jct US 2 to Bruce Road (Spokane County)

This project paved almost five miles of SR 206 near Spokane, extending the life of pavement of a highway and providing a smoother, safer surface for motorists.

Project benefits: The new layer of hot mix asphalt preserves the underlying roadway.

Highlights and challenges: The winning bid by Inland Asphalt Company was 16%, or $107,000, below the Engineer's Estimate.

Reported employment: An estimated total of 123 employees worked 2,518 hours on this project and earned $90,064 in payroll.

Budget performance: This project was completed for approximately $730,680, below the original 2009 approved budget of $857,143. The surplus funds can be used to help fund additional Recovery Act projects.

Schedule performance: This project was completed on September 1.

Recovery Act local highway projects completed as of September 30, 2009

Conconully – Main Street and Lake Street
Garfield County – County Wide Pavement Preservation
Stevens County – County Wide Pavement Preservation
Grant County – L-NE Overlay
Lincoln County – Kiner Rd
Pullman – College Hill Arterial Reconstruction
Skamania County – Cascade Drive Pedestrian. Walkway
Skamania County – Wind River Road Overlay
Jefferson County – Center Road Overlay Phase 4
Spokane County – Rutter Parkway
Grandview – Euclid Avenue Resurfacing Project
Aberdeen – Heron Street Sidewalks
Adams County – Lee Rd – Phase 1
Spokane County – 5 Mile + Strong Rd. Project 1
La Conner – Maple Street Overlay and Sidewalks
Ellensburg – Canyon Road
Thurston County – Steilacoom Road Ped. Enhancement
Kennewick – Columbia Overlook Phase 1
Mason County – McEwan Prairie Road Overlay (Countywide Paver)
Whitman County – Wawawai Road Overlay
Yakima County – Terrace Heights Drive
Union Gap – Wide Hollow Creek Pathway Phase 2
Deer Park – Crawford Ave Phase V
Lewis County – Davis Lake Road
Lewis County – Jackson Highway
Tumwater – Capital Boulevard Preservation Project – Dennis to Israel
Jamestown Tribe – Blyn Road Trail
Ridgefield – Hillhurst Rd Overlay
Spokane Valley – Sprague Avenue Resurfacing Project #1
Colfax – Fairview Street Overlay
Island County – Roadway Preservation
San Juan County – Fisherman Bay Road
Naches – 2nd Street and 3rd Street Resurfacing Project
Moxee – Beaudry Road Improvements
Marysville – Street Overlay Project
Bainbridge Island – Core 40 Shoulder Widening Program – Blakely Nonmotorized Project – Phase 2
Sumas – Bob Mitchell Ave

WSDOT's Capital Project Delivery Program

2007-2009 Biennium Wrap Up

2007-2009 Biennium Project Delivery Highlights:

89% of Nickel and TPA projects combined were under or on budget between 2007-2009. This is 7% better performance than the previous biennium.

78% of Nickel and TPA projects combined were both on time and on budget between 2007-2009, 5% better performance than the previous biennium.

This special report covers the performance results of WSDOT's capital projects construction program during the 2007-2009 biennium. The data summarized and discussed on these pages were reported in the June 30, 2009, *Gray Notebook 34*; for full details, please go to WSDOT's Accountability web page at http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm, and click on the link to view or download that edition.

Future *Gray Notebooks* project delivery reporting is changing

WSDOT will update its project delivery reporting in the *Gray Notebook*. Improvements will include a multi-level reporting approach. This will more closely align with changing project management processes and prepare for the deployment of the new automated project reporting system (see p. 86). This transition will evolve over the next three quarters and, as a result, the Beige Pages will change over time.

Challenges to project delivery in the 2007-2009 biennium

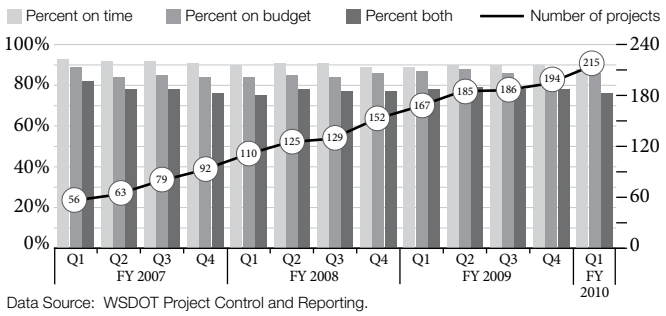
WSDOT, like virtually every other state transportation agency in the United States, faced extraordinary, rollercoaster-like challenges in delivering construction projects in the 2007-09 biennium. The prices of raw materials, including fuel, asphalt, concrete, and steel, increased to a near-unprecedented level, rising nearly 66% between 2003 and the end of 2008 (see the Construction Cost Trends article in the December 2008 *Gray Notebook 32*). By comparison, in earlier biennia, costs for construction materials generally rose a more modest 1.5%.

As these costs peaked, the global economy simultaneously contracted, leaving construction projects in housing and related industries without financing, and driving many contractors to bid on government construction contracts. The increased competition helped lower bids for many projects even as materials costs stagnated at their premium prices.

Then in February 2009, the federal government provided millions of dollars to kickstart "shovel-ready" projects across the country, allowing Washington state to proceed with 32 WSDOT-led projects and to fund two 'buckets' for low-cost but high-return safety improvements: the installation of rumble strips and cable median barrier on state highways. (WSDOT is also responsible for reporting to federal and state officials on the progress of an additional 147 transportation projects managed by local entities.) A dozen or more of those projects, some funded in part with Nickel, TPA, or Pre-Existing Funds (PEF) sources, were revitalized with the application of stimulus funds from the American Recovery and Reinvestment Act (Recovery Act) program.

Cumulative performance of Nickel and TPA projects

As of September 30, 2009



Data Source: WSDOT Project Control and Reporting.

Progress against budget

The 2009-2011 Transportation Budget signed by the Governor on May 13, 2009, contained appropriations amounting to $4.3 billion for transportation system projects. The measure for "on budget" compares the cost at completion with the most recent Legislative baseline. It is based on the cost of a project coming within 5% of the budget estimate as it appears on the most recent budget list.

2007-2009 Biennium Wrap Up

Budget variance for Nickel and TPA projects

2007-2009 biennium; Dollars in thousands

	Original appropriation	Cost at completion	Variance
42 Nickel projects	$1,000,426	$998,597	0.2% under
60 TPA projects	$763,938	$771,135	0.9% over

Data Source: WSDOT Project Control and Reporting Office.

As of June 30, 2009, WSDOT had completed 194 projects funded by the Nickel and Transportation Partnership Account funding packages. Within the 2007-09 biennium, a total of 102 projects were completed, for an estimated cost at completion of $1.77 billion. The 2007-09 appropriated amount for these 102 projects was $1.76 billion; the cost at completion is 0.3% above the budget.

Within this biennium, 60 TPA projects were completed, at an estimated cost at completion of $771 million, 88% of which were within budget. The 42 Nickel projects are estimated to cost $999 million; 90% of them were completed within budget.

The overall biennial performance against the budget appropriation compared to the cost at completion is $1.769 billion, or 0.3%, above budget expectations. (For a comprehensive discussion of the resetting of budget expectations at the 2008 Supplemental Budget, please see the June 2008 *Gray Notebook* 30, pages 83-84.)

Performance against schedule

Many things can affect a project's schedule (see page 73 for issues examined in the Watch List). Occasionally, projects enjoy excellent circumstances and weather at exactly the right times for a contractor to complete it early, but the converse is often the case. Poor weather, insufficient or delayed materials, unexpected issues with site geology or environmental permitting, problems acquiring right-of-way or moving utilities: all can delay project completion.

As with costs, the issuance of a new Legislative budget can, if approved, reset a project's scheduled delivery date. For the 2007-09 biennium, WSDOT's performance against scheduled delivery of projects was good overall, with 86% of the 42 Nickel projects and 87% of the TPA projects completing on time.

Schedule performance for Nickel and TPA projects

2007-2009 biennium, measured against last Legislative expectation

	Percent on time advertised	Percent on time* completed
42 Nickel projects	69%	86%
60 TPA projects	85%	87%

Data Source: WSDOT Project Control and Reporting Office.
On time: Accomplished within the planned quarter.

Performance against project scope

Three projects of the 102 completed in the biennium had challenges in meeting the scope described in their original appropriations. All were adjusted by the Legislature to achieve safety or mobility goals comparable to their original descriptions. (See *Gray Notebook 34*, page 59, for notes pertaining to *SR 502/10th Ave to 72nd St – Safety improvements* and *SR 503/Gabriel Rd intersection*, and page 63 for *SR 4/Svensen's Curve*.)

Quarterly project delivery performance overview for Nickel and TPA highway construction projects: First quarter of the 2009-2011 biennium

For the first quarter of the 2009-2011 biennium, WSDOT delivered 21 highway construction projects, five Nickel-funded and 16 TPA-funded.

Seventy-five percent of the quarter's TPA projects were completed early or on schedule. Of the four TPA projects that were late, two projects replacing bridges on the west fork of the Hoquiam River were tied together for cost efficiencies but experienced delays due to problems at the contractor's end in obtaining materials and meeting the agreed schedule.

Eighty-eight percent of the TPA projects were completed on or under budget. The two tied Hoquiam River bridges projects were over-budget by about $350,000, due to problems obtaining and delivering materials to the work sites. All TPA-funded projects were completed within scope. All the Nickel projects were completed on time, on budget, and within scope according to the last Legislative expectations.

For full details of these and other projects, please review the Completed Project Wrap Ups, on pages 58-67.

Projects in construction or due to advertise

As of September 30, 2009, 64 projects were under construction, with cumulative award amounts of $852 million; two additional projects were advertised within the quarter.

Thirty projects are in the advertising pipeline for the coming six months, through March 31, 2010. The estimated baseline cost at completion for these projects totals $578 million, and includes ten significantly sized projects with budgets between $24 million and $146 million.

WSDOT's Capital Project Delivery Program

2007-2009 Biennium Wrap Up

Major projects of the 2007-2009 biennium

I-5 Everett HOV freeway expansion

The $263 million I-5 Everett High Occupancy Vehicle (HOV) Freeway Expansion was a complex project that cut through downtown Everett to unclog a notorious I-5 traffic chokepoint and increase safety on this corridor. Completed in October 2008, it was the third largest project contract in Washington state history: at the peak of design and construction, it employed more than 370 people.

Community Transit mascot OxyGene, at the I-5 ribbon-cutting event, June 5, 2008.

Crews widened 18 bridges and built five new ones. They added more than 11 lane-miles of HOV lanes and auxiliary lanes, built a new interchange, and reconstructed two more. More than six miles of noise walls were added along with six storm water treatment facilities. The project also upgraded all ramps and access points to current standards and added the latest intelligent transportation system (ITS) features, capturing traffic volume data for online traveler information. The team also created a park-like 13-acre water quality treatment site with a waterfall that connects to the city of Everett's riverfront trail system.

SR 16 Tacoma Narrows Bridge

The new Tacoma Narrows Bridge opened to traffic on July 16, 2007 – the longest suspension span built in the US in 40 years. The toll-financed project cost $724 million and required more than 3 million hours of labor to build, but was delivered four weeks early, five years after breaking ground.

The Tacoma Narrows bridges, old and new, one year after the new bridge opened.

The Narrows Bridge project consisted of 3.4 miles of improvements that included building HOV highway lanes, a toll plaza and facility, a new split-diamond interchange, a bridge maintenance facility, a reconfigured and repaved existing bridge deck, relocated parks, and the new 5400-foot-long suspension bridge itself. This project provides four eastbound lanes across the new bridge and four westbound lanes across the old bridge, bringing much-needed safety and congestion improvements. Crossing the Narrows is now also safer for pedestrians and cyclists thanks to a 10-foot-wide barrier-separated walkway.

A worker is dwarfed by giant demolition equipment removing the Wilburton Tunnel in 2008.

The Eastside Corridor Program

WSDOT delivered more than $441 million in projects on the Eastside Corridor in the 2007-09 biennium. Of 19 planned construction projects, seven are complete, two will be completed in 2009; three begin construction in 2009; and seven will start construction in 2010 or later.

WSDOT completed the Kirkland Nickel Stage 1 project in October 2007, decreasing congestion in the area once known for the "Kirkland Crawl." Two years later, crews opened the 130-acre, Springbrook Creek Wetland and Habitat Mitigation Bank, one of the first and largest urban wetland mitigation banks in Washington. In summer 2008, crews razed the Wilburton tunnel, allowing six lanes of traffic to travel through an area the tunnel once restricted to four. This, combined with the opening of the northbound I-405 lane in south Bellevue, means commuters will see improved conditions. Drivers headed into Bellevue in the morning have experienced 20 mph increases in speed and a 10 minute reduction in their commutes.

US 12 widening and safety improvements

Progress continues toward widening US 12 between the Tri-Cities and Walla Walla. In the 2007-09 biennium, WSDOT delivered $31 million of improvements in this corridor, which includes 40 miles from the junction of SR 124, east of Pasco, to Walla Walla. This multi-staged, safety improvement project will widen US 12 to four lanes, separated by concrete barrier or highway median and carried on new bridges or old ones that have been widened.

In September 2007, WSDOT completed the third construction project to reduce congestion and intersection-related collisions along the 12-mile corridor from SR 124 to Attalia. Crews began work on the Frenchtown Vicinity to Walla Walla stage in March 2008. For this project, crews are building eight miles of new four-lane highway, improving four intersections and building an overpass with ramps at Pine Street. In addition, WSDOT is conducting a corridor study to determine the best route for a new highway alignment from Wallula to the Frenchtown vicinity. A final alignment will be selected in December 2009.

A new roundabout will help smooth traffic flow on US 12.

Highway Construction: Nickel and 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). The *Gray Notebook*'s Beige Pages generally do not include planning studies or projects that do not have a construction phase. Pre-Existing Funds (PEF) projects are budgeted by program for the improvement and preservation of the highway system, and the delivery of the work is reported programmatically in six categories. WSDOT will be updating its project delivery reporting in the *Gray Notebook*. Improvements will include a multi-level reporting approach, to more closely align with changing project management processes and prepare for the deployment of the new automated project reporting system (see p. 86). This transition will evolve over the next three quarters and, as a result, the Beige Pages will change over time.

Highway construction performance dashboard

As of September 30, 2009; Dollars in thousands

	Nickel (2003)	TPA (2005)	Combined Nickel & TPA	Pre-Existing Funds (PEF)
Total number of projects	153	238	391	494**
Total program (Improvement & Preservation) budget *	$3,801,822	$9,791,080	$13,592,902	$4,592,021
Schedule, Scope, and Budget Summary: Results of completed projects				
Cumulative to date, 2003 – September 30, 2009	For Nickel and TPA details, see pages 45-47			See pages 80-83
Total cumulative number of projects completed	116	99	215	–
% Completed early or on time	90%	86%	88%	–
% Completed within scope	100%	100%	100%	–
% Completed under or on budget	90%	85%	87%	–
% Completed on time and on budget	82%	73%	78%	–
Baseline estimated cost at completion	$2,273,609	$988,034	$3,261,643	–
Current estimated cost at completion	**$2,260,949**	**$1,013,270**	**$3,274,219**	–
% of total program over or under budget	0.6% Under	2.6% Over	0.4% Over	–
Biennium to date, 2009-11				
Total number of projects completed in 2009-11	**5**	**16**	**21**	**58**
% Completed early or on time	100%	75%	81%	-
% Completed within scope	100%	100%	100%	-
% Completed under or on budget	100%	88%	90%	-
% Completed on time and on budget	100%	75%	81%	-
Baseline estimated cost at completion	$519,280	$174,405	$693,685	$144,842
Current estimated cost at completion	$502,561	$168,031	$670,592	$133,666
Advertisement Record: Results of projects entering into the construction phase or under construction				
Cumulative to date, 2003 – September 30, 2009	For Nickel and TPA details, see pages 48-51			See pages 80-82
Total number of projects in construction phase	**15**	**49**	**64**	**N/A**
% Advertised early or on time	73%	86%	83%	–
Total award amounts to date	$440,031	$412,409	$852,440	–
Biennium to date, 2007-09				
Total advertised	**0**	**2**	**2**	**7**
% Advertised early or on time	0%	100%	100%	71%
Total award amounts to date	$0	$0	$0	N/A
Advertisement Schedule for projects in the pipeline: Results of projects now being advertised for construction or planned to be advertised				
October 1, 2009 through March 31, 2010	For Nickel and TPA details, see pages 52-53			See pages 83
Total projects being advertised for construction bids	**3**	**26**	**29**	**33**
% on or better than schedule	100%	88%	90%	-

* per 2005-2007 Transportation Budget, Section 603. ** Biennium reporting for PEF projects.
Data Source: WSDOT Project Control & Reporting.

WSDOT's Capital Project Delivery Programs

Rail and Ferries Construction: Nickel and TPA Performance Dashboard

Eight Nickel projects and five Transportation Partnership Account (TPA) rail construction projects have been delivered 100% on time and on budget as of September 30, 2009 for $51.6 million. Five Nickel-funded and four TPA-funded projects in construction have total award amounts of $40.1 million. No additional rail projects are planned to advertise prior to March 31, 2010.

To date, Ferries has completed three construction projects using Nickel funding, and three TPA-funded contracts (see note* below) have been awarded for $244 million. Additional Ferries construction projects are not planned for advertisement in this biennium. The award of a fourth ferry is pending, depending on future availability of funds.

Rail construction performance dashboard

As of September 30, 2009; dollars in thousands

	Nickel (2003)	Transportation Partnership Account	Combined Nickel & TPA
Schedule, scope and budget summary: completed projects			
Cumulative to date, 2003 – September 30, 2009	8	5	13
% 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	$30,710	$20,965	$51,675
Current estimated cost at completion	$30,710	$20,965	$51,675
% of total program on or under budget	0.0%Over	0.0%Over	0.0%Over
Advertisement record: projects under construction or entering construction phase			
Biennium to date, July 1, 2009-2011			
Total advertised	5	4	9
% Advertised early or on time	100%	100%	100%
Total award amounts to date	$27,996	$12,121	$40,117
Advertisement schedule: projects now being advertised or planned to advertise			
October 1, 2009 through March 31, 2010			
Total being advertised for construction	0	0	0
% On schedule or earlier	N/A	N/A	N/A

Ferries construction performance dashboard

As of September 30, 2009; dollars in thousands

Schedule, scope and budget summary: completed projects			
Cumulative to date, 2003 – September 30, 2009	3	0	3
% Completed early or on time	100%	0%	100%
% Completed within scope	100%	0%	100%
% Completed under or on budget	100%	0%	100%
% Completed on time and on budget	100%	0%	100%
Baseline estimated cost at completion	$10,712	$0	$10,712
Current estimated cost at completion	$10,712	$0	$10,712
% of total program on or under budget	0.0% Over	0.0% Over	0.0% Over
Advertisement record: projects under construction or entering construction phase			
Cumulative to date, 2003 – September 30, 2009	0	3	3*
% Advertised early or on time	0%	100%	100%
Total award amounts to date	$0	$224,835	$224,835*

Data Source: WSDOT Project Control and Reporting Office.

* Note: The advertisement record includes the contract for the "144 Auto class ferry" furnished equipment. This already-purchased equipment has been accepted and currently is in storage: it will be installed during future, at-present unfunded, ship construction. The overall contract remains open to negotiate the training and installation of the equipment. The advertisement record also includes two contracts in the "64 Auto class ferry" vessel program: the fi rst contract covers building the fi rst ship, the second contract covers building the second and third vessels.

Schedule, Scope and Budget Summary

215 Highway projects completed as of September 30, 2009

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

	Fund type	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
Cumulative to date								
2003-2005 Biennium summary See Gray Notebook for quarter ending September 30, 2005, for project listing May be accessed at http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm.	19 Nickel	4 early 15 on time	6 early 13 on time	19	$118,575	$118,450	9 under 8 on budget 2 over	17 on time and on budget
2005-2007 Biennium summary See Gray Notebook for quarter ending June 30, 2007, for project listing May be accessed at http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm.	50 Nickel 23 TPA	20 early 48 on time 5 late	49 early 16 on time 8 late	73	$650,986	$652,896	27 under 33 on budget 13 over	53 on time and on budget
2007-2009 Biennium summary See Gray Notebook for quarter ending June 30, 2009, for project listing May be accessed at http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm.	42 Nickel 60 TPA	18 early 62 on time 22 late	45 early 43 on time 14 late	102	$1,764,364	$1,769,732	52 under 38 on budget 12 over	80 on time and on budget

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
Current quarter									
SR 4 and SR 401 — Roadside safety improvements (Cowlitz, Pacific, Wahkiakum)	TPA	$700 2005	√	Early	√	$700	$524	Under	√
US 2/S of Orondo — Add passing lane (Douglas) Advertisement date was delayed due to environmental permitting and acquisition of right-of-way.	TPA	$2,500 2005	Late	√	√	$3,512	$2,745	Under	√
US 101/W Fork Hoquiam River Bridge — Replace bridge 101/142 (Grays Harbor) The operationally complete date was delayed due to problems at the contractor's end and their difficulties in obtaining materials and meeting the project's schedule. These delays and problems also increased the cost at completion.	TPA	$3,147 2005	√	Late	√	$3,030	$3,250	Over	
US 101/W Fork Hoquiam River Bridge — Replace bridge 101/145 (Grays Harbor) The operationally complete date was delayed due to problems at the contractor's end and their difficulties in obtaining materials and meeting the project's schedule. These delays and problems also increased the cost at completion.	TPA	$2,131 2005	√	Late	√	$2,133	$2,263	Over	
I-405/I-90 to SE 8th St — Widening (King)	Nickel	$185,480 2003	Early	Early	√	$179,865	$179,865	√	√
I-405/112th Ave SE to I-90 — Northbound widening (King)	TPA	$20,000 2005	Early	Early	√	$19,955	$19,955	√	√
SR 509/I-5 to Sea-Tac – Freight and congestion relief (King) The original advertisement date was November 2005, though project funding was uncertain until Initiative I-912 was decided in November 2005, requiring an update of the advertisement date. The original schedule update to the project list was not entered in the 2006 Legislative budget, though the ad date was updated to June 2006 in the 2007 Legislative budget. The project's operationally complete date of September 2009 reflects a second contract for grading and fence construction; the June 2009 completion date applied to an earlier contract that covered construction of a wetland mitigation site.	TPA	$30,000 2005	Late	Late	√	$29,436	$29,298	√	

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

215 Highway projects completed as of September 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 522/University of Washington Bothell — Build interchange (King)	TPA	$8,000 2003	Late	Early	√	$48,827	$48,827	√	√
Advertisement date delay due to environmental permit issues. The project was originally advertised in January 2007 and then pulled from ad due to budget constraints. The project was re-advertised in October, 2007 and was awarded in January, 2008.									
SR 307/SR 104 Safety corridor study — Spot improvements (Kitsap)	TPA	$5,000 2005	√	Early	√	$5,000	$2,538	Under	√
SR 122/Harmony Resort vicinity — Fish passage (Lewis)	TPA	$634 2007	√	Early	√	$720	$437	Under	√
Cost increase is due to inflation.									
SR 6/S Fork Chehalis River Bridge — Replace bridge (Lewis)	TPA	$7,710 2005	√	Early	√	$13,293	$11,787	Under	√
US 101/Hoodsport vicinity — Stabilize slope (Mason	TPA	$500 2005	Late	√	√	$584	$540	Under	√
Project missed the 2008 construction season due to time needed for Endangered Species Act (ESA) compliance and acquiring other state water quality permits.									
SR 20/W of Okanogan — Roadside safety improvements (Okanogan)	TPA	$1,200 2005	√	√	√	$1,200	$939	Under	√
SR 704/Cross Base Highway — New alignment (Pierce)	TPA	$15,000 2003	Early	Late	√	$42,934	$43,318	√	
Project advertised early to allow construction of the first stage of the project at the east end of the corridor and to finish right-of-way efforts within the 2007-09 biennium.									
SR 20/Quiet Cove Rd vicinity to SR 20 Spur — Widening (Skagit)	Nickel	$12,281 2003	√	Early	√	$30,662	$26,530	Under	√
SR 20/Fredonia to I-5 — Add lanes (Skagit)	Nickel	$83,315 2003	√	Early	√	$118,151	$105,645	Under	√
Spokane, Stevens, and Pend Oreille counties — Roadside safety improvements (Spokane, Stevens, Pend Oreille)	TPA	$1,010 2005	Late	√	√	$1,010	$831	Under	√
Advertisement date was delayed two months; Region Traffic could not complete signing plans prior to advertisement date due to workforce constraints.									
US 2/Colbert Rd Intersection — Intersection improvements (Spokane)	TPA	$1,117 2005	√	√	√	$1,170	$49	Under	√
Roadway deficiency was addressed with a simpler solution than originally anticipated.									
US 395/North Spokane Corridor (NSC), Francis Ave to Farwell Rd — New alignment (Spokane)	Nickel	$108,280 2003	Late	√	√	$190,477	$190,477	√	√
The advertisement delay on this project was due to delays in the right-of-way acquisition. This project contained the following 'child' projects: • NSC-Farwell Road – Lowering • NSC-Gerlach to Wandermere — Grading construction • NSC-Francis Avenue to US 2 Structures — Rebid • US 395/NSC-Freya to Fairview vicinity — Grading and structures • US 395/NSC-Freya St to Farwell Rd — PCCP paving • US 395/NSC — BNSF rail tunnel									

Schedule, Scope and Budget Summary

215 Highway projects completed as of September 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
North Stevens and Ferry counties — Roadside safety improvements (Stevens, Ferry) Advertisement date was delayed due to environmental permit issues.	TPA	$900 *2007*	Late	√	√	$900	$730	Under	√
I-5/Bakerview Rd to Nooksack River Bridge/Slater Rd interchange — Safety improvements (Whatcom)	Nickel	$782 *2003*	√	Early	√	$125	$44	Under	√

Biennial totals 2009-2011

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

	Percent on time advertised	Percent on time completed	Percent within scope	Current Legislative expectation baseline	Current estimated cost at completion	Percent within budget	Percent on time and on budget
Totals current quarter (September 30, 2009)	**67%**	**81%**	**100%**	**$693,685**	**$670,592**	**90%**	**81%**
5 Nickel projects	80%	100%	100%	$519,280	$502,561	100%	100%
16 TPA projects	63%	75%	100%	$174,405	$168,031	88%	75%
Totals biennium to date (2009-11)	**67%**	**81%**	**100%**	**$693,685**	**$670,592**	**90%**	**81%**
5 Nickel projects	80%	100%	100%	$519,280	$502,561	100%	100%
16 TPA projects	63%	75%	100%	$174,405	$168,031	88%	75%
Totals cumulative to date**	**84%**	**88%**	**100%**	**$3,261,643**	**$3,274,219**	**87%**	**78%**
116 Nickel projects	85%	90%	100%	$2,273,609	$2,260,949	90%	82%
99 TPA projects	83%	86%	100%	$988,034	$1,013,270	85%	73%

Source: WSDOT Project Control and Reporting Office.

** Note: Dollars shown are for all fund types, not just Nickel or Transportation Partnership Account funds.

WSDOT's Capital Project Delivery Programs

Advertisement Record

64 Projects in construction phase as of September 30, 2009

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						
SR 26/Othello vicinity — Roadside safety improvements (Adams)	TPA	√	Feb-09	Frank Gurney, Inc	Oct-09	$239
SR 26/Othello vicinity — Install lighting (Adams, Grant)	TPA	Early	Dec-07	Central Washington Asphalt, Inc.	Oct-09	$5,134
Advertisement date was advanced to construct a portion of this project as a part of a larger PEF program for construction efficiencies.						
SR 17/Othello vicinity to Soap Lake vicinity — Install lighting (Adams, Grant)	TPA	Early	*Combined with the project above for construction efficiencies.*			
Advertisement date was advanced to construct a portion of this project as a part of a larger PEF program for construction efficiencies.						
SR 240/Beloit Rd to Kingsgate Way — Widen roadway (Benton)	TPA	√	Feb-09	Imco General Construction, Inc.	Nov-09	$6,764
US 395/Columbia Dr to SR 240 — Rebuild interchange (Benton)	TPA	√	Oct-08	KLB Construction, Inc	Nov-09	$11,520
SR 285/George Sellar Bridge — Additional eastbound lane (Chelan, Douglas)	TPA	Late	Jan-09	Max J. Kuney Co.	Mar-11	
Advertisement date was delayed one month to address additional bridge analysis, design, and detailing requirements and to purchase railroad easements.						
SR 112/Neah Bay to Sekiu — Roadside safety improvements (Clallam)	TPA	√	Feb-08	Petersen Brothers, Inc	Oct-10	$2,596
This project was split into two stages. Stage 1 was correctly reported as completed in the December 2008 *Gray Notebook 32*. Stage 2 is scheduled for completion in October, 2010; in this stage are portions of work requiring right-of-way acquisitions, permits, and environmental mitigation steps,.						
I-205/Mill Plain Exit (112th Connector) — Build ramp (Clark)	Nickel	Early	Mar-08	Selby Bridge Company, Inc.	Dec-09	$14,875
I-205/Mill Plain Interchange to NE 18th St — Stage 1 (Clark)	TPA	Early	*Combined with the project above for construction efficiencies.*			
I-5/SR 501 Ridgefield Interchange — Rebuild interchange (Clark)	TPA	Early	Jun-09		Nov-11	
This project has been identified to receive $10M in Federal Recovery Act stimulus funding.						
SR 4/Climbing lane to Coal Creek Rd vicinity — Upgrade guardrail (Cowlitz, Wahkiakum)	Nickel	√	May-09	Lakeside Industries	Nov-09	$6,499
SR 17/Moses Lake to Ephrata — Widening (Grant)	TPA	Late	Mar-09	Granite Northwest	Oct-09	$6,235
Advertisement date was delayed to accommodate a design alternative change that reduces the shoulder width from eight to four feet, keeping the project on budget.						
SR 17/N of Moses Lake — Add passing lane (Grant)	TPA	Late	*Combined with the project above for construction efficiencies.*			
Advertisement date was delayed to accommodate a design alternative change that reduces the shoulder width from eight to four feet, keeping the project on budget.						
US 101/Mosquito Creek tributary to North River — Fish barrier (Grays Harbor)	TPA	√	May-09	Rognlins, Inc.	Oct-09	
The construction estimate has increased due to the cost of shoring and excavation work that was underestimated.						
I-5/Boeing Access Rd vicinity to King/Snohomish county line — Pavement repair (King)	Nickel	√	Oct-08	Interstate Improvement, Inc.	Oct-09	$9,875
SR 167/S 180th St to I-405 — Southbound widening (King)	TPA	Early	Feb-07	Tri-State Construction Inc	Nov-09	$91,500
I-405/SR 181 to SR 167 — Widening (King)	TPA	Early	*Combined with the project above for construction efficiencies.*			
• I-405/I-5 to SR 169 Stage 1 — Widening (King)	TPA		Feb-07	Tri-State Construction Inc	Nov-09	
• I-405/Springbrook Creek Wetland and Habitat Mitigation Bank (King)	TPA		Aug-06	Scarsella Bros., Inc.	Jun-09	$12,539

Advertisement Record

64 Projects in construction phase as of September 30, 2009

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-405/I-5 to SR 181 — Widening (King)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 900/SE 78th St vicinity to I-90 vicinity — Widening and HOV (King)	Nickel	√	May-08	Icon Materials, A Division of CPM	Dec-09	$19,354
I-405/NE 10th St — Bridge Crossing (King)	TPA	Early	Sep-06		Dec-09	
• I-405/NE 10th St Bridge Crossing (King)	TPA		Sep-06	City of Bellevue	Apr-08	$9,772
• I-405/NE 10th St Bridge Crossing Stage 2 (King)	TPA		Sep-07	Max J. Kuney Company	Dec-09	$13,866
Central King to South Snohomish Bridges — Seismic (King, Snohomish)	TPA	√	Jul-08	Granite Northwest, Inc. dba Wilder	Mar-10	$6,734
SR 519/ I-90 to SR 99 Intermodal Access Project — Interchange improvements (King)	Nickel	Early	Jun-08	Kiewit Pacific Co.	Jun-10	$66,969
I-90/I-5 to 12th Ave S — Seismic retrofit (King)	TPA	√	Oct-08	Pcl Construction Services, Inc.	Jun-10	$5,703
I-5/5th Ave NE to NE 92nd St — Noise wall (King)	TPA	√	Feb-08	Wilder Construction Co.	Aug-10	$3,315
SR 11, SR 525, and SR 900 — Roadside safety improvements (King, Snohomish, Skagit)	TPA	√	Feb-08	Coral Construction Company	Dec-10	$1,463
I-90/Eastside bridges — Seismic (King)	TPA	√	Oct-08	Imco General Construction, Inc.	Sep-11	$5,999
SR 520/W Lake Sammamish Parkway to SR 202, Stage 3 — Widening (King)	Nickel	Late	Jan-07	Tri-State Construction, Inc.	Sep-11	$9,988
The advertisement for the flyover ramp portion of this project was delayed to January 2007 due to stormwater and wetland design changes. The flyover ramp is currently open to traffic and the widening portion of the project was advertised in October 2008.						
I-405/SR 167 to SR 169 — Northbound widening (King)	TPA	√	Oct-08	I-405 Corridor Design Builders	Sep-11	$83,599
I-405/SR 167 to SR 169 — Add new southbound lane (King)	Nickel	√	*Combined with the project above for construction efficiencies.*			
I-405/SR 515 — New interchange (King)	TPA	√	*Combined with the project above for construction efficiencies.*			
I-405/NE 8th St to SR 520 braided ramps — Interchange improvements (King)	TPA	√	Mar-09		Dec-12	
SR 16/Burley-Olalla Interchange — Build interchange (Kitsap)	Nickel	Late	Apr-08	Ceccanti, Inc.	Dec-09	$16,329
The two-week delay allowed time to address continuing design review issues including temporary erosion control and utility boring designs.						
SR 160/SR 16 to Longlake Rd vicinity — Widening (Kitsap)	Nickel	√	Jan-09	RG Construction	Nov-09	$4,319
The operationally complete date was delayed from 5/18/09 to 8/30/09; the earlier schedule (January 2009 advertisement date and May 2009 construction start date) was not feasible. Project increased due to the inclusion of local funds and inflation.						
I-90/Snoqualmie Pass East — Hyak to Keechelus Dam — Corridor improvement (Kittitas)	TPA	Early	Feb-09	KLB Construction, Inc.	Oct-15	$3,298
SR 142/Roadside safety — Roadside improvements (Klickitat)	TPA	Early	Mar-08	Dirt and Aggregate Interchange	Oct-10	$300
Cost increase includes pooled funds from other roadside safety projects to address high benefit locations.						

WSDOT's Capital Project Delivery Programs

Advertisement Record

64 Projects in construction phase as of September 30, 2009

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-5/Port of Tacoma Rd to King County line — Add HOV lanes (Pierce)	Nickel	Late	Jun-09	Tri-State Construction Inc.	Nov-11	$31,015.
Advertisement date was delayed due to design challenges associated with stormwater and floodplain management; a formal consultation with US Fish & Wildlife Service 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/Ardena Road Bridge — Upgrade bridge rail (Pierce)	Nickel	Late	*Combined with the project above for construction efficiencies.*			
I-5/SR 16 Interchange — Rebuild interchange (Pierce)	TPA	√	Jul-08	Guy F. Atkinson Construction, Llc	Dec-11	$119,925
I-5/Fisher Creek vicinity — Stormwater drainage improvements (Skagit)	TPA	√	Mar-09	G.G. Excavation, Inc.	Nov-09	$398
I-5/Chuckanut Creek vicinity — Stormwater drainage improvements (Whatcom)	TPA	√	*Combined with the project above for construction efficiencies.*			
I-5/Padden Creek vicinity — Stormwater drainage improvements (Whatcom)	TPA	√	*Combined with the project above for construction efficiencies.*			
I-5/Squalicum Creek vicinity — Stormwater drainage improvements (Whatcom)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 92, SR 520, SR 530, and SR 534 — Roadside safety Improvements (Snohomish)	TPA	√	Feb-09	Coral Construction Company	Jan-10	$521
SR 9/176th St SE vicinity to SR 96 — Add signal and turn lanes (Snohomish)	Nickel	√	Jan-08	Scarsella Bros. Inc.	Mar-10	$18,878
SR 9/Marsh Rd Intersection — Safety improvements (Snohomish)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 9/SR 96 to Marsh Rd — Add lanes and improve intersections (Snohomish)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 9/Lake Stevens Way to 20th St SE — Improve intersection (Snohomish)	TPA	√	Apr-08		Jun-10	
This is a WSDOT project administered by Snohomish County in order to coordinate more effectively with locally managed projects, and improve cost and construction efficiency.						
SR 20 and SR 530 — Roadside safety improvements (Snohomish, Skagit)	TPA	√	Feb-09	Coral Construction Company	Oct-10	$521
I-405/NE 195th St to SR 527 — Northbound widening (Snohomish, King)	TPA	Early	May-09		Dec-10	
I-5/172nd St NE (SR 531) interchange — Rebuild interchange (Snohomish)	TPA	√	Oct-08	Northwest Construction Inc.	Dec-10	$12,976
SR 532/270th St NW to 72nd Ave NW — Improve safety (Snohomish)	TPA	Late	Oct-08	Parsons/Kuney Joint Venture	Dec-10	$50,416
This is a design-build project. Advertisement date was delayed to allow additional time to acquire environmental permits and right-of-way parcels.						
SR 532/64th Ave NW to 12th Ave NW — Improve safety (Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 532/General Mark W. Clark Memorial Bridge — Improve safety (Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 532/General Mark W. Clark Memorial Bridge — Replace bridge (Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 532/Sunrise Blvd to Davis Slough — Improve safety (Island, Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			

Advertisement Record

64 Projects in construction phase as of September 30, 2009

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
US 395/North Spokane Corridor (NSC) -US 2 to Wandermere and US 2 Lowering — New alignment (Spokane)	Nickel	√	Aug-08	Graham Construction and Management, Inc.	May-11	$42,849
I-5/Grand Mound to Maytown Stage 1 — Add lanes (Thurston)	Nickel	√	Dec-07	Scarsella Bros., Inc.	Jun-10	$61,495
US 12/Frenchtown vicinity to Walla Walla — Add lanes (Walla Walla)	TPA	√	Dec-07	Apollo, Inc	Jul-10	$33,733
This project's operationally complete date has been delayed to July 2010 due to harsh winter weather and numerous unworkable days.						
SR 539/Tenmile Road to SR 546 — Widening (Whatcom)	Nickel	√	Dec-07	Max J. Kuney Company	Feb-10	$53,987
SR 542/Nooksack River — Redirect river and realign roadway (Whatcom)	TPA	Late	Jan-09	Tapani Underground, Inc.	Oct-11	$395
Advertisement date delay due to additional time needed to reach a settlement on a privately owned right-of-way parcel that is required for the project. The project was advertised in May 2008 and then pulled from ad. Right-of-way certification requirements were not met prior to bid opening. Advertisement was rescheduled for January 2009 to keep the in-water construction work within the July 1 to September 30 fish passage window.						
US 12/Tieton River west crossing — Replace bridge (Yakima)	TPA	Late	Apr-09	Scarsella Bros, Inc.	Oct-10	$6,547
The scheduled advertisement date was delayed due to the extended time obtaining the Joint Aquatic Resource permit from the county and local agencies.						
US 12/Tieton River east crossing — Replace bridge (Yakima)	TPA	Late	*Combined with the project above for construction efficiencies.*			
The scheduled advertisement date was delayed due to the extended time obtaining the Joint Aquatic Resource permit from the county and local agencies.						
Quarter ending September 30, 2009						
I-5/SR 432 Talley Way Interchanges — Rebuild interchanges (Cowlitz)	TPA	√	Sep-09		Dec-11	
US 2/N Glen-Elk Chattaroy Rd Intersection — Intersection Improvements (Spokane)	TPA	√	Aug-09		Sep-10	

Advertisement Record summary	Percent on time advertised	Award amount
Totals current quarter (September 30, 2009)	**100%**	**$0**
0 Nickel projects	0%	$0
2 TPA projects	100%	$0
Totals biennium to date (2009-11)	**100%**	**$0**
0 Nickel projects	0%	$0
2 TPA projects	100%	$0
Totals cumulative to date (projects under way)	**83%**	**$852,440**
15 Nickel projects	73%	$440,031
49 TPA projects	86%	$412,409

Source: WSDOT Project Control and Reporting Office.

* As established by the 2005 Legislative Evaluation and Accountability Program (LEAP) committee. However, dollars shown are for all fund types, not just Nickel or Transportation Partnership Account funds.

WSDOT's Capital Project Delivery Programs

Projects To Be Advertised

29 Projects in delivery pipeline for October 1, 2009, through March 31, 2010

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
SR 26/W of Othello — Add passing lane (Adams)	TPA	Nov-15	Dec-09	Advanced	$1,870	$1,694
SR 150/W of Chelan — Install lighting (Chelan)	TPA	Dec-09	Oct-09	√	$286	$286
Advertisement date delayed one year as part of the 2009-11 Transportation budget addressing current budget constraints.						
SR 971/S Lakeshore Rd — Install lighting (Chelan)	TPA	Dec-09	Oct-09	√	$117	$117
Advertisement date delayed one year as part of the 2009-11 Transportation budget addressing current budget constraints.						
SR 503/Lewisville Park vicinity — Add climbing lane (Clark)	TPA	Jan-10	Jan-10	√	$8,511	$7,806
SR 28/Jct US 2 and US 97 to 9th St, Stage 1 — New alignment (Douglas)	TPA	Jan-09	Feb-10	Delayed	$58,122	$54,488
Project advertised early to allow construction on the irrigation canal to take place during winter 2009/10, while the irrigation water is shut off.						
US 97/S of Chelan Falls — Add passing lane (Douglas)	TPA	Feb-16	Mar-10	Advanced	$1,571	$1,570
SR 99/SR 518 Interchange – Bridge crossing seismic retrofit (King)	TPA	Apr-09	Nov-09	Delayed	$1,381	$1,381
This WSDOT project is tied to the Sea-Tac Airport Rental Parking Facility project administered by the Port of Seattle. Port of Seattle was unable to secure funding for this project and WSDOT's advertisement date was delayed. Funding has been secured and the project is scheduled to advertise December 2009.						
SR 203 — Roadside safety improvements (King, Snohomish)	TPA	Nov-09	Nov-09	√	$139	$601
SR 203/Corridor safety improvements (King, Snohomish)	TPA	Oct-09	Nov-09	√	$3,533	$3,533
I-90/Two Way Transit — Transit and HOV improvements — Stage 2 & 3 (King)	TPA	Jul-25	Dec-09	Advanced	$33,600	$33,600
I-5/Ship Canal bridge — Noise mitigation study (King)	TPA	Oct-09	Dec-09	√	$5,000	$7,001
The design is based on an acoustical optimization model recommended by the acoustic Expert Review Panel (ERP). Added design work was needed for the team of acoustical and structural engineering experts work for updated design scope, final noise modeling, structural capacity analysis, and final design. Because of the delay in finalizing a design concept, the project advertisement date is changed from April 2009 to December 2009.						
SR 169, SR 410, SR 525, SR 900 and SR 520 — Roadside safety improvements (King)	TPA	Feb-10	Feb-10	√	$200	$1,200
SR 509/SR 518 interchange — interchange improvements (King)	TPA	Feb-10	Feb-10	√	$2,083	$2,042
SR 520/I-405 vicinity – Seismic retrofit (King)	TPA	Mar-10	Mar-10	√	$5,655	$5,353
SR 303/Port Washington Narrows Bridge — Upgrade bridge rail (Kitsap)	Nickel	Mar-10	Mar-10	√	$1,573	$1,422
SR 410/214th Ave E to 234th — Add lanes (Pierce)	TPA	Feb-09	Nov-09	Delayed	$31,847	$27,472
The advertisement and operationally complete dates have been delayed to allow time for continued environmental compliance issues. Right-of-way plans were revised for new pond sites, which required restarting the cultural resources process.						
SR 11/I-5 interchange-Josh Wilson Rd — Rebuild interchange (Skagit)	TPA	Oct-09	Nov-09	√	$12,840	$12,967
SR 203/Corridor safety improvements — Snohomish County (Snohomish)	TPA	Nov-09	Nov-09	√	$3,101	$3,101
SR 9/Lundeen Parkway to SR 92 — Add lanes and improve intersections (Snohomish)	TPA	Jan-10	Jan-10	√	$39,149	$36,375
I-5/196th St (SR 524) interchange — Build ramps (Snohomish)	TPA	Feb-10	Feb-10	√	$59,491	$52,194

Projects To Be Advertised

29 Projects in delivery pipeline for October 1, 2009, through March 31, 2010

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
SR 529/Ebey Slough bridge — Replace bridge (Snohomish)	TPA	Mar-10	Mar-10	√	$46,964	$49,508
I-5/Blakeslee Junction railroad crossing to Grand Mound interchange — Add lanes (Thurston, Lewis)	TPA	Feb-10	Feb-10	√	$60,921	$53,699
• I-5/ Mellen Street to Blakeslee Junction — Add lanes, interchange improvements (Thurston, Lewis)	TPA	Apr-12	Apr-12	√	$152,940	$146,960
I-5/Capitol Blvd Bridge — Upgrade bridge rail (Thurston)	Nickel	Mar-10	Mar-10	√	$319	$295
US 12/SR 124 intersection — Build interchange (Walla Walla)	TPA	Oct-09	Dec-09	√	$29,490	$24,015
SR 27/Pine Creek Bridge — Replace bridge (Whitman)	TPA	Oct-09	Oct-09	√	$4,000	$4,000
SR 22/I-82 to Toppenish — Safety improvements (Yakima)	Nickel	Oct-09	Oct-09	√	$5,428	$5,087
I-82/Valley Mall Blvd interchange — Rebuild interchange (Yakima)	TPA	Nov-09	Nov-09	√	$38,555	$36,117
SR 241/Dry Creek Bridge — Replace bridge (Yakima)	TPA	Oct-09	Nov-09	√	$2,329	$1,389
SR 823/Selah vicinity — Reroute highway (Yakima)	TPA	Oct-09	Dec-09	√	$11,600	$11,031

Projects to be advertised summary	Percent advertised on schedule	Baseline estimated cost at completion	Current estimated cost at completion
Total (October 1, 2009, through March 31, 2010)	**90%**	**$623,672**	**$587,479**
3 Nickel projects	100%	$7,320	$6,804
27 TPA projects	89%	$616,352	$580,675

Source: WSDOT Project Control and Reporting Office.

* As established by the 2005 Legislative Evaluation and Accountability Program (LEAP) committee. However, dollars shown are for all fund types, not just Nickel or Transportation Partnership Account funds.

WSDOT's Capital Project Delivery Programs

Project Milestones: Nickel Projects

Schedule milestone tracking for Nickel projects

Schedule milestone results for all Nickel projects with one or more milestone activities

Milestone	Scheduled milestones to date	Scheduled milestones achieved to date	Scheduled milestones not achieved	Scheduled achievement rate**	Milestones achieved ahead of schedule
Project definition complete					
Biennium to date (2009-11)	0	0	0	0%	0
Cumulative to date	141	151	1	107%	11
Begin preliminary engineering					
Biennium to date (2009-11)	3	2	1	67%	0
Cumulative to date	151	155	1	103%	5
Environmental documentation complete					
Biennium to date (2009-11)	0	0	0	0%	0
Cumulative to date	137	137	2	100%	2
Right-of-way certification					
Biennium to date (2009-11)	1	0	1	0%	0
Cumulative to date	76	79	1	104%	4
Advertisement date*					
Biennium to date (2009-11)	1	0	1	0%	0
Cumulative to date	129	131	1	102%	3
Operationally complete					
Biennium to date (2009-11)	2	7	0	350%	5
Cumulative to date	101	117	0	116%	16

Source: WSDOT Project Control and Reporting Office.

* Advertisement date includes projects that went to ad and completed in the same quarter.

** Achievement rate may be higher than 100% where the actual number of milestones achieved exceed the number of scheduled milestones. This results when milestones are achieved ahead of their scheduled dates.

Project definition complete

Project definition is the preliminary picture of what a project will achieve and generally how it will do so. It includes deficiencies being addressed, the purpose for a project, location, and project information to the best available level. It is not a true project scope (that requires design effort) but it does support the very first preliminary cost estimate.

Begin preliminary engineering

A project schedule usually has two general phases, the pre-construction phase and the construction phase. Pre-construction involves design, right-of-way, and environmental activities. Beginning the preliminary engineering marks the start of the project design and is usually the first capital spending activity in the delivery process.

Environmental documentation complete

The National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA) require that an appropriate level of environmental assessment be prepared for almost all WSDOT projects. Depending on the project, these can take the form of an Environmental Impact Statement (EIS) or another document of lesser scale. These assessments end in the issuance of a Record of Decision (ROD) or other summary document. This milestone is the date that WSDOT will have finished and submitted to the appropriate regulatory agencies, the documentation for the ROD and/or issuance of permits.

Right-of-way certification

Often WSDOT projects require the acquisition of right of way or property rights. The right-of-way certification marks the point in time that right-of-way acquisition requirements are met and the process is complete for advertisement.

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.

Operationally complete

The date when the public has free and unobstructed use of the facility. In some cases, the facility will be open, but minor work items may remain to be completed.

Project Milestones: Transportation Partnership Account (TPA) Projects

Schedule milestone tracking for TPA projects

Schedule milestone results for all TPA projects with one or more milestone activities

Milestone	Scheduled milestones to date	Scheduled milestones achieved to date	Scheduled milestones not achieved	Scheduled achievement rate**	Milestones achieved ahead of schedule
Project definition complete					
Biennium to date (2009-11)	2	5	0	250%	0
Cumulative to date	219	231	7	105%	19
Begin preliminary engineering					
Biennium to date (2009-11)	14	6	3	43%	0
Cumulative to date	225	233	4	104%	12
Environmental documentation complete					
Biennium to date (2009-11)	5	7	2	140%	1
Cumulative to date	189	182	15	96%	8
Right-of-way certification					
Biennium to date (2009-11)	9	9	4	100%	1
Cumulative to date	109	105	14	96%	10
Advertisement date*					
Biennium to date (2009-11)	6	3	0	50%	0
Cumulative to date	155	149	9	96%	3
Operationally complete					
Biennium to date (2009-11)	9	14	4	156%	6
Cumulative to date	90	95	6	106%	11

Source: WSDOT Project Control and Reporting Office.

* Advertisement date includes projects that went to ad and completed in the same quarter.

** Achievement rate may be higher than 100% where the actual number of milestones achieved exceed the number of scheduled milestones. This results when milestones are achieved ahead of their scheduled dates.

Project definition complete

Project definition is the preliminary picture of what a project will achieve and generally how it will do so. It includes deficiencies being addressed, the purpose for a project, location, and project information to the best available level. It is not a true project scope (that requires design effort) but it does support the very first preliminary cost estimate.

Begin preliminary engineering

A project schedule usually has two general phases, the pre-construction phase and the construction phase. Pre-construction involves design, right-of-way, and environmental activities. Beginning the preliminary engineering marks the start of the project design and is usually the first capital spending activity in the delivery process.

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The National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA) require that an appropriate level of environmental assessment be prepared for almost all WSDOT projects. Depending on the project, these can take the form of an Environmental Impact Statement (EIS) or another document of lesser scale. These assessments end in the issuance of a Record of Decision (ROD) or other summary document. This milestone is the date that WSDOT will have finished and submitted to the appropriate regulatory agencies, the documentation for the ROD and/or issuance of permits.

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Often WSDOT projects require the acquisition of right of way or property rights. The right-of-way certification marks the point in time that right-of-way acquisition requirements are met and the process is complete for advertisement.

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.

Operationally complete

The date when the public has free and unobstructed use of the facility. In some cases, the facility will be open, but minor work items may remain to be completed.

Paying for the Projects: 2003 Transportation Funding Package (Nickel) financial information

Revenue Forecast Update

The following information incorporates the September 2009 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 2007 Legislature moved projects beyond 2013. Both cumulative ten-year totals and individual biennial amounts are shown in the chart below.

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 September 2009 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 10.4%. This reduction is due to continued lower gasoline consumption. Because Washington State's gas tax is based on gallonage rather than price, reduced consumption results in reduced revenues.

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

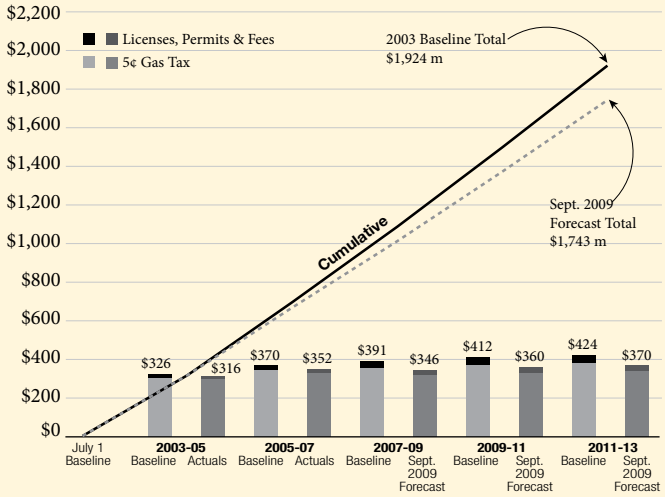
Deposited into the Multimodal Account (established in 2000)

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

Multimodal Account projections for the vehicle sales tax are lower than the baseline forecast resulting in a decrease of 14.7% in the ten-year outlook. This decrease is primarily due to the decline in vehicle sales.

Transportation 2003 (Nickel) account revenue forecast

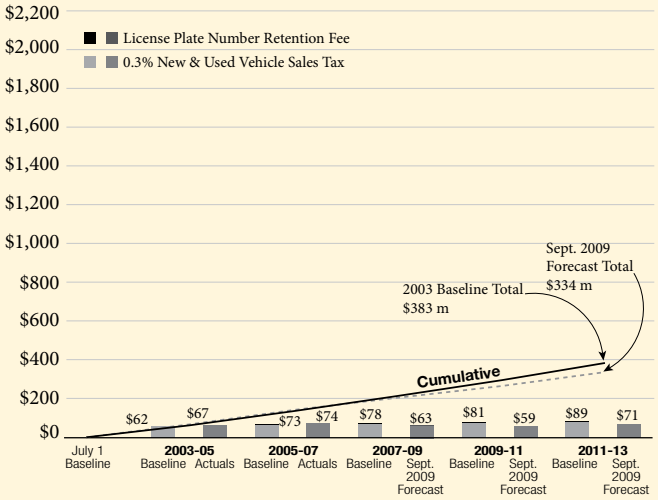
March 2003 Legislative baseline compared to the September 2009 Transportation Revenue Forecast Council
Dollars in millions



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

Multimodal Account (2003 Package) revenue forecast

March 2003 Legislative baseline compared to the September 2009 Transportation Revenue Forecast Council
Dollars in millions



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

Paying for the Projects: 2005 Transportation Partnership Account (TPA) financial information

Revenue Forecast Update

The accompanying chart compares the current September 2009 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.

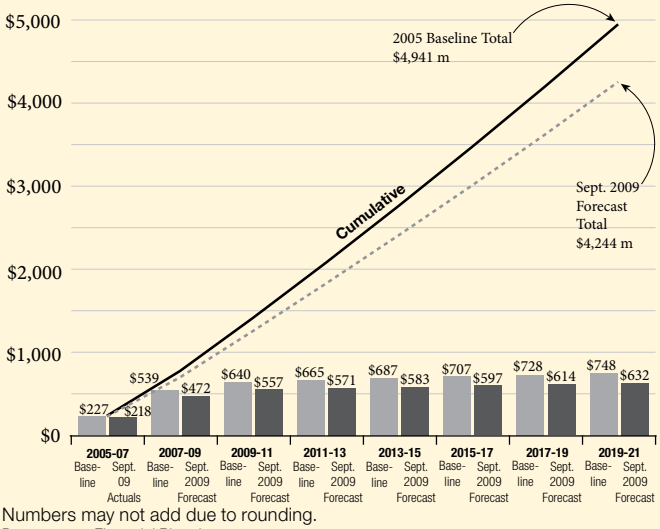
The September 2009 forecast for gas tax receipts over the 16-year period decreased by 16.4% from the baseline forecast. This reduction is due to continued lower gasoline consumption. Because Washington State's gas tax is based on gallonage rather than price, reduced consumption results in reduced revenues.

2005 Transportation Funding 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 motor homes
- Fee increases to various driver's license services
  - Original and Renewal License Application increased to $20 (previously $10)
  - Identicards, 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).

Transportation Partnership Account (TPA) gas tax revenue forecast

March 2005 Legislative baseline compared to the September 2009 Transportation Revenue Forecast Council
Dollars in millions



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

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

Between July 1 and September 30, 2009, WSDOT completed 21 projects that rebuilt bridges, improved safety features, installed sound walls, restored pavement, and increased capacity. Each of these projects improved travel by making roads safer, trips faster and more reliable, and helping the environment and the economy. Each project also faced unique challenges in being delivered both on time and on budget.

Building upon the principles of Performance Journalism and Accountability, WSDOT publishes a brief report on each project completed in a quarter, organized by county. 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.

Project delivery performance reporting regarding budget and schedule is measured against last approved budgets in accordance with criteria established by the Legislature; for this quarter, it is the 2008 supplemental budget. This report includes the original project appropriation from the 2003 and 2005 budgets to explain changes in project budgets over time. The graph offers a visualization of the fluctuations in a project's cost from year to year. The scale of the graph starts at various intervals to show the dollar range in greater detail.

More information on completed projects is available online at http://www.wsdot.wa.gov/projects. For completed Recovery Act projects, see pages 37-39.

SR 4 and SR 401 — Roadside safety improvements (Cowlitz, Pacific, Wahkiakum)

This project removed fixed hazards and installed guardrail roadside barriers to lessen collision severity and improve safety.

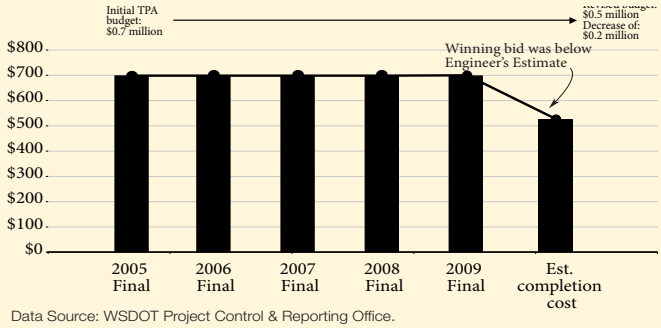
Project's benefits: This project made safety improvements to the SR 4 and SR 401 corridors in Pacific, Wahkiakum, and Cowlitz counties to reduce the severity of collisions where motorists have driven off the roadway.

Project's highlights or challenges: The project was awarded to a bid 21% below the Engineer's Estimate; that helped deliver the project below anticipated costs.

Budget performance: The project cost $525,000 at completion, $175,400 less than the original 2005 expectation of $700,000.

SR 4 and SR 401 - Roadside safety improvements (Cowlitz, Pacific, Wahkiakum)

Annual project budget from conception to estimated cost at completion
Dollars in thousands



Data Source: WSDOT Project Control & Reporting Office.

Schedule performance: This project was completed in August 2009, ahead of the last Legislative expectation.

SR 20/W of Okanogan — Roadside safety improvements (Okanogan)

This project installed guardrail, removed roadside objects, and improved roadsides along SR 20 in Okanogan County.

Project's benefits: This safety project will reduce collisions by removing roadside hazards and regrading steep shoulders, reduce the severity of off-road accidents, and improve the protection offered by guardrail.

Project's highlights or challenges: This project was combined with the 2009 North Central Region Chip Seal work and provided savings due to economies of scale.

Budget performance: A purchase of property was required to complete this project. Despite this unexpected development, the project cost $938,878 at completion, which is $261,122 below the last Legislative expectation and the original 2005 enacted budget of $1.2 million.

Schedule performance: The project was completed in July 2009, meeting the last Legislative expectation.

Completed Projects: Delivering performance and system benefits

US 2/S of Orondo — Add passing lane (Douglas)

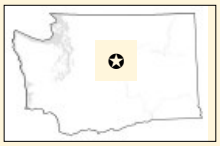
This project constructed a passing lane on US 2 in Douglas County near Orondo.

Project's benefits: Numerous passing related collisions have occurred at this location. The new passing lane for eastbound US 2 traffic will reduce the risk of head-on collisions.

Project's highlights or challenges: The passing lane was originally planned for one mile, but was expanded to 2 miles to provide adequate distance for several vehicles to pass safely.

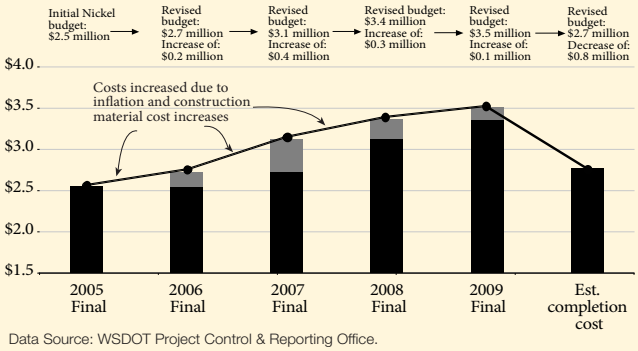
Budget performance: This project cost $2.75 million at completion, $767,000 below the last Legislative expectation and $245,000 more than the original 2005 estimated cost of $2.556 million. The decision to expand the passing lane and increased construction materials costs led to the budget increases. The successful low bid was 31% below the Engineer's Estimate.

Schedule performance: This project was completed in September 2009, meeting Legislative expectations.



US 2/South of Orondo - Passing lane

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

This project added a two-mile passing lane on US 2 south of Orondo.

US 101/W Fork Hoquiam River Bridge — Replace bridge 101/142 (Grays Harbor)

US 101/W Fork Hoquiam River Bridge — Replace bridge 101/145 (Grays Harbor)

These projects replaced two aging bridges across the West Fork of the Hoquiam River. The projects constructed two new concrete bridges that meet current seismic and engineering standards at mile posts 101 and 105 on US 101 in Grays Harbor County.

Project's benefits: These projects were designed to improve motorist safety by replacing two timber bridges built in 1934 that had become structurally deficient due to rot damage and severe weathering. The project also improved the natural flow of the river by removing piles from the river.

Project's highlights or challenges: The project involved working on US 101 bridges located four miles apart. Work did not progress according to the contractor's original schedule because workers and equipment were only available for one bridge site at a time; deliveries of construction materials such as gravel were also delayed.

Budget performance: The project cots $5.5 million at completion, which is $350,000 over the last Legislative expectation and $235,000 over the original 2005 enacted budget due to increased construction costs.

Schedule performance: The project was completed in September 2009, one quarter late due to scheduling challenges.

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

I-405/I-90 to SE 8th St - Widening (King)

I-405 is highly congested at this location. This project constructed one additional lane in the northbound and southbound directions between I-90 and SE 8th St. This project will reduce congestion on I-405.

Project's benefits: This I-405 project constructed two new lanes, one in each direction, to reduce extreme congestion in this area.

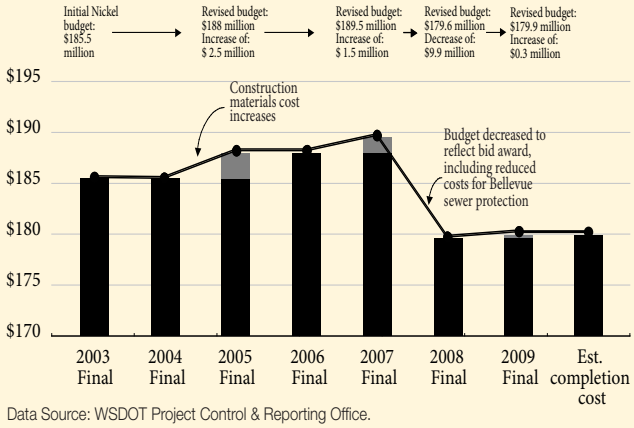
Project's highlights or challenges: This project is one of several projects aimed at improving I-405 in South Bellevue in King County and was combined with another widening project, I-405/112th Ave SE to I-90 - NB Widening for efficiencies.

Budget performance: This project cost $179.9 million at completion, meeting the last Legislative expectation and $5.6 million below the original FY 2003 enacted budget. The budget was reduced $10 million in FY 2008 due to reduced costs after the award, including lower than estimated costs for Bellevue Sewer Protection.

Schedule performance: This project was completed in September 2009, three months ahead of schedule and about 18 months ahead of the original plan.

I-405/112th Ave SE to I-90 - Northbount widening (King)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

WSDOT demolished the Wilburton Tunnel (above) in order to widen the freeway and eliminate a constriction that resulted in congestion on I-405.

I-405/112th Ave SE to I-90 - Northbound widening (King)

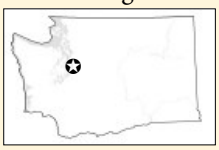
I-405 is highly congested at this location. This project constructed a ramp meter on the northbound on-ramp from 112th Avenue SE, and a northbound auxiliary lane between 112th Avenue SE and I-90.

Project's benefits: This project will help reduce congestion on I-405, one of the state's most congested corridors.

Project's highlights or challenges: This project was combined with I-405/I-90 to SE 8th St – Widening for efficiencies.

Budget performance: This project cost $19,954,557 at completion, about $45,000 less than the original 2005 budget.

Schedule performance: This project was completed in September 2009, one quarter ahead of Legislative expectations.



Completed Projects: Delivering performance and system benefits

SR 522/University of Washington Bothell — Build interchange (King)

The project provided a new south entrance to the University of Washington Bothell and Cascadia Community College campus on SR 522. The work included a signal and an exclusive exit lane to the campus at the southbound I-405 to westbound SR 522 off-ramp, and a new bridge for the I-405 off-ramps constructed over the campus access street.

Project's benefits: The project improves safety, reduces congestion at the north Beardslee Boulevard entrance to the campus, and provides easier access for motorists and transit.

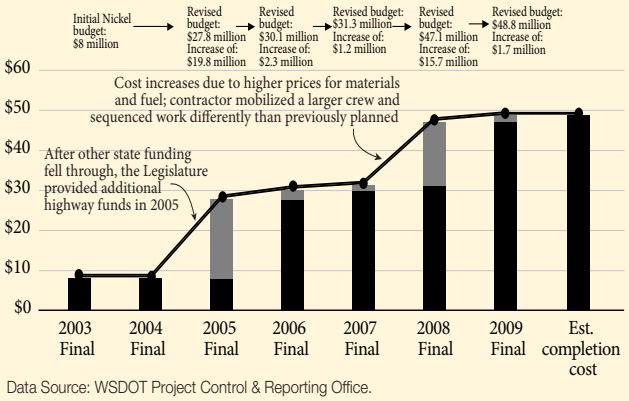
Project's highlights or challenges: This project, though initially funded by the 2003 Legislature, was not fully funded until 2005. Additionally, the project was halted, then re-started, incurring more costs. Once construction began, the contractor on this project mobilized a large crew, adjusted sequencing of the work, and advanced the work considerably. These actions required transfers out of future biennia to pay for the work.

Budget performance: This project was initially funded for $8 million in the 2003 enacted budget and anticipated other state funding. The Legislature awarded an additional $19 million in 2005 after the other state funding was not provided. A $9.1 million increase was approved to advertise the project and construction costs also increased by $20.7 million for hauling, excavation, erosion control, dewatering, and materials and fuel cost escalation, unsuitable roadway excavation materials and paving costs. The budget for the completed project is approximately $48.8 million, which meets the last approved budget and is $40.8 million above the original 2003 enacted budget.

Schedule performance: The project was completed in September 2009, which was one month ahead of the schedule expected in the last enacted budget.

SR 522/ ***University of Washington Bothell — Build interchange (King***

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

This project provided a new exit from I-405 to SR 522 in Bothell.

SR 509/I-5 to Sea-Tac – Freight and congestion relief (King)

This project completed grading of right-of-way property for the main corridor project that will expand SR 509 between Sea-Tac and I-5.

Project's benefits: This project is the beginning of corridor construction that will ease congestion on I-5, improve freight mobility, increase safety on King County roadways, lower travel times, and accommodate plans for a new south-oriented access to Sea-Tac International Airport.

Project's highlights or challenges: The completion of this property project will help make future construction projects planned for the corridor possible.

Budget performance: The project cost $29.3 million at completion, $138,000 below the last Legislative expectation and $700,000 below the $30 million original 2005 budget.

Schedule performance: This project was completed in September 2009, one quarter later than the last legislative expectation.

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

SR 307/SR 104 Safety corridor study — Spot improvements (Kitsap)

This project installed guardrail, improved lighting at two intersections, made sight-distance improvements, and realigned the intersection at SR 307 and Port Gamble Road in Kitsap County.

Project's benefits: Motorist safety will improve by reducing the number and severity of collisions along a heavily-used route between Poulsbo and the Kingston ferry terminal.

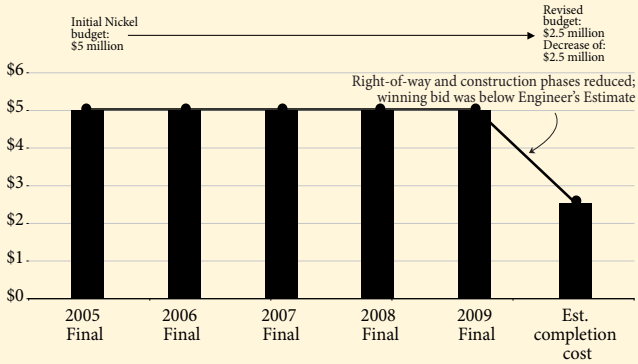
Project's highlights or challenges: The Right-of-Way and Construction phases were reduced on this project, and it was awarded 3.67% under the Engineer's Estimate.

Budget performance: This project cost $2.54 million at completion, almost half the original 2005 estimate of $5 million, by reducing the two phases of work.

Schedule performance: The project was completed in August 2009, 14 months ahead of the anticipated schedule.

SR 307/SR 104 Safety corridor study — Spot improvements (Kitsap)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

SR 122/Harmony Resort vicinity — Fish passage (Lewis)

This project removed a barrier to migratory fish passage on a Mayfield Lake tributary, in the vicinity of Harmony Resort Road in Lewis County.

Project's benefits: The project allows easier passage for the fish to reach their spawning grounds.

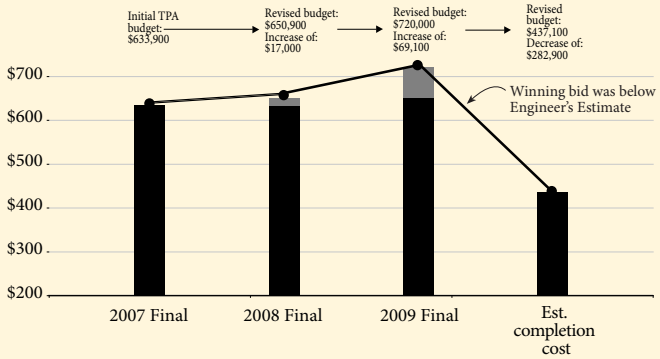
Project's highlights or challenges: This project attracted 10 bidders and was awarded for 48% below the Engineer's Estimate.

Budget performance: The project cost $437,100 at completion, $282,900 below the last Legislative expectation and almost $200,000 below the original 2007 enacted budget of $633,900, due to the successful low bid.

Schedule performance: This project was completed in September 2009, meeting Legislative expectations.

SR 122/Harmony Resort vicinity — Fish passage (Lewis)

Annual project budget from conception to estimated cost at completion
Dollars in thousands



Data Source: WSDOT Project Control & Reporting Office.

Completed Projects: Delivering performance and system benefits

SR 6/S Fork Chehalis River Bridge — Replace bridge (Lewis)

This project replaced the narrow South Fork Chehalis River Bridge on SR 6 in Lewis County with a new, 40-foot-wide structure that has two 12-foot lanes with eight-foot shoulders.

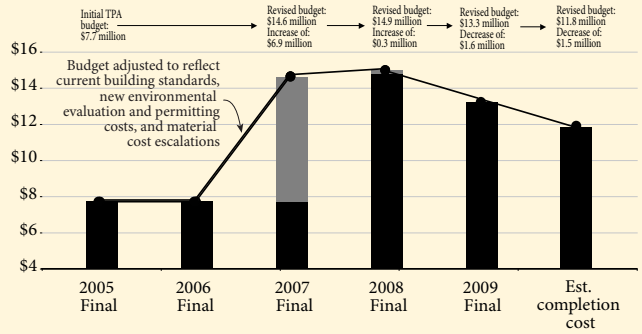
Project's benefits: The new bridge will increase safety by reducing the likelihood of rear-end accidents from vehicles slowing down or stopping on the roadway waiting to cross the bridge, allowing traffic to flow smoothly across the bridge without delay.

Project's highlights or challenges: The original plans for the replacement bridge were designed in 1993. When funding was provided in 2005, changes made to meet current standards required new environmental evaluation and permits.

Budget performance: The project cost $11.8 million, $1.5 million below the last Legislative expectation and $4.1 million above the original 2005 budget. Additional design and permits, plus construction material cost escalations increased the project cost, while unused risk reserve funds and a successful low bid below the Engineer's Estimate reduced the cost.

SR 6/S Fork Chehalis River Bridge — Replace bridge (Lewis)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

Schedule performance: This project was completed in September 2009, ahead of the last Legislative expectation.

Before and after photos of the S. Fork Chehalis River Bridge on SR 6 in Lewis County show how the wider bridge allows traffic to move more freely.

US 101/Hoodsport Vicinity - Stabilize Slope (Mason)

This project constructed a rock barrier in wave-eroded locations and armored the slopes adjacent to the waters of Hood Canal.

Project's benefits: Washed out slopes and eroded roadway shoulders have occurred in this area since the mid-1990s. This safety project stabilized the slope, which reduced the risk of roadway closures.

Project's highlights or challenges: This project required additional engineering work to process a formal Endangered Species Act consultation for salmon and steelhead trout species, for previously unanticipated slope easement acquisition, for an increased real estate cost to a landowner, and for inflation.

Budget performance: The project cost $540,000 at completion, which is $44,000 below the last Legislative expectation and $40,000 above the original 2005 budget.

Schedule performance: The project was completed on time with the anticipated schedule, and 10 weeks later than the original 2005 schedule.

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

SR 704/Cross Base Highway — New alignment (Pierce)

As stage one of a multi-stage project, WSDOT connected Spanaway Loop Road to SR 7 and added turn lanes to SR 7 in Pierce County.

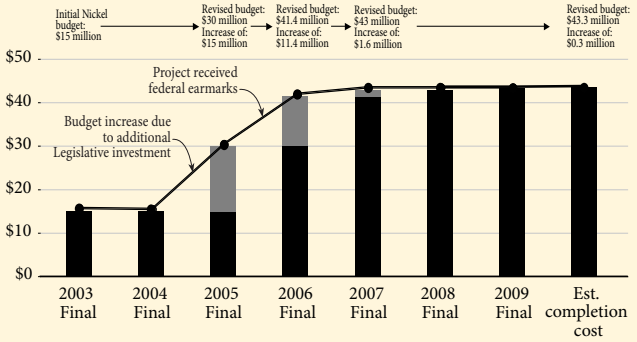
Project's benefits: New dual right-turn lanes from Spanaway Loop Road to southbound SR 7 and dual left-turn lanes from SR 7 to Spanaway Loop Road will help ease back-ups during peak travel times.

Project's highlights or challenges: This project is the first stage of an effort to provide a new connection between the Thorne Lane interchange at I-5 and the intersection of 176th Street and SR 7 in Spanaway. The projects will provide regional travelers with a new six-mile-long, multi-lane divided highway reducing congestion on SR 512 and SR 510 and improving transportation system linkage and capacity between the growing mid-Pierce County region and destinations along the I-5 corridor.

Budget performance: The project was expanded and the budget was increased to include additional work and reflect additional Legislative and federal funds. The project cost $43.3 million at completion, $84,000 above the last Legislative expectation and $28.3 million above the original FY 2003 budget.

SR 704/Cross Base Highway — New alignment (Pierce)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

Schedule performance: The project was completed in September 2009, late compared to the last Legislative expectation.

SR 20/Fredonia to I-5 — Add lanes (Skagit)

This project widened SR 20 from two lanes to four lanes between SR 536 and I-5 in Burlington and improved the on and off ramps at the SR 20, I-5 interchange.

Project benefits: This project added capacity to reduce congestion and move traffic more safely and efficiently on a highway that has experienced serious injury collisions and congestion.

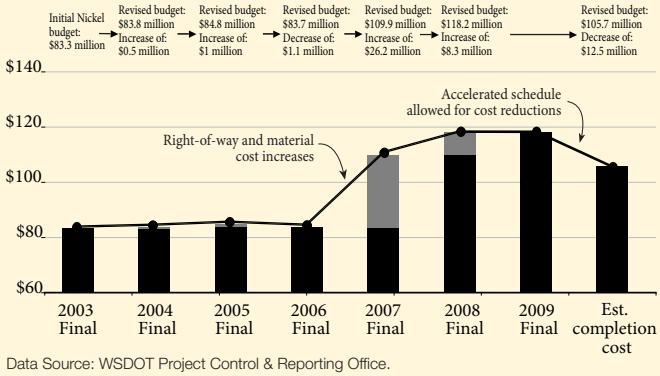
Project's highlights or challenges: The project was constructed in two stages to mitigate schedule delays. The first stage was completed in July, 2008 and the second stage was completed early in July, 2009. The aggressive scheduling reduced the overall budget by increasing spending in FY 2009.

Budget performance: This project cost $105.7 million at completion, $12.5 million below the last legislative expectation and $22.4 million above the original 2003 enacted budget. The budget increased due to right-of-way and construction material cost increases.

Schedule performance: The project was complete in July 2009, one quarter ahead of the last Legislative expectation.

SR 20/Fredonia to I-5 — Add lanes (Skagit)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

Completed Projects: Delivering performance and system benefits

SR 20/Quiet Cove Rd vicinity to SR 20 Spur — Widening (Skagit)

This project widened traffic lanes and shoulders; corrected hills and sharp curves that limit sight distance, allowing drivers to see further; closed an intersection with sharp angles; and constructed new left-turn lanes to prevent rear-end collisions.

Project's benefits: The safety improvements on this project will reduce collisions and improve traffic flow in an area where there are historically a significant number of collisions.

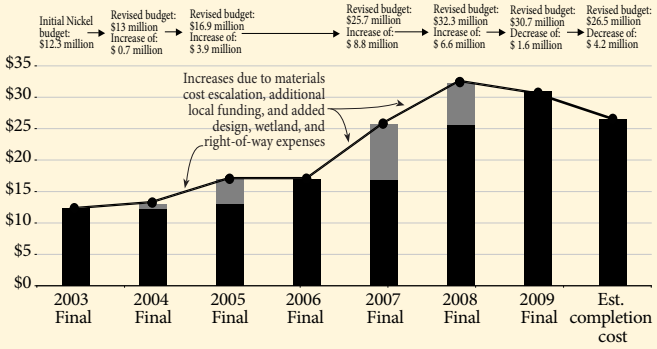
Project's highlights or challenges: This project was divided into two stages to better focus available funds on the section of SR 20 with the highest safety need. Subsequently, costs increased by $6 million due to materials cost escalation, and by $1.2 million due to additional consultant staff needed to complete design work and right-of-way plans. An additional $1.6 million was due to higher real estate prices. Other elements that contributed to cost increases included higher wetland mitigation costs and a new construction cost inflation index. Locally funded improvements were also added to the project, with nearly $3 million in local funding provided to address the additional work.

Budget performance: The project's final cost of $26.5 million is $4.1 million less than the last Legislative expectation and $14.2 million more than the original 2003 enacted budget of $12.3 million. The original estimate was updated to reflect the cost of the work.

Schedule performance: This project was completed in August 2009, one quarter ahead of the last Legislative expectation.

SR 20/Quiet Cove Rd vicinity to SR 20 Spur — Widening (Skagit)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

US 2/Colbert Rd Intersection – Intersection Improvements (Spokane)

This project revised traffic markings and restriped and repainted the intersection of Colbert Road and US 2.

Project's benefits: This project will improve safety at an intersection that has experienced collisions.

Project's highlights or challenges: Initially, the budget for the intersection improvement was based on construction of a roundabout or installation of a traffic signal. After a detailed analysis, a far less costly solution was developed using revised traffic markings on the pavement. WSDOT Maintenance personnel performed the final work eliminating the need for a construction contract. The re-striping and re-painting resolved the safety deficiency and substantially reduced the cost.

Budget performance: The initial cost estimate for the total project was $1.17 million. The project cost $50,000 at completion, $1.12 million below the original expectation.

Schedule performance: The work at this intersection was completed on time with the last Legislative expectation.

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

US 395/North Spokane Corridor (NSC), Francis Ave to Farwell Rd — New alignment (Spokane)

This project constructed 3.7 miles of new freeway northeast of Spokane from Francis Avenue to Farwell Road. A ribbon-cutting was held on August 22, eight years after the groundbreaking, to commemorate opening the first drivable section of the 10.4 mile multi-modal transportation corridor. The completed corridor will provide a high capacity link from I-90 to US 2 and US 395, as well as a bicycle path to provide transportation options for recreation and commuting.

Project's benefits: The project improves safety and reduces travel time by providing a north-south limited access facility instead of the currently heavily utilized surface streets. It provides a reduction in regional emissions, and increases economic opportunities for adjacent commercial and industrial development.

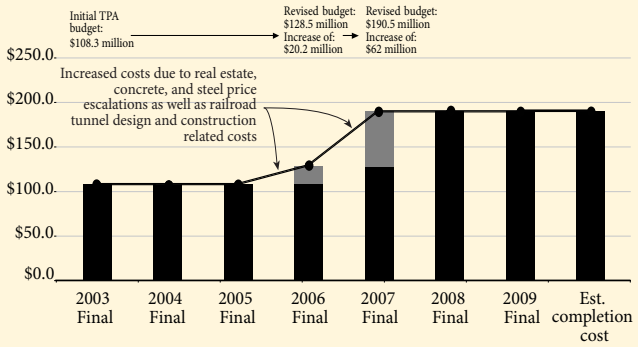
Project's highlights or challenges: This project included construction of a precast concrete tunnel allowing the North Spokane Corridor to pass over a BNSF rail line. The 1330 ft. long tunnel is the longest of its kind in North America.

Budget performance: The project cost $190.5 million at completion, which is equal to the last Legislative baseline of $190.5 million. The project budget increased $67.3 million over the original 2003 enacted budget due to real estate cost escalation, higher construction material costs (concrete, steel), and railroad tunnel design and construction related costs.

Schedule performance: This project was completed in August 2009, meeting the last Legislative expectation.

US 395/North Spokane Corridor (NSC), Francis Ave to Farwell Rd — New alignment (Spokane)

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control & Reporting Office.

North Stevens and Ferry counties — Roadside safety improvements (Stevens, Ferry)

This project installed guardrail, removed roadside objects, and improved roadsides on SR 21, 25, and US 395 in Ferry and Stevens counties.

Project's benefits: This project made safety improvements to three highways to reduce the severity of collisions where motorists have driven off the roadway.

Project's highlights or challenges: This project was combined with other roadside safety projects in Stevens, Ferry, Spokane, and Pend Oreille Counties for efficiencies.

Budget performance: The project cost $729,600 at completion, $170,400 less than the FY 2007 enacted budget and last Legislative expectation of $900,000 due to a successful low bid 20% below the Engineer's Estimate.

Crews improved roadsides and installed guardrail on state highways in North Stevens and Ferry Counties.

Schedule performance: This project was completed in September 2009, meeting Legislative expectations.

Completed Projects: Delivering performance and system benefits

Spokane, Stevens, and Pend Oreille counties — Roadside safety improvements

This project restored guardrail, bridge rail, guideposts, and permanent signing that no longer complies with WSDOT standards on Eastern Region's State Routes 20, 25, 31, 206, 211, 231, 291, 292, 395, and 902. It also provided for the addition of new guardrail when it was warranted at historical collision locations.

Project's benefits: This project was designed to improve motorist safety by reducing the number and the severity of collisions, particularly run-off-the-road collisions.

Project's highlights or challenges: Three separate roadside safety improvement projects were combined into one overall project for efficiency. Work on two highways, SR 290 and SR 904, was removed from the project.

Budget performance: The project cost $831,000 at completion, $179,000 less than the last anticipated budget.

Crews improved roadsides and installed guardrail on state highways in three counties in the Eastern Region.

Schedule performance: The project was completed in September 2009, on time with Legislative expectations.

I-5/Bakerview Rd to Nooksack River Bridge/Slater Rd interchange — Safety improvements (Whatcom)

This project installed rumble strips on the shoulders of I-5 in Whatcom County.

Project's benefits: The project was designed to stop vehicles from running off the road in this heavily traveled section of I-5.

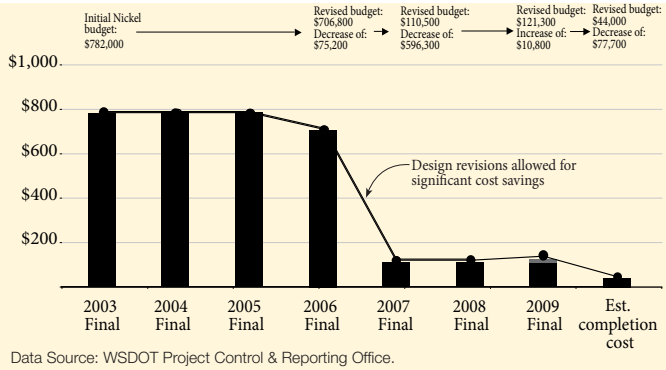
Project's highlights or challenges: In order to gain efficiencies in project delivery and lessen construction related impacts on users, WSDOT constructed this project in coordination with a pavement rehabilitation project on I-5. The original project included flattening the slopes on the northbound and southbound off-ramps at the Slater Road interchange. During the design process, WSDOT determined that flattening the existing slopes would result in extensive wetland impacts that would outweigh the benefits of the project by increasing the cost to the point of not being cost-effective. After an extensive design and safety analysis of the ramps and surrounding roadway, a design deviation was approved that did not require the slope flattening.

Budget performance: Due to the changes listed above, the cost of the project was reduced significantly. The project cost $44,000 at completion, $80,00 below the last Legislative expectation and 94% less than original estimate of $782,000.

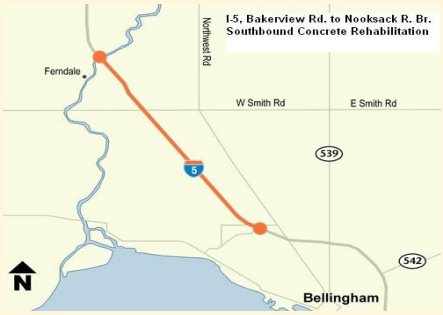
Schedule performance: This project was completed in July 2009, ahead of the last Legislative expectation.

I-5/Bakerview Rd to Nooksack River Bridge/Slater Rd interchange — Safety improvements (Whatcom)

Annual project budget from conception to estimated cost at completion
Dollars in thousands



Data Source: WSDOT Project Control & Reporting Office.



Special Report: SR 104 Hood Canal Bridge east-half replacement and west-half retrofit

Project Highlights

- The Hood Canal Bridge is now open to traffic, with final work finishing in December 2009.
- Divers and remotely operated vehicles connected 20 new anchors to the new east-half pontoons.
- Crews continued to install cathodic protection systems to help prevent rust and preserve anchor cables in the Hood Canal's highly corrosive saltwater environment.
- The total budget for the Hood Canal Bridge Project, including state and federal funding, is $519 million.

Construction activities at the SR 104 Hood Canal Bridge are nearing completion. This quarter, crews finished new east-half anchor cable connections and continued to upgrade west-half electrical, mechanical, and hydraulic systems. The rebuilt bridge features a wider, safer roadway and state-of-the-art draw span components on the east half to improve safety and reliability, and reduce congestion.

Overall project now operationally complete

As of September 30, 2009, the bridge project was 97% complete. Construction and rehabilitation work on the west half of the bridge will continue into November 2009, and all work is on schedule to be completed by December 2009. Using a combination of divers and remotely operated vehicles, WSDOT successfully connected 20 new anchors to the new east-half pontoons. Connection operations started in mid-June and were completed on August 18; the process included replacing older 1-3/4-inch anchor cable with new 3-inch diameter cables ranging from one-quarter mile to one mile in length.

The new cables are composed of pre-stretched, zinc-coated, structural steel with a minimum breaking strength of more than 1 million pounds – meaning just two cables could lift the Tacoma Dome roof and an additional 600,000 pounds and still not be at their capacity. This additional cable strength and new, larger anchors that were placed at the bottom of Hood Canal in 2007, ensure that the new bridge has the support it needs to handle everything from tidal fluctuations and storms to earthquakes.

Crews continued installing cathodic protection systems to help prevent rust and preserve the anchor cables in the Hood Canal's corrosive saltwater environment. This method includes installing rectifiers in the pontoons' anchor galleries: rectifiers create small, negative electric currents which run the length of the cables to repel negative ions that cause rusting.

WSDOT installed new guide rollers on the bridge's west half as part of the mechanical systems upgrade. The new rollers, which replace equipment that has been at the bridge since the early 1980s, improve the ease and accuracy of the system that helps guide the west-half draw span pontoons as they retract and extend to open and close the bridge. The new design also provides a much longer service life to the west-half draw span assembly system.

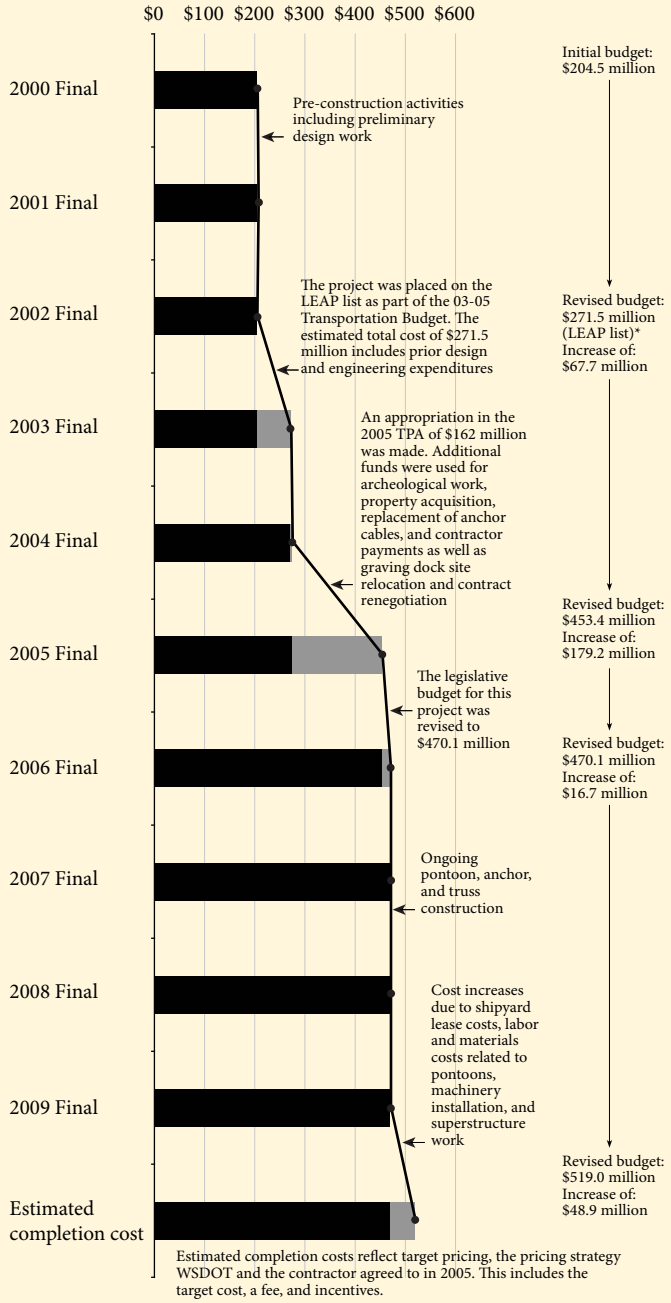
Project budget

The current estimated cost at completion for the Hood Canal Bridge Project – including state and federal funding – is $519 million; its original 2000 estimate was $204.5 million. The higher costs are due to unanticipated increases in pontoon outfitting and assembly, electrical work, pontoon float-in and anchor cable installation, and the west-half retrofit. The outfitting and assembly required additional labor and overtime, as did the electrical work. Float-in experienced significant cost increases for additional dive support, equipment, tug support, survey support, and thorough planning operations.

Special Report: SR 104 Hood Canal Bridge east-half replacement and west-half retrofit: Project wrap up

SR 104 Hood Canal Bridge east-half replacement and west-half retrofit

Annual project budget from conception to estimated cost at completion
Dollars in millions



Data Source: WSDOT Project Control and Reporting Office.
* For LEAP list information see advertisement record p. 51.

This project constructed and replaced the entire east half of the SR 104 Hood Canal Bridge with new sections that included 14 new pontoons, three retrofitted pontoons, and superstructure. It added two new trusses and approach spans to the east and west ends, built 20 new anchors, and connected these anchors to the new pontoons with thicker anchor cables.

Project benefits: This project improves safety and reduces congestion on the bridge by providing a wider, straighter roadway and larger shoulders. Upgraded mechanical, electrical, and hydraulic systems, as well as a new east-half control tower, provide travelers and marine traffic with more reliable bridge openings.

Project's highlights and challenges: This project enhances a major economic lifeline between the Olympic Peninsula and greater Puget Sound by replacing the bridge's east-half and other components with structures and systems that will last 75 years. A draw span mechanical error in September 2009 caused superficial damage to the bridge. For project challenges related to the pontoon construction site, see gray box below.

Budget performance: The project was completed for $519 million, $20 million more than the 2009 legislative expectation, and $314.5 million more than the original $204.5 million budget.

Schedule performance: This project was completed in 2009, about two years later than originally planned.

Port Angeles Pontoon Construction Site

When WSDOT began seeking sites to construct the 14 pontoons for the SR 104 Hood Canal Bridge's new east half, it did so with a second large pontoon-building project (SR 520) in mind. WSDOT made a decision to build its own graving dock.

In August 2003, the $204 million contract to rebuild the Hood Canal Bridge, including a new graving dock in Port Angeles, was awarded. Shortly after construction began, archaeological material was discovered on the work site. Members of the Lower Elwha Klallam Tribe and other stake holders were notified of the discovery. Construction continued as teams excavated evidence of the 1,700-year-old Tse-whit-zen village. In December 2004, WSDOT and the Tribe jointly determined that graving dock construction in Port Angeles could not continue for both social and economic reasons. After a thorough review, Concrete Tech yard, a graving dock in Tacoma, was chosen for casting work, and Todd Shipyard in Seattle was chosen for finish work and anchor fabrication.

About $82 million of the project budget can be directly attributed to construction and remedial work at the Port Angeles graving dock.

Project Spotlight: U.S./Canada Border Improvements for the 2010 Vancouver Winter Olympics

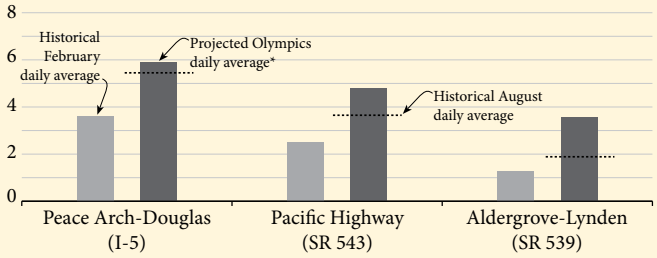
Project Highlights

- The Vancouver Winter Olympics will bring an estimated 350,000-450,000 visitors to Metro-Vancouver between February 12 - 28, 2010.
- During the 2002 Winter Olympics in Salt Lake City, Utah, up to 10% of attendees arrived from neighboring Idaho.
- WSDOT estimates that up to 45,000 Olympic visitors will stay in Washington state and travel across the border to the Vancouver and Whistler, Canada venues during the games.
- For more information about WSDOT activities in support of the 2010 Winter Olympics, please visit: http://www.wsdot.wa.gov/Congestion/border/default.htm

WSDOT planned and implemented several capital improvements to the Northern Puget Sound-area transportation system in anticipation of the 2010 Winter Olympics in Vancouver, British Columbia (BC). These improvements provide needed mobility, safety, and freight enhancements for cross-border travel during the Games and afterwards. As with the 2002 Salt Lake City Olympics, cross-border travel is expected to occur for the 2010 games in Vancouver. WSDOT estimates that up to 45,000 additional visitors per day will use the four western Washington border crossings into Canada, making a February travel day look more like a 'peak' day during the busy August travel season.

Comparison of vehicles crossing daily at selected US/Canadian border areas

Historical February average vs. projected average for 2010 Olympics with August 2009 average for comparative purposes.*
Numbers in thousands



Data Source: WSDOT Northwest Region Traffic Office.

* Data Note: The 2010 Winter Olympics are scheduled for February 12-28, 2010. The projected average for the 2010 Winter Olympics is an estimate prepared by WSDOT and Washington State Department of Commerce.

Highway projects improve mobility, safety

SR 543/I-5 to Canadian Border – Add freight lanes
SR 543/D Street Interchange – Rebuild

The SR 543 corridor runs from the Pacific Highway Border Crossing in Canada to the I-5 interchange in Whatcom County. In various places, the highway was lowered and repaved from Boblett Street to the border. A dedicated truck lane was added for the Canadian Customs' commercial inspection booths. Separating freight and private traffic reduces wait times and improves travel time reliability. The D-street interchange helped separate highway from city-street traffic in the Blaine area, reducing the potential for collisions and severe congestion.

SR 539/Horton Road to Ten Mile Road – Widening
SR 539/Ten Mile Road to Badger Road – Widening

These projects, identified in the *I-5 Fairhaven to Slate Interstate Master Plan*, accommodate growing capacity needs along the SR 539 corridor, an important freight route between I-5 in Bellingham and the Canadian border. The *Ten Mile Road to Badger Road* project is scheduled for completion in November 2009; *Horton Road* is already open. Both projects expand SR 539 from two lanes to four, with a two-way center turn lane. The Badger project will also add a new steel truss bridge over the Nooksack River

SR 9 – Nooksack Road to Cherry Street

The SR 9 terminus on the U.S./Canadian border featured three right-angle turns, was prone to winter closures due to snow drifts accumulating on the road, and surface cracking from thawing and freezing episodes. WSDOT added a new curved alignment from Nooksack Road to Cherry Street that allows freight traffic to travel more quickly through the area. Wider shoulders and wider, shallower ditches will allow state and county maintenance vehicles to more easily plow snow to the sides, avoiding deep snow drifts, safety hazards, and road closures.

Rail improvements add passenger capacity

Additional daily Amtrak Cascades service to Vancouver, B.C.
Blaine - Customs Facility Siding

The B.C. provincial government approved Washington's request for an additional daily run of the Amtrak *Cascades* service between Portland, Oregon, and Vancouver, B.C. This second daily trip is a pilot project to evaluate long-term demand for additional daily rail service and to promote car-free travel during the Olympics. Service began on August 19, 2009, and will run through at least August 10, 2010. Additional siding improvements including the Blaine project help to expedite customs procedures for *Cascades* service crossing the border.

Special Report: Tacoma Pierce County HOV Program Quarterly Update

I-5/SR 16: Westbound Nalley Valley construction continues

The *I-5/SR 16: Westbound Nalley Valley* construction project in Tacoma continued to make progress during the third quarter of 2009. This $184 million project – funded primarily by the 2003 Nickel gas-tax funding package – will eliminate the traffic weave that occurs when vehicles from I-5 change lanes to either merge onto SR 16 or exit at Sprague Avenue. The westbound project is scheduled for completion in fall 2011.

WSDOT crews focused efforts on building a temporary eastbound bridge over the Nalley Valley that will be used to keep traffic moving during construction of the eastbound and westbound sections of the viaduct. All 48 girders for the new temporary bridge are in place, and workers will finish the bridge deck later this year.

Half the shafts have been drilled, eight columns and three abutment walls are complete, and nearly 18,000 square feet of a structural earth wall has been built.

I-5: Port of Tacoma Road to King County Line HOV construction now under way

The *I-5: Port of Tacoma Road to King County Line HOV* project broke ground in August and is scheduled to be complete in late 2011. This project widens a three-mile stretch of I-5 to accommodate northbound and southbound I-5 HOV lanes through Fife.

Once the contract was awarded, WSDOT began driving in-water piles that will allow I-5 to be widened over three creeks within the project limits. This narrowed the 12-foot highway lanes to 11 feet each, shifting traffic away from the median to create space for the widening work. WSDOT crews also placed temporary concrete barriers throughout the area to keep workers and motorists safe.

Primary work activities planned through 2009 include more pile-driving, grading, and installing drainage structures and the permanent median barrier.

Tacoma Nature Center project now complete

The contract work to restore wetlands within the Tacoma Nature Center boundaries near Snake Lake in Tacoma is complete. The wetland mitigation project fulfills WSDOT's environmental mitigation commitments for the *SR 16: Union to Jackson Avenue* and *I-5/SR 16: Westbound Nalley Valley* projects. To celebrate completion, WSDOT staff participated in a ceremony marking the 35th anniversary of the Tacoma Nature Center.

Design work on Tacoma/Pierce County HOV program projects continues

Design teams continue work to meet legislatively-committed contract document delivery dates for other projects within the Tacoma/Pierce County HOV Program. Design work on the *I-5: M Street to Portland Avenue* project will be suspended in early 2010 and resume after delivery of the *I-5/SR 16: Eastbound Nalley Valley* project. Design work on the *I-5/SR 16: Eastbound Nalley Valley* and *I-5: Portland Avenue to Port of Tacoma Road – HOV* projects is continuing on schedule.

Crews have built 18 columns in and around the Nalley Valley since construction began in January 2009.

Project Highlights

- Construction work on the $184 million I-5/SR 16: Westbound Nalley Valley project continued with efforts focused on building a temporary eastbound bridge over the Nalley Valley and placing 48 girders for the bridge.
- The Tacoma Nature Center project fulfilling WSDOT's environmental mitigation commitments for the SR 16: Union to Jackson Avenue and I-5/SR 16: Westbound Nalley Valley projects is now complete.
- For more information: http://www.wsdot.wa.gov/projects/PiercecountyHOV/ or www.tacomatraffic.com.

WSDOT's Capital Project Delivery Programs

Special Report: New Ferry Construction

Project Highlights

- WSDOT and Todd Pacific Shipyards marked the start of construction on July 8 with the laying of the first of five keel units.
- The project is on schedule, half-way through the 18-month construction timeline, and on budget.
- Construction highlights this quarter:
  - July: Laid first keel section at Todd Pacific Shipyards.
  - August: Completed pilothouse structures. Also advertised contract for 64-car ferry B class vessels.
  - September: Main engines and final shipment of steel arrived at Todd Pacific Shipyards.
- For more information: www.wsdot.wa.gov/Projects/Ferries/64CarFerries.

WSDOT is moving forward to build new ferries to replace its aging fleet. WSDOT has been without a state-owned ferry to serve the challenging Port Townsend/Keystone route since November 2007. The narrow, shallow Keystone Harbor prevents the use of a larger ferry, but the new 64-car ferry design is very maneuverable for its size and should reduce the number of weather cancellations to ensure safe, reliable ferry service.

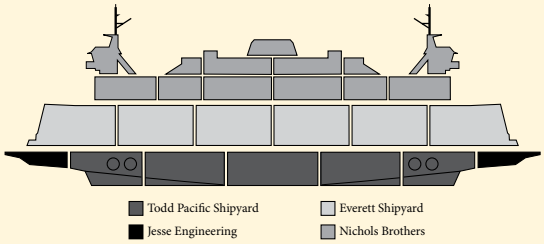
The contract to construct this 64-car ferry for $65.5 million was awarded to Todd Pacific Shipyards in December 2008. The vessel is on an 18-month construction timeline and is scheduled to be complete in summer 2010.

In addition to constructing the first 64-car ferry, WSDOT awarded a $114.1 million contract to Todd Pacific Shipyards on October 13 for two additional 64-car ferries. The second and third vessels are to be delivered and go into service in 2011 and 2012. WSDOT must exercise its option to construct a fourth 64-car ferry no later than May 31, 2011. If sufficient funding is available at that time, WSDOT will pursue the construction of a 144-car ferry instead of a fourth smaller ferry.

Construction processes and next steps

Todd has made substantial progress over the summer on building the vessel's hull. Four of the five steel modules above the car deck are under construction, and sections of the car deck have already been installed. Over the next several months, Todd will complete the structural assembly of the hull, joining the hull ends, curtain plate (vessel sides), and casings (stairwells). Todd has also begun outfitting various modules, including installing piping systems, ventilation, and electrical wireways and cables.

Washington State Ferries
New 64-auto ferry
Vessel assembly information map



Todd's main subcontractors for the project are Everett Shipyard, Nichols Brothers Boat Builders, and Jesse Engineering. Jesse Engineering began fabrication of the vessel ends in August. Everett Shipyard sent the first shipment of curtain plate to Todd for painting, outfitting, and attachment to the hull. Everett is also building the entire passenger deck in six main panels and shipping these large panels two at a time to Nichols Bros. to join together. Nichols Bros. has received the first set of steel passenger deck panels from Everett to attach to the passenger cabin sides and overhead, and has completed the pilothouse structures.

The simultaneous construction at the various shipyards will continue until December; the final sections of the superstructure will be delivered from Nichols Bros. to Todd in January. In early 2010, the hull will be rolled out of the construction hall to be drydocked for painting and completion of propeller and shafting installation. The superstructure will then be lifted onto the hull.

Cranes lift the 26-ton side shell assembly into place.

Watch List: Projects with schedule or budget concerns

WSDOT is committed to frequent and accurate "no surprises" reporting of project performance, emphasizing rigorous analysis while communicating in plain language, unencumbered by jargon or insider terminology. As part of that commitment, WSDOT regularly addresses issues that do, or potentially could, affect a project's schedule and budget: they are outlined here in the Watch List. 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 Update 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 order in which WSDOT might face them, starting in the earliest planning stages and concluding with actual construction.

The summary on page 74 lists projects currently facing schedule or budget concerns with a reference to these over-arching descriptions; a more detailed description of the precise problem or its resolution appears on the following pages. Still 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 80-83.

It is important to note that while the number of projects appearing on the Watch List has grown over time, so have the number of projects under way (we report 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 all its stakeholders informed while evaluating possible solutions.

Environmental

Archaeological: Unexpected finds may require additional time for careful excavation.

Reviews & approvals: Completing state and federally required environmental studies may take longer than anticipated, may reveal unexpected problems with the project location, or prompt the involvement of community or other agencies.

Fish passage barrier: Many factors must be taken into account to design and construct 'best practice' water conduits, including negotiating with resource agencies and tribes to develop appropriate designs to ensure fish can pass through.

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

Mitigation: Minimizing harm to wetlands and other natural features may involve many other factors from design through construction.

Permitting: New information about a project site or changes in design can lead to the reworking of permits, causing delay or additional expense.

Coordination

Local concerns: Concerns raised by local communities may require additional design work which, if not resolved, might result in litigation expenses.

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.

Design

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.

Team turnover: Changes in staff may delay progress as new team members are brought up to speed on the project.

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 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 summary

Projects with budget and/or schedule concerns

Added to Watch List	Project type	Watch List issue
US 101/Hoh River (Site #2) (Jefferson)	Highway	Environmental: erosion control; Design: redesign
SR 99/Spokane Street Bridge — Replace bridge approach (King)	Highway	Coordination: inter-agency issues
SR 9/Pilchuck Creek — Replace bridge (Snohomish)	Highway	Design: design element changes
SR 529/Ebey Slough Bridge — Replace bridge (Snohomish)	Highway	Environmental: mitigation; Construction: cost increase of materials
US 12/Frenchtown vicinity to Walla Walla — Add lanes (Walla Walla)	Highway	Construction: weather
SR 542/Nooksack River — Redirect river and realign roadway (Whatcom)	Highway	Environmental: Reviews & approvals, permitting; Design: utilities
SR 22/I-82 to Toppenish — Safety improvements (Yakima)	Highway	Construction: timing problems
Updates to Watch List	**Project type**	**Watch List issue**
SR 285/West end of George Sellar Bridge — Intersection improvements (Chelan)	Highway	Design: increased cost of materials; Right-of-way: land acquisition
SR 161/24th St E to Jovita — Add lanes (Pierce)	Highway	Environmental: mitigation
SR 530/Sauk River Bank Erosion — Realign roadway (Skagit) • SR 530/Sauk River (Site #2) — Stabilize river bank (Skagit)	Highway	Design: alternatives
SR 522/Snohomish River Bridge to US 2 — Add lanes (Snohomish)	Highway	Design: alternatives
SR 823/Selah vicinity – Reroute highway (Yakima)	Highway	Right-of-way: land acquisition
Stanwood – New station, siding upgrade (Snohomish)	Rail	Environmental: permitting; Construction: site problems
Removed from Watch List	**Project type**	**Watch List issue**
SR 532 Corridor Improvements-Design-build contracts (Island, Snohomish) • SR 532/270th St NW to 72nd Ave NW — Improve safety • SR 532/Sunrise Blvd to Davis Slough — Improve safety • SR 532/General Mark W. Clark Memorial Bridge — Improve safety • SR 532/64th Ave NW to 12th Ave NW — Improve safety • SR 532/General Mark W. Clark Memorial Bridge — Replace bridge	Highway	Environmental: permitting; Right-of-way: land acquisition
US 101/W Fork Hoquiam River Bridge – Replace bridge 101/142 (Grays Harbor)	Highway	Construction: contractor issues, cost increase of materials
US 101/W Fork Hoquiam River Bridge – Replace bridge 101/145 (Grays Harbor)	Highway	Construction: contractor issues, cost increase of materials
New 144-Auto Ferries (King, Kitsap, San Juan)	Ferries	Design: alternatives

Source: Project Control & Reporting Office, WSDOT Regions.

Watch List: Projects with schedule or budget concerns

Added to Watch List

US 101/Hoh River (Site #2) – Stabilize slope (Jefferson)

This project, currently budgeted for $9.6 million, will stabilize the Hoh River bank to prevent the loss of US 101 roadway to erosion. Engineered log jams will be installed in the Hoh River adjacent to US 101 for bank stabilization channel diversion.

This project is in the design phase. The advertisement continues to be at risk. As reported in the March 2008 *Gray Notebook*, the advertisement date was delayed to January 2010, due to continued engineering and design work. A further delay of twelve months is required to complete environmental documentation and permitting.

As a result of a July meeting with the Washington Department of Fish and Wildlife, WSDOT will prepare an Adaptive Management Plan (an inter-agency plan to cooperatively address environmental issues) for the engineered log jams. This plan will allow the Biological Assessments to be completed and submitted to NOAA Fisheries and US Fish and Wildlife. Preparing the plan, and the formal consultation and permit process will take more time, which will require the advertisement date to be delayed to January 2011.

SR 99/Spokane St Bridge — Replace bridge approach (King)

This project, budgeted for $13.7 million, will replace the southernmost section of the Spokane Street Bridge which is currently supported by treated timber piles. The piles, supporting about 450 feet of concrete bridge deck, are nearing the end of their useful life and should be replaced; the type of replacement support structure has yet to be finalized.

The project is currently in the design phase. Although within the current budget, the schedule may need to be extended to address design modifications requested by the Port of Seattle. The Port has asked WSDOT to incorporate access for the Port's East Marginal Way Phase II Argo Truck Roadway project through the new approach structure.

The requested access may complicate the design and construction of WSDOT's project by requiring deeper foundations and other ground improvements. Further studies are needed to find the most cost- effective solution.

The Port has applied for a grant from the Freight Mobility Strategic Investment Board (FMSIB) for the additional design and construction costs WSDOT will incur. The outcome of the grant application will not be known until spring 2010, after the next legislative session.

If WSDOT and the Port decide to construct the East Marginal Way access, the project's scheduled January 2011 advertisement date may be delayed. More information will be provided when it becomes available.

SR 9/Pilchuck Creek — Replace bridge (Snohomish)

This project, budgeted for $6.2 million, will replace the existing 17-foot-wide bridge over Pilchuck Creek with a wider bridge meeting current design standards. Although rated 'structurally deficient,' the bridge is safe to cross.

The project is early in the design phase; it is scheduled to advertise in January 2012. As part of the design refinement process, WSDOT examined the standard for sight-line distances for the new bridge and concluded they would be insufficient for the bridge as originally designed. WSDOT has considered seven possible solutions, four of which require realigning the roadway; two of the best proposals will be evaluated in depth during a Value Engineering (VE) review workshop in December 2009.

Both of these alternatives are estimated to cost significantly more than the current budget, which did not allow for the costs for realigning the road. The VE recommendation will determine the best option.

SR 529/Ebey Slough Bridge — Replace bridge (Snohomish)

This project, budgeted for $47 million, will replace the old Ebey Slough Bridge with a new bridge that will meet current design standards.

The project is in the design phase; both the project's budget and schedule are at risk. As reported in the December 2008 *Gray Notebook*, estimated costs rose by $5.5 million to $49.5 million (including inflation and $2 million for wetlands mitigation), and WSDOT recommended that the 2009 Legislature defer the project to the 2011-2013 biennium. The Legislature increased the budget by $3 million for construction inflation in this biennium. WSDOT is in the process of requesting the additional $2.5 million in funds through the Office of Financial Management.

The project is progressing toward the March 2010 advertisement; however there is significant risk with the schedule due to difficulty securing adequate wetland mitigation. WSDOT is partnering with Snohomish County on a county mitigation site. The county permitting process for that site has changed from a Determination of No Significance (DNS) to a more extensive Environment Impact Statement (EIS). An EIS

Watch List: Projects with schedule or budget concerns

will take more time and has the potential for opposition. Until the EIS for the county site is formally approved, the wetland mitigation is a risk to the advertisement date.

US 12/Frenchtown Vicinity to Walla Walla – Add lanes (Walla Walla)

Currently budgeted for $56.6 million, this project is the fourth of six construction stages to widen US 12 between SR 124 and the City of Walla Walla. WSDOT is constructing 7.5 miles of new four-lane divided highway, realigning county roads, and constructing four new intersections and an interchange with roundabouts at SR 125/Pine Street. When completed, it will add traffic capacity and improve safety by separating opposing lanes of traffic.

This project is currently under construction; the schedule is at risk. Poor weather conditions last winter resulted in the loss of 55 work days for WSDOT's contractor, whose crews spent an additional two weeks repairing weather-related erosion damage. Paving will continue into fall 2009 as long as weather permits, and resume in spring 2010. The new section of US 12 is expected to open to traffic in July 2010, nine months later than originally planned.

SR 542/Nooksack River — Redirect river and realign roadway (Whatcom)

This project, budgeted for $16.6 million, will address seasonal flooding on Mount Baker Highway (SR 542) along the Nooksack River. Advertised as four separate contracts, the overall goal is, where appropriate, to realign SR 542 further from the river or divert the river away from the road. When complete, the relocated highway will be safer for drivers, less susceptible to damage from flooding that requires costly emergency repairs; in addition, spawning areas for endangered species of fish will be better protected.

Two contracts are under construction (placing deflecting log structures at Warnick Bluff, and replacing a culvert while realigning the road at Bruce Creek); both are on schedule for completion in fall 2009. The third (relocating the road at East Church Mountain Road) is in the design phase, scheduled for advertisement in December 2009 and completion in fall 2010.

The fourth contract, to replace the existing Gallup Creek Bridge with a new bridge ten feet higher above the river, is also in the design phase (40% complete). Its schedule – to advertise in January 2010 and complete in fall 2011 – is at risk. The construction schedule is planned around periods of fish migration (July 1-September 30 at this location), which restricts when construction can be done in the river.

Several project elements have been delayed, including completion of hydraulic data needed to prepare the bridge design, right-of-way acquisitions, and approval of all environmental permits. The issuance of a programmatic Biological Assessment (see page 57 in *Gray Notebook 33*, March 31, 2009, for background) may help recover some of the delay in environmental permitting.

In addition, a water pipe attached to the existing bridge must be relocated before construction on the new bridge can begin. The local water district responsible for moving the pipe is behind schedule preparing relocation plans and has not secured funding to relocate the waterline.

WSDOT is assessing the possibility that even if the project advertises on time, any of these delay risks could extend work on the new bridge from two construction seasons to three, pushing the operationally complete date beyond 2011.

SR 22/I-82 to Toppenish – Safety improvements (Yakima)

Budgeted for $5.4 million, this project will increase safety on SR 22 from the Yakima River Slough Bridge to downtown Toppenish. Project components include widening shoulders and flattening roadside slopes, upgrading guardrail, adding sidewalks, and improving intersections.

The project is in the design phase; the scheduled completion date has been delayed one year, to November 2011. The original construction schedule could have presented conflicts between the work required for relocating and extending irrigation structures and roadway widening activities. For increased efficiency, WSDOT plans to split the project into two consecutive phases.

Phase One will cover the required irrigation work while water is turned off for the winter. It should advertise on time in October 2009.

Phase Two will construct the roadway and other improvements, and advertise one year late, in October 2010, after all irrigation-structure work is completed. The second phase will be operationally complete in November 2011.

Updates to Watch List

SR 285/West end of George Sellar Bridge – Intersection improvement (Chelan)

This project, budgeted for $18.5 million by the 2009 Legislature, will modify the intersection of SR 285 and Mission Street, a major traffic bottleneck. The project will increase the flow through the intersection, reducing travel time and congestion-related collisions on SR 285 and the local road network.

Watch List: Projects with schedule or budget concerns

The project is in the design phase; both the budget and schedule continue to be at risk. The June 2009 *Gray Notebook 34* reported that right-of-way acquisition was expected to be substantially more expensive than the $5.3 million allocated, and that more detail would be available when acquisition negotiations began in September. By the end of the quarter, WSDOT estimated that the right-of-way cost for the 26 parcels involved would be about $13 million, $7.7 million more than the budget allocation.

WSDOT consulted with the City of Wenatchee, the Wenatchee Valley Transportation Council, and the general public, and has developed a new design alternative that changes some traffic patterns but also reduces the need for right-of-way acquisitions. This alternative calls for widening an existing bridge and constructing a new roadway not in the original design.

By using the new design, the total right-of-way cost can be reduced by $2.6 million, from the original $5.3 million to $2.7 million. The cheaper right-of-way cost is offset by two increases in expenditures: $800,000 for additional design work and $3.1 million in construction, for a net increase of $1.3 million above the project's approved budget.

To allow time for completing modifications for the new design, both the advertisement and the operationally complete dates will need to be delayed seven months, from October 2011 to April 2012, and November 2012 to June 2013, respectively.

SR161/24th St E to Jovita – Add lanes (Pierce)

This project, currently budgeted for $34 million, will improve mobility in a busy section of SR 161 in the City of Edgewood. WSDOT will widen the roadway to five lanes (including a two-way left-turn lane) and add a new traffic signal at 16th Street East. WSDOT will also work with the City of Edgewood's proposed enhancements, which include wider sidewalks with plants, lighting, and city gateway signing. When completed, it will reduce congestion and allow safer, more efficient movement of people and vehicles

The project is in the design phase; the budget and schedule remain at risk. The advertisement date will need to be delayed six months, from October of 2009 to April of 2010, to allow time to locate a new wetland mitigation site.

The wetland mitigation site planned originally was mostly unsuitable for development due to a high water table. Additional time is necessary to locate and secure a new mitigation site and requires delaying the October 2009 advertisement date to April 2010.

The issues reported in the June 2009 *Gray Notebook 34*, (right-of-way condemnations, utility relocation and street enhancements negotiations) may still have potential to impact the new April advertisement date.

SR 530/Sauk River Bank Erosion – Realign roadway (Skagit)

Related projects:
SR 530/Sauk River (Site #2) – Stabilize river bank

This project on the Sauk River, where erosion threatened SR 530, was scheduled in two phases. Phase 1 realigns the highway away from the river; Phase 2 (SR 530/Sauk River Site #2) stabilizes and restores the riverbank and fish habitat by removing remnants of past emergency repairs. The Phase 2 project is already operationally complete and on budget.

The budget and schedule for Phase 1 are at risk. As reported in the June 2009 *Gray Notebook 34*, the current estimated cost is about $7.5 million, $3.8 million over budget; advertisement was to be delayed by nine months, and the operationally complete date by eight months.

As part of the 2009 Transportation Budget, the Legislature approved the schedule changes but postponed the decision on the budget request pending the outcome of a corridor study, due for completion in fall 2009, on the river's interaction with SR 530.

The study examined several major and minor road realignment or relocation options which could be completed within the next 20 years; the goal was to identify projects that would eliminate or reduce the need for future repair projects that are often harmful to fish habitat. WSDOT worked closely with federal, state, and local agencies, as well as tribal representatives and area property owners, throughout the study period.

Although not finalized, preliminary findings of the 20-year study support the need for the work included in this project. As a result, the budget risk remains. An additional $500,000 for risks associated with replanting vegetation and roadway restoration, for a total increase of $4.3 million for the project, will be included in the WSDOT 2010 Budget request to the Legislature. The full study will be circulated for review by the end of 2009.

SR 522/Snohomish River Bridge to US 2 – Add lanes (Snohomish)

This project, currently budgeted for $182.4 million, will widen SR 522 to a four-lane highway by constructing two new lanes and five new bridges. When completed, it will improve motorist safety and reduce congestion by doubling the traffic capacity of the old two-lane roadway.

Watch List: Projects with schedule or budget concerns

The project is roughly half-way through the design and preliminary engineering phase; the budget and schedule continue to be at risk.

The current total estimated cost at completion is $213 million, $36.5 million over the original estimate and $30.6 million over the Legislatively approved budget of $182.4 million. As reported in the June 2009 *Gray Notebook 34*, about $3.2 million of the increase was due to solving an array of complex environmental problems, but additional issues had increased the overall estimate by $27.5 million, to $204 million.

An additional $9 million increase is now anticipated, primarily due to including work omitted from the original estimate ($5.2 million for roadside restoration and $675,000 for wetland mitigation), increases in material costs ($1.5 million), and potential inflation costs if work is delayed ($1.5 million).

To keep the project progressing within the funds available, WSDOT will split the project into two stages: Stage 1, the construction of the SR 522/US 2 Interchange, and Stage 2, the widening of SR 522 (including constructing the bridges). Stage 1 will be advertised earlier than the original project's December 2010 advertisement date; its planned completion date will be late fall 2011. The estimated cost at completion will be $43 million, leaving $139.4 million for Stage 2. WSDOT will continue to evaluate ways to reduce the cost of Stage 2, and will revise the total estimate when Stage 1 is completed.

WSDOT intends to advertise Stage 2 on the original advertisement date in December 2010, becoming operationally complete in fall 2014, but the schedule is at risk. A change in the river's flow near the Snohomish River Bridge places the as-designed location of a bridge pier in the water: WSDOT must modify its design and resubmit any necessary environmental permit applications. The permitting process is expected to take eight months; if the process takes longer than eight months, it could delay the December 2010 advertisement date.

SR 823/Selah vicinity – Reroute highway (Yakima)

This project, budgeted for $11.6 million, will provide an alternative route for traffic and commercial trucks around the downtown Selah business district to relieve congestion during peak commuting times. The project will also install new traffic signals at the Naches Avenue and Fremont Avenue intersections, and reconstruct Railroad Avenue to improve the freight infrastructure for Selah's fruit processing industries.

This project is in the design phase; the schedule is at risk. The project design requires the acquisition of twelve more right-of-way parcels than was originally estimated, including one parcel to be acquired by the City of Selah. To date, WSDOT has purchased over half the needed parcels and is negotiating for the remaining properties.

Due to the increased number of acquisitions, the advertisement date will be delayed two months, to December 2009. Construction is scheduled to begin in spring 2010 as originally planned, and the improvements should be open to traffic on schedule in summer 2011.

Rail updates to Watch List

Stanwood — New station, siding upgrade (Snohomish)

Related project: Stanwood — New station (Snohomish)

These two projects, budgeted for $21 million, will construct a new train platform to serve Amtrak Cascades passengers, and upgrade and extend the siding in Stanwood.

The siding upgrade is currently in the design phase. The construction start and operationally complete dates for the siding extension are at risk. As reported in the June 2009 *Gray Notebook 34*, construction on the siding extension depends on the permanent closure of a local road and the issuance of environmental permits.

The Washington Utilities and Transportation Commission (WUTC) has heard Burlington Northern Santa Fe Railroad's (BNSF) petition to close Logan Road in March 2009. The initial finding by the WUTC was released on October 21, in favor of closure; project progress will depend on the results of the 20-day public comment period.

Environmental documentation was completed in July; however, the U.S. Army Corps of Engineers and the Washington State Department of Ecology have not yet issued wetland permits that would allow construction to begin. Further delay in the permitting approval process would put the project schedule at risk.

As for the new station, the discovery of contaminated soil on the project site and negotiations with BNSF regarding a shoring plan have caused delays, as reported in the June 2009 *Gray Notebook 34*. In September, there was a second discovery of contaminated soil. WSDOT and Amtrak have determined that this discovery will affect the schedule and further delay the station's completion date from September to November 2009. This delay has resulted in a re-appropriation of $1.1 million into the 2009-11 biennium.

Watch List: Projects with schedule or budget concerns

Removed from Watch List

US 101/W Fork Hoquiam River Bridge – Replace bridges 101/142, 101/145 (Grays Harbor)

This project, currently budgeted for $5.5 million, replaces two aging bridges that cross the West Fork of the Hoquiam River. The timber bridges were constructed in 1934; both were structurally deficient due to rot damage and severe weathering.

As reported in the June 2009 *Gray Notebook 34*, the operationally complete date was delayed six months to September 2009 and the budget was at risk. The reported difficulties with delivery of materials, and availability of the contractor's equipment and staff on both bridges, have been resolved.

Total cost of the two bridges increased by about $350,000 from the original estimate, due to increased site excavation, the construction of temporary additional retaining walls needed, and increased material costs. The majority of the work is now complete and both bridges are open to traffic.

SR 532/ Corridor improvements – Design-Build (Island, Snohomish)

Related projects (all Snohomish unless noted):
SR 532/270th St NW to 72nd Ave NW – Improve safety
SR 532/Sunrise Blvd to Davis Slough – Improve safety (Island)
SR 532/General Mark W. Clark Memorial Bridge – Improve safety
SR 532/64th Ave NW to 12th Ave NW – Improve safety
SR 532/General Mark W. Clark Memorial Bridge – Replace bridge

This design-build corridor project consists of five individual projects with a total budget of $82.2 million. Components include replacing the General Mark W. Clark Memorial Bridge and building three truck climbing lanes. When completed, it will improve traffic flow and motorist safety on the SR 532 corridor between Camano Island and I-5.

This project is currently under construction. Both the budget and the schedule have been at risk due to potential delays in ongoing right-of-way acquisition, environmental permitting, and utility relocation activities, although at present, the project remains on schedule to be operationally complete in December 2010.

All three risks continue to be addressed as reported in the June 2009 *Gray Notebook 34*, and significant progress has been made since last quarter. Environmental permits were issued and Snohomish County Public Utility District #1 relocated its high-tension power line along the north side of the General Mark W. Clark Bridge in time for the contractor to begin construction on July 1 as planned. Because the contractor was able to focus work on the bridge and Camano and Snohomish areas, the right-of-way risk has been reduced: only seven parcels remain to be acquired and appear to be moving forward normally.

The project remains on schedule to be operationally complete in December 2010.

Ferries projects removed from Watch List

New 144-Auto Ferry

This project, originally budgeted for $283 million, was to build up to three new 144-auto ferries.

As reported in the June 2009 *Gray Notebook 34*, the 2009-11 budget provided funding to store and maintain the owner-furnished equipment that has been manufactured for the 144-auto vessels, but did not provide funding for detailed design and construction. WSDOT will propose funding the detailed design in the 2010 Legislative session, which—if approved—could allow construction to begin in 2011-13 if construction funds become available.

This project is being removed from the Watch list pending further Legislative action.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF) Programmatic Reporting

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 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.

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 performance is reported at two levels

Six individually tracked projects

Six projects are reported individually due to their size or significance (see below and the following pages for schedule and budget information on these projects).

All other projects

WSDOT reports on:

- Achievement of project milestones by type of project, see page 81.
- Actual versus planned cash flow for the overall PEF program, see page 82.
- Before & After results for selected types of projects. Examples include highway safety (see pages 5-6).

Six individually tracked Pre-Existing Funds (PEF) projects: results through September 30, 2009
Dollars in millions

Project description	First legislative budget & *year*	Baseline current legislative approved & *year*	Scheduled date to begin preliminary engineering		Scheduled date for advertisement		Scheduled date be operationally complete	
			Date	On time	Date	On time	Date	On time
US 2/Ebey Island Viaduct and Ebey Slough Bridge (Snohomish)	$32.1 *2002*	$49.5 *2007*	May-05	√	Mar-10		Apr-13	
• US 2/50th Avenue SE vicinity to SR 204 vicinity – Bridge rehabilitation		$10.8 *2007*	Jul-06	√	Feb-07	√	Sep-07 complete	√
• US 2/43rd Ave SE vicinity to 50th Ave SE vicinity – Bridge rehabilitation		$26.7 *2009*	Jan-09	√	Aug-10		Dec-11	√ Early
SR 202/SR 520 to Sahalee Way — Widening (King)	$36.9 *2001-03*	$82.7 *2009*	May-98	√	Aug-05	√	Feb-08	√ Early
SR 539/Horton Road to Tenmile Road — Widen to Five Lanes (Whatcom)	$32.0 *2001-03*	$66.3 *2009*	Oct-90	√	Jan-07	√	Nov-08	√
SR 28/E End of the George Sellar Bridge — Construct bypass (Douglas)	$9.4 *2004*	$29.3 *2009*	May-04	√	Apr-10	Early	Dec-11	
The project advertised early but the construction phase has been delayed to balance the financial plan for the 2009-11 biennium budget process.								
US 101/Purdy Creek Bridge — Replace bridge (Mason)	$6.0 *2004*	$13.3 *2009*	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, but construction was completed one month earlier than the scheduled September 2009.								
SR 303/Manette Bridge Bremerton vicinity — Replace bridge (Kitsap)	$25.5 *2002*	$88.7 *2009*	Sep-96	√	Mar-10	√	Jun-13	
Construction phase has been delayed to balance the financial plan for the 2009-11 biennium budget process. The project cost estimate has increased to accommodate environmental requirements and cost escalation of material above normal inflation.								

Source: WSDOT Project Control and Reporting Office.

Pre-Existing Funds (PEF) Projects: Milestones, Watch List

Milestone tracking for programmatic Pre-Existing Funds (PEF) projects

Number of projects with these milestones, 2009-11 biennium to date (September 30, 2009); dollars in millions

	Begin engineering		Advertised for bids		Operationally complete		Expenditures	
Programmatic categories*	**Planned**	**Actual**	**Planned**	**Actual**	**Planned**	**Actual**	**Planned**	**Actual**
Pavement preservation	5	7	0	2	22	40	$108	$89
Bridges (preservation/replacement)	2	0	2	1	3	6	$13	$10
Slope stabilization	1	1	2	2	3	5	$8	$2
Safety (roadside, rumble strips, median cross-over, etc.)	4	4	1	2	5	2	$21	$7
Environmental retrofit (fish passage improvement, stormwater runoff)	0	0	0	0	3	2	$3	$2
Other facilities (rest area, weigh stations, etc.)	1	1	2	0	3	3	$27	$12
Totals	**13**	**13**	**7**	**7**	**39**	**58**	**$180**	**$122**

Source: WSDOT Project Control and Reporting Office.

* While elements of one or more categories may be included in some of the projects (such as a bridge preservation project that improves safety), every project has been assigned to one primary category for reporting purposes.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF) Projects: Advertisement and financial overviews

Eight PEF projects advertised as of September 30, 2009

The 2009-11 Highway Construction Program includes a commitment to advertise 97 Pre-Existing Funds (PEF) projects in the current biennium. Eight projects were advertised through the first quarter ending September 30, 2009.

Of the seven planned PEF advertisements scheduled for this quarter, one was advertised as scheduled. Five were delayed to later in this biennium, none were deferred to a future biennium, and one was deleted. In addition, two emergent, and two advanced projects, plus two projects delayed from the previous biennium, were advertised in the quarter.

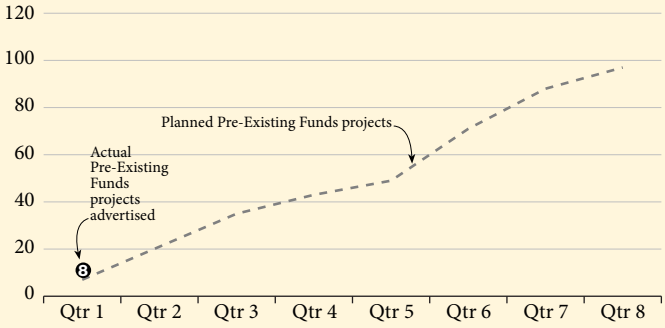
Pre-Existing Funds projects: Biennial progress
July 1, 2009 through September 30, 2009; Dollars in millions

WSDOT total award estimate*:	$2.8
Actual total award amount*:	**$2.3**
Projects advertised (see page 83 for definitions)	
As scheduled	1
Early	2
Late	2
Emergent	2
Total projects advertised 2009-September 30, 2009	
Projects delayed (delayed within the biennium)	5
Projects deferred (delayed out of the biennium)	0
Projects deleted	1

Data Source: WSDOT Project Control & Reporting Office.

* In cases where WSDOT's estimate and award amounts contain multiple sources, the PEF reported amount is a calculated percentage based on the contract total value. PEF projects may have Nickel and TPA funding not reported in this section.

Pre-Existing Funds projects construction program
Planned vs. actual number of projects advertised
2009-2011 biennium, quarter ending September 30, 2009



Data Source: WSDOT Project Control and Reporting Office.

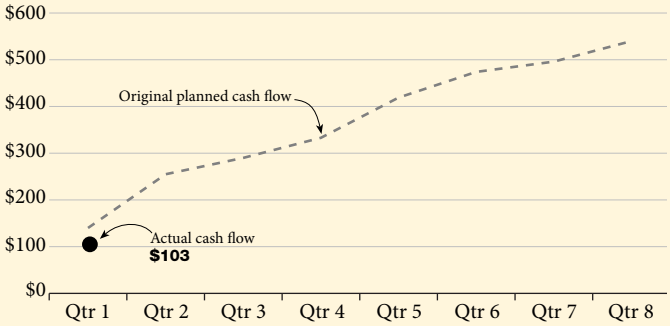
Paying for the Projects: Financial Information

WSDOT submitted an expenditure plan to the Legislature for the first quarter of the biennium totaling approximately $180 million. As of September 30, 2009, actual expenditures totaled $122 million, a variance of about $58 million, or 32%, from the biennium plan. The variance for the Highway Construction Program was divided between the Improvement and Preservation programs.

The Preservation Program planned cash flow was $140 million, and actual expenditures were $103 million. This was $38 million under plan, or 27%.

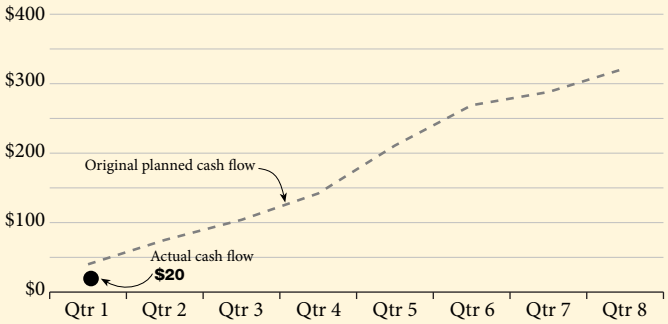
The Improvement Program planned cash flow was $40 million, and actual expenditures were $20 million. This was approximately $20 million under plan, or 51%.

Pre-Existing Funds preservation program cash flow
Planned vs. actual expenditures
2009-2011 biennium, quarter ending September 30, 2009
Dollars in millions



Data Source: WSDOT Project Control and Reporting Office.
Note: As of Quarter 5 (July 1 - Sept. 30, 2006), Original Planned Cash Flow values have been updated based on the 2006 Supplemental Budget.

Pre-Existing Funds improvement program cash flow
Planned vs. actual expenditures
2009-2011 biennium, quarter ending September 30, 2009
Dollars in millions



Data Source: WSDOT Project Control and Reporting Office.

Pre-Existing Funds (PEF) Projects: Advertisement record

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

July 1 – September 30, 2009

Project description	Advertised as scheduled
North Central Region Guardrail Update — Year 2010	Advanced
US 2/South Fork Skykomish River Bridge — Bridge repair The construction phase was deleted after the bridge bearings were repaired by the Departments maintenance personal.	Deleted
I-5/Martin Way to 48th St — Northbound and southbound concrete pavement rehabilitation Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
SR 14/ 1.5 miles east of Bergen Road — Rockfall mitigation This project is tied with the project SR 14/West of White Salmon - Rockfall stabilization. The projects have been delayed due to additional time necessary to receive approval of a right-of-way easement from another agency.	Delayed
SR 14/West of White Salmon — Rockfall stabilization This project is tied with the project SR 14/1.5 miles east of Bergen Road - Rockfall mitigation. The projects have been delayed due to additional time necessary to receive approval of a right-of-way easement from another agency.	Delayed
SR 21/Keller Ferry Boat — Preservation By Legislative direction, the scope of this project was changed from replacing the existing vessel to rehabilitation of vessel. The ad date was delayed to accommodate the new scope.	Delayed
I-90/Mt Baker Tunnel & Mercer Island Lid — Programmable Logic Controllers replacement Advertisement date was delayed to ensure compatibility of the Programmable Logic Controllers with the new computer system that is near completion under the I-90 Tunnels VAX Replacement project, which will upgrade the original server interface to latest standards.	Delayed
I-90/Intelligent Transportation System — Communication upgrade	Delayed
US 97/Oroville Area — Pedestrian improvement	Advanced
US 97A/N of Wenatchee — Slope stabilization Advertisement date was deferred one year to meet the needs of the public by eliminating full road closures during the summer tourist season and fruit harvests.	Late
SR 99/Aurora Ave Bridge Fence — Suicide prevention	√
US 101/ Astoria-Megler Bridge — North end painter 7/29/09 This is an ODOT Lead project, Schedule is determined by ODOT	Late
SR 112/Emergency slide repair 9.4 miles west of Reynold Rd — Unstable slope This project will repair about 500 feet of SR 112 that was heavily damaged by a large landslide that was caused by heavy rains during a 2009 winter storm.	Emergent

Source: WSDOT Project Control and Reporting Office.

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 period being reported but which missed the original ad date.

Emergent
A new project that addresses unexpected needs such as emergency landslide repair.

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

Use of Consultants

Consultant Use Highlights

- WSDOT consultant spending totaled $108 million between April 1, 2009 and September 30, 2009.
- Consultants contributed to many major projects 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.

Consultants are retained to complete tasks and projects that WSDOT 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 comprise the majority of consultant contracts. 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. Based on needs estimated biennially, the agency advertises for predetermined categories of work and initiates task order agreements with qualified consultants. WSDOT regions then determine if work can be completed using a task order agreement.

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.

From April 1 to September 30, 2009 (Q2 and Q3 of CY 2009), the net total of new consultant expenditures was $61.6 million for task order agreements, $10.8 million for project specific agreements, and $35.5 million for general engineering consultant agreements. For a breakdown of the $108 million in total expenditures for Q2 and Q3 of CY 2009, see the consultant expenditures table on the following page.

Task order agreements

Fifty-nine task order agreements had Nickel project expenditures during this period and total expenditures for services rendered were $6.6 million for 46 prime consultant firms. One hundred-ten task order agreements had Transportation Partnership Account (TPA) project expenditures during this period; expenditure totals were $34.3 million for 70 prime consultant firms. The total statewide task order agreement consultant expenditures (excluding Nickel, TPA, and general engineering consultants) for the same period were $20.8 million. For a list of significant expenditures for consultants, see the significant authorizationas for task order consultants' table on the following page.

Consultant utilization definitions & 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	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.

General engineering agreements

Eight high-profile general engineering consultant (GEC) projects received consultant agreements between April 1 and September 30, 2009. GEC expenditure totals were $35.5 million, divided between eight primary consultant firms, of which $2.7 million were Nickel funds and $32.6 million were TPA funds. For a breakdown of the projects, see the expenditures for general engineering consultants table below.

Project-specific agreements

From April 1 to September 30, 2009, new expenditures for project-specific Nickel agreements and/or supplements totaling $4.1 million were divided between 20 prime consultants. New expenditures for project-specific TPA agreements and/or supplements were $4.5 million, divided between 14 prime consultants. All non-Nickel/TPA, project specific, consultant authorizations totaled $2.2 million. The significant authorizations for project-specific consultants table on this page lists significant expenditures for project-specific agreements.

Consultant expenditures

April 1, 2009 through September 30, 2009, dollars in millions

Type of consultant agreement	Nickel	TPA	PEF	Total
Task order consultant agreements (including GEC agreements)	$9.2	$66.9	$21.0	$97.1
Project-specific agreements/supplements	$4.1	$4.5	$2.2	$10.9
Totals	**$13.4**	**$71.4**	**$23.2**	**$108.0**

Significant authorizations for task order consultants

April 1, 2009, through September 30, 2009, dollars in millions

Project	Consultant	Total expenditures
Columbia River Crossing Project (TPA, PEF)	David Evans and Associates, Inc.	$8.8
On-Call UCO Engineering Management Services (Nickel, TPA, PEF)	Parametrix, Inc.	$1.3
Alaskan Way Viaduct and Seawall EIS (TPA, PEF)	PB Americas, Inc.	$19.3
SR 520 Trans-Lake Washington Project (Nickel, TPA)	Parametrix, Inc.	$8.9

Expenditures for general engineering consultants (GEC)

April 1, 2009, through September 30, 2009, dollars in millions

Project	Consultant	Expended this period
GEC Alaskan Way Viaduct & Seawall Replacement Project	Hatch Mott MacDonald	$4.5
GEC I-90 Snoqualmie Pass East – Hyak to Keechelus Dam	URS Corporation	$3.3
GEC Northwest Region Mt. Baker Area	H.W. Lochner, Inc.	$0.0
GEC Northwest Region Mt. Sno-King Area	Aecom USA, Inc.	$0.2
GEC SR 167 Extension	Jacobs Engineering	$0.0
GEC SR 167 Valley Freeway Corridor	Perteet, Inc.	$0.8
GEC SR 520 Bridge Replacement and HOV Project	HDR Engineering, Inc.	$20.9
GEC Tacoma/Pierce County HOV Program	CH2M Hill, Inc.	$5.8
Total		**$35.5**

Significant authorizations for project-specific consultants

April 1, 2009, through September 30, 2009, dollars in millions

Project	Consultant	Total expenditures
I-405 General Engineering Consultant (Nickel, TPA)	HNTB Corporation	$7.0
I-5, SR 161 I/C and SR 18 I/C Enviro/ Design (Nickel)	Berger/ ABAM Engineers, Inc.	$1.2

Data source for all tables: WSDOT Consultant Services Office.

Project Management and Reporting Systems (PMRS)

Project Management & Reporting Systems Highlights

- PMRS is a state-of-the-art system for managing and delivering construction projects.
- Over 800 WSDOT engineers and project management staff are using PMRS.
- PMRS development is on schedule for completion by July 1, 2010, when all projects will be in the system.
- More information about PMRS can be found at: http://www.wsdot.wa.gov/Projects/ProjectMgmt.

WSDOT is currently delivering the largest transportation construction program in our state's history – hundreds of projects worth more than $15 billion. WSDOT is managing the program using best management practices proven throughout the country in both the public and private sectors, including a new Project Management and Reporting System (PMRS). PMRS is an information backbone and set of software tools to help project managers deliver construction projects on-time and within budget. Using PMRS, project managers now track and manage project costs, schedules, and deliverables, and determine the best course of action to address project risks. PMRS also supports project reporting for both internal management and external accountability purposes.

Key PMRS functions include: cost estimating, project scheduling, contract management, cost control and earned value management, project reporting, and document management. Development of PMRS began in July 2006. Active use began in July 2008 and has taken place in stages. Currently, over 800 WSDOT engineers and project management staff are using PMRS. Projects previously managed using older systems are being moved into PMRS, and all new projects are started there. Training on use of the system, including a new Project Management Academy, is taking place in conjunction with system rollout. PMRS development is on schedule for completion by June 1, 2010, when all projects will be in the system.

Accomplishments since the last semi-annual report, published in the March 31, 2009, *Gray Notebook 33,* include:

- The Electronic Content Management (ECM) system has been deployed to all WSDOT regions. This tool is providing greater efficiencies in tracking, searching, linking, and pulling project documents. The Alaskan Way Viaduct project is one of the projects that is actively using the ECM and realizing its benefits.
- Project scheduling software has been deployed to all regions and project offices are moving remaining projects from legacy systems into PMRS. New projects are starting in PMRS.
- The final steps of configuring the contract management tool are being completed. It has been deployed and is available for project office use. This tool provides a consolidated solution for tracking and managing project commitments. Tools to manage daily project inspection reports and field note records have also been deployed statewide.
- The work to interface PMRS with WSDOT's legacy systems is nearing completion.
- With the scheduling software fully deployed and interfaces for cost management complete, the ability to perform earned value management is now available through PMRS. The development of department processes and procedures are underway.
- The final phase of the project, cost management implementation, is under way and on schedule for completion in January, 2010.

Though final steps of implementation are not complete, PMRS is already producing benefits by providing project teams with industry standard tools to assist in project delivery. Project staff are also committed to using the appropriate project management industry standards to deliver projects on time and on budget. The combination of practices and tools is contributing to improved risk management, proactive problem resolution and improved communication.

Hot Mix Asphalt

WSDOT tracks both the projected and awarded amounts of Hot Mix Asphalt (HMA) for two reasons. First, the agency projects HMA amounts so that contractors can better anticipate future HMA volumes. This helps private contractors better manage their costs associated with HMA, which ultimately results in more competitive bidding and favorable prices on WSDOT contracts. Secondly, the agency tracks actual tons awarded against the forecast to measure how well the agency met its work plan.

Actual hot mix asphalt tons awarded in 2009 below projection by 9%

In October 2008, WSDOT forecasted that 994,496 tons of hot mix asphalt (HMA) would be awarded in construction contracts through September 2009. WSDOT revised this forecast in March 2009 to account for the additional projects funded by the passage of the Recovery Act. The planned Recovery Act projects accounted for an additional 541,261 tons of HMA, bringing the revised forecast to a total of 1,535,757 tons. At the end of September, WSDOT had awarded 1,402,176 tons of HMA, or 9% less than the revised forecast. This represents a difference of 133,581 tons. In 2008, the actual HMA awarded was 6% above the amount forecast.

The agency did not award ten construction projects included on the forecast, accounting for 129,010 of the 133,581 tons. Most of these ten projects are scheduled for advertisement during the remainder of 2009 or early in 2010, and will be included in the 2010 HMA forecast. Just one of the projects is on hold due to funding constraints and will not be included in the next forecast. One project, the I-5 Chuckanut Park and Ride near the SR 11 interchange, was scheduled to be awarded in 2009. However, the local partner on the project, Skagit Transit, was unable to secure funding for the project, and it is now on hold.

Hot Mix Asphalt Highlights

- WSDOT originally forecasted 994,496 tons for 2009, before a federal stimulus program (Recovery Act) was proposed.
- The revised awarded tonnage for 2009 increased by nearly 50% to 1.5 million tons.
- WSDOT's actual HMA (awarded) tonnage was 9% below projections at 1.4 million tons.

Hot Mix Asphalt, projected vs. actual tons awarded, 2002 - 2009[1]

Year	Projected	Actual	% Difference
2002	1,373,465[2]	1,364,021	-1%
2003	1,417,126	1,825,442	+29%[3]
2004	1,324,218	1,299,377	-2%
2005	1,779,826	1,685,394	-5%
2006	1,213,985	1,126,701	-7%
2007	1,297,601	1,214,544	-6%
2008	1,322,418	1,397,189	+6%
2009[4]	1,535,757	1,402,176	-9%

Data Source: WSDOT Construction Office.

[1] Awarded tons are tracked on an October through September calendar year, providing a better measurement of the work schedule and better planning for the paving industry than the calendar year. Construction projects awarded in the fall typically do not begin work until the next year's construction season begins in the Spring.

[2] The projection for 2002 was revised in March 2002 by the Transportation Commission following budget cuts.

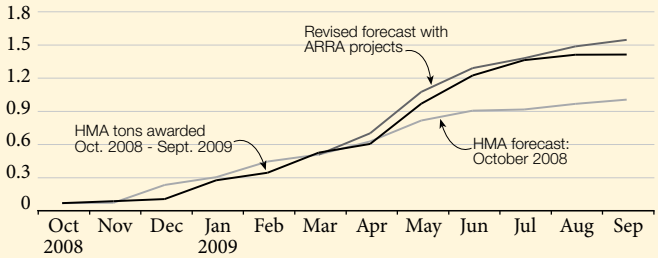
[3] The 2003 Nickel Transportation Funding Package was passed after the projection was made for 2003. WSDOT subsequently awarded five projects from the Nickel funding package with a combined total of 315,285 tons of HMA.

[4] Projected tons awarded for 2009 includes Recovery Act stimulus projects.

Hot Mix Asphalt tons awarded

October 2008 - September 2009

Tons in millions



Data Source: WSDOT Construction Office.

Crews lay hot mix asphalt on the I-90 Yakima River to West Ellensburg paving project, one of the 37 Recovery Act projects.

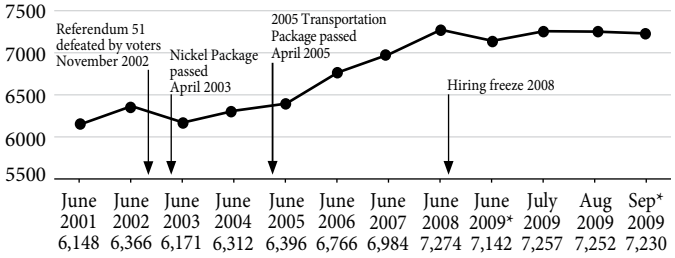
Workforce Level and Training

Workforce Level and Training Highlights

- WSDOT employed 17 fewer full-time permanent workers on September 30, 2009, than at the same time in 2008.
- Compliance levels remain mostly steady for the six training courses required for all employees.
- Safety and maintenance training compliance was 82%, down from 84% on June 30, 2009 prior quarter.

This quarter, WSDOT employed 7,230 permanent full-time employees, 88 more employees than the previous quarter ending June 30, 2009. The increase is due to nonpermanent Ferries Division staff attaining permanent status after meeting the collective bargaining agreement requirements. WSDOT employed 17 fewer permanent full-time employees on September 30, 2009, than one year previously. The chart below shows the number of full-time employees since June 30, 2001. The total number of full-time equivalencies (FTEs) will generally exceed the number of permanent full-time employees, as seasonal, permanent, part-time, and non-permanent/on-call workers are all funded from FTE allocations. For information on consultant use, see the article on page 84.

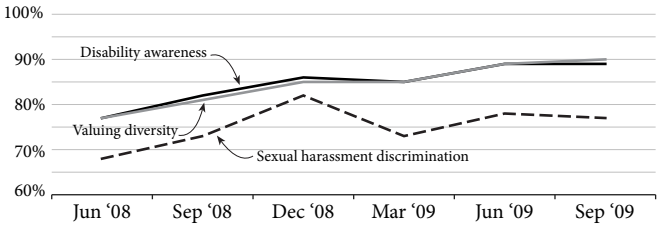
Number of permanent full-time employees
From June 2001 to September 2009



Data Source: Dept. of Personnel Data Warehouse, HRMS, WSDOT and the ferry system payroll.

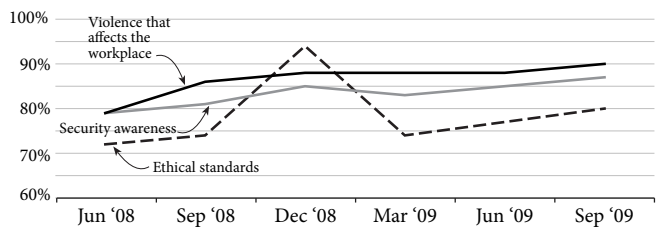
* From June to September 2009 there were between 42 and 63 non employees being coded as employees for settlement purposes. Those non-employees are not included in the graph.

Mandatory diversity training for all WSDOT employees
By percentage of employees in compliance



Data Source: WSDOT Human Resources Office, Staff Development.

Mandatory policy training for all WSDOT employees
By percentage of employees in compliance



Data Source: WSDOT Human Resources Office, Staff Development.

Workforce training compliance shows little change in the quarter

Training compliance for the six courses required for all employees remained mostly level in the quarter ending September 30, 2009, with four courses improving by one to three percentage points, one course declining by one percent, and one course staying constant.

Compliance for all six courses was higher than one year ago, on September 30, 2008. Two courses, disability awareness and violence that affects the workplace, met the agency goal of 90% compliance, and valuing diversity compliance was 89%.

Diversity training compliance

Due to increased compliance over the last fiscal year, most of the regions statewide need less training. However, WSDOT increased the number of training sessions for sexual harassment/discrimination in order to keep staff trained and in compliance in the next quarter ending December, 2009. This effort includes holding nine trainings in a three-month period for Headquarters employees, up from three trainings in a six-month period.

Sexual harassment/discrimination training has been a challenge both to monitor and maintain compliance levels after the Legislature shortened the required refresher interval for supervisors from five years to three. The refresher training continues to be every five years for employees who do not supervise staff. WSDOT is reviewing its management levels

to assess if all employees in certain management levels actually qualify for this refresher requirement. If not all employees in those levels manage staff, fewer employees will require a refresher every three years. The review will include working with regional staff to identify supervisor job categories in their respective areas, and may result in changes to the sexual harassment/discrimination training compliance level, which is now 77%.

Although less training will be needed in most regions, OEO will continue to coordinate and schedule classes for seasonal and temporary employees as requested by maintenance trainers as the winter shift begins.

Human Resources policy training compliance

Training compliance increased with ethical standards, security awareness, and violence that affects the workplace this quarter. Ethical standards has a three-year refresher requirement: 98% of the workforce has completed the basic course at least once. The other two courses have no refresher requirement. Completing these courses via self-study allows employees to take the training with a minimum loss of work time, and less employee travel, while continuing to provide a higher percentage of compliance for the department.

Compliance with statutorily required maintenance and safety training decreases

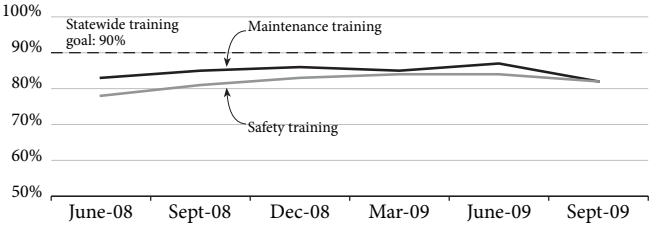
Statutorily required maintenance and safety training compliance for WSDOT employees was 82% this quarter, a 2% decrease from last quarter. The safety training compliance was 82% on September 30, 2009, a 2% decrease from June 31, 2009, while the maintenance training compliance was 82%, a 5% decrease from the prior quarter.

WSDOT's goal is to reach 90% compliance for statutorily required maintenance and safety employee training. Compliance is annually highest in the fall when more employees are available for training. Supervisors and trainers balance maintenance workloads to ensure training occurs continually while maintaining roadways safely.

WSDOT tracks statutorily required training compliance for its maintenance workers by region. The table below documents each region's compliance with all the courses listed as a single measure. For the fourth quarter, two regions, Eastern and Southwest, met the 90% goal for safety and maintenance training compliance. Training compliance increased in two regions, decreased in three regions, and remained steady in two regions during the third calendar quarter of 2009.

Maintenance and safety training compliance

By percentage of employees in compliance
June 30, 2008 to September 30, 2009



Data Source: WSDOT Office of Human Resources, Staff Development.

Required training for maintenance employees by WSDOT region

Region	Current quarter percent in compliance	Percent change from last quarter	Last biennium (2007-09) average	Goal met
Northwest	72%	-5%	76%	
North Central	86%	-3%	81%	
Olympic	82%	-4%	78%	
Southwest	95%	0%	94%	√
South Central	88%	1%	84%	
Eastern	94%	1%	92%	√
Headquarters	74%	0%	74%	

Data Source: WSDOT Office of Human Resources, Staff Development.

Statutorily required maintenance & safety courses

Maintenance courses
Aerial lift
Bucket truck
Drug & alcohol certification
Excavation, trenching & shoring
Emissions certification
Forklift
Hazardous materials awareness
Railway work certification

Safety courses
Blood-borne pathogens
Confined space entry
Drug free workplace
Electrical safety awareness
Fall protection
Fire extinguisher
First aid
Hearing conservation
Lead exposure control
Flagging & traffic control
Lockout/tagout
Personal protective equipment
Respirator protection
Supervisor return to work
Proper lifting
Hazard communications

Highlights of Program Activities

For the quarter ending September 30, 2009

Project starts, updates, or completions

Project starts

SR 4 safety and roadway improvements (Cowlitz & Wahkiakum)

Crews began work to improve safety and smooth the roadway surface along SR 4, between Skamokawa in Wahkiakum County (milepost 27.47) and Coal Creek Road in Cowlitz County (milepost 55.01). Safety improvements include replacing existing guardrail and cable barrier, restoring eroded roadway embankments, restoring asphalt curbs under guardrail, and retrofitting bridges with improved railings. Paving this section of SR 4 will repair ruts and cracks in the existing pavement, extend the life of the roadway, and provide a smoother and safer ride for motorists. West Little Island Road and Beaver Creek Road in Wahkiakum County will also be paved by agreement with Wahkiakum County. Funds from the 2009 Recovery Act were contributed to the project by Wahkiakum County, and have helped crews from Lakeside Industries, Inc. of Longview, Washington get to work installing new safety features and paving the roadway.

Workers for Pacific Rim Service & Construction Co. install guardrail along SR 4 in southwest Washington.

I-5 HOV lanes (Pierce)

Bellevue-based Tri-State Construction, Inc. recently landed a $31.1 million WSDOT contract to extend the I-5 high occupancy vehicle (HOV) network south from the King County line. This two-year project adds about three miles of carpool lanes on northbound and southbound I-5 from the King County line to the Port of Tacoma Road interchange in Fife. Total construction costs on this project in Pierce County are about $42 million – with $35 million in Recovery Act funding.

I-5 Marysville cable barrier (Snohomish)

WSDOT began a project to replace 10 miles of cable median barrier with concrete barrier along northbound I-5 in Marysville from SR 528 to the Stillaguamish River. The construction contract was awarded to Tri-State Construction, in April 2009. The total budget for the project is now $18.9 million, including $2.5 million in Recovery Act funding that will be used for traffic cameras, overhead message signs, and traffic data detectors along I-5 in Marysville. Work started in August and will take approximately two months to complete survey, signage, fencing, and shoulder work along the 10 miles of I-5 included in the project. Crews expect to begin installing the median barrier system in mid-September or early October 2009.

I-90 Snoqualmie Pass (Klickitat)

WSDOT began construction August 11 on the I-90 Snoqualmie Pass East project to build five miles of wider, safer, and more reliable highway for east-west travelers. The $595 million project was scheduled to begin in 2010, but a portion of the project was advanced one year after engineers developed a plan to build a detour bridge near the Gold Creek area at the Keechelus Lake reservoir to limit construction impacts on the movement of freight and people across Snoqualmie Pass. WSDOT expects to complete all improvements planned for the funded five-mile I-90 Project from Hyak to Keechelus Dam in 2015. The completion of the I-90 Project will:

- Reduce road closures associated with avalanche and avalanche control work by building a new, more efficient snowshed.
- Add a new travel lane in each direction to accommodate anticipated increases in traffic volume.
- Replace deteriorating concrete pavement for a smoother, safer ride.
- Minimize the risk of rock and other falling debris from reaching the interstate by stabilizing unstable rock slopes.
- Build new and extend existing chain up/off areas.
- Improve sight distance by reducing sharp roadway curves.
- Re-connect wildlife habitats over and under the highway.

For the quarter ending September 30, 2009

Project updates

I-5 Kelso to Castle Rock (Cowlitz)

WSDOT is repairing approximately 180 damaged concrete panels on nearly 14 miles of I-5 and repaving the interstate's northbound lanes. Work on I-5 between Kelso and Castle Rock will include grinding out existing pavement, removing damaged concrete panels, paving with new asphalt, and improving guardrail. Replacing damaged concrete panels and resurfacing the interstate will extend the life of the roadway and provide motorists with a safer, smoother drive. This project will strengthen I-5, allowing the interstate to continue handling heavy commuter and freight traffic for years to come. Construction began on June 24 and is scheduled for completion in October 2009.

I-5 Stanwood (Snohomish)

Construction began on July 13, as crews prepared for the Recovery Act funded southbound I-5 repair project near Stanwood. WSDOT will repair broken concrete panels and smooth bumps along six miles of southbound I-5, between SR 532 in Snohomish County and Starbird Road in Skagit County. Repairing the pavement will reduce costly temporary repairs, provide drivers with a safe and smooth ride, and ensure that the roadway will last well into the future. The $9.2 million project, funded entirely by the Recovery Act, is scheduled for completion in spring 2010.

US 395 North Spokane Corridor (Spokane)

Over 500 citizens and dignitaries joined WSDOT representatives at the North Spokane Corridor "Celebration of Progress" First Ribbon Cutting on August 22. The event commemorated the opening of the first drivable segment (3.7 miles) of what will be, when fully completed, a 10.5 mile freeway facility with an adjacent bike/pedestrian path connecting I-90 near downtown Spokane to existing US 395 north of the city. The 3.7-mile segment, with one lane in each direction, was opened to traffic a few hours after the ceremony, following event cleanup and minor detail work. The next segment, a two-mile piece to the north connecting with the existing US 395 is currently under construction and will open in 2011.

I-405 Bellevue (King)

WSDOT thanked motorists for their patience after contractors finished placing quieter pavement on I-405 through Bellevue over the weekend of August 15-16. Typically, WSDOT does this kind of work at night, but because of the type of paving, temperatures needed to be 65 degrees and warmer. Crews placed nearly 1.5 miles of quieter asphalt pavement in the south Bellevue area. On Saturday morning, crews reduced traffic to one lane on northbound I-405 between 112th Avenue SE and NE Eighth Street and closed several area ramps in the south Bellevue area. Crews reopened all lanes on northbound I-405 around 3:00 a.m. on August 17, including a newly built lane from I-90 to SE Eighth Street. The weekend paving work was a small part of the $124 million project to widen I-405 in both directions through south Bellevue. WSDOT is scheduled to report to the Legislature in January 2010 on the performance of quieter pavement, which will include traffic impacts associated with installation.

Project completions

I-5 Smokey Point Interchange, Arlington (Snohomish)

WSDOT opened a new on-ramp to southbound I-5 at the I-5/SR 531 (Smokey Point) interchange in Arlington on August 28, nearly six months ahead of schedule. The new ramp will help relieve heavy backups on SR 531 (172nd Street NE) during peak commute times. More than 40,000 vehicles use SR 531 to access I-5 each day, and traffic is heaviest for drivers heading from westbound SR 531 to southbound I-5. Work is complete on two of the four ramps that will be built or improved at the busy interchange. The project is ahead of schedule and under budget. WSDOT engineers were able to reduce costs during project design, and bids were lower than the engineer's estimate. The total budget for the project is now $23.5 million, with the majority of the funding coming from the 2005 gas tax package.

A crowd gathers to celebrate the opening of the first segment of the US 395 North Spokane Corridor.

Highlights of Program Activities

For the quarter ending September 30, 2009

SR 304 Bremerton tunnel (Kitsap)

The SR 304 Bremerton tunnel opened July 6 to off-loading ferry traffic for the first time. Now all vehicle traffic disembarking the Seattle/Bremerton ferry on the Bremerton side is routed through the tunnel. Prior to this project, periodic surges of ferry traffic interfered with pedestrian and local traffic flow. The tunnel was built to increase safety and decrease congestion by separating off-loading ferry traffic from downtown Bremerton pedestrian traffic. The 959-foot-long tunnel connects the Bremerton Transit Center to Burwell Street. Tri-State Construction, Inc., built the $54 million federally funded project, which broke ground July 6, 2007 – exactly two years before opening day.

Classic cars emerge from the new SR 304 Bremerton Tunnel during the community opening celebration.

Ferries

WSDOT Ferries Division bids farewell to Steel Electric ferries

The Washington State Department of Transportation Ferries Division (WSF) bid farewell to the 1927-built Steel Electric Class ferries in August. In June WSF sold the vessels to Eco Planet Recycling, Inc. Two of the ferries, the *Nisqually* and the *Quinault*, were removed from their tie-up locations August 3 on Bainbridge Island and towed to Ensenada, Mexico, to be recycled. The last two vessels were towed away on August 14. In November 2007, Secretary of Transportation Paula Hammond ordered the *Quinault*, *Illahee*, *Nisqually*, and *Klickitat* removed from service due to safety concerns. In 2008, the Washington State Legislature directed WSDOT to sell the vessels.

WSDOT awards contracts for new ferries

WSDOT's Ferries Division (WSF) is building four new ferries in the next five years to replace its aging fleet. Nine of WSF's 20 auto-passenger ferries are between 40 and 60 years old and must be replaced in the next 20 years. The plan to improve Washington's ferry fleet took another step forward with the advertisement and award of a contract to build at least two new 64-car ferries. The bid package was posted on WSF's contracts website on August 7, and contracts were awarded on October 13. For more details, turn to page 72.

Assistant Secretary for Washington State Ferries, David Moseley answers a question. With him at a press conference at Todd Pacific Shipyard are Todd CEO Steve Welch, Governor Christine Gregoire, and Secretary of Transportation Paula Hammond.

Traveler Information and Safety

New service alerts motorists to SR 104 Hood Canal Bridge openings

An e-mail and text message service that alerts motorists to SR 104 Hood Canal Bridge marine openings became available in July. Those who subscribe receive a brief electronic message that lets them know when there will be a delay due to a marine opening or a traffic-impacting incident on the bridge. The SR 104 Hood Canal floating bridge periodically opens its center draw span to allow tall marine vessels to pass. Openings often stop traffic, inconveniencing local drivers used to quick trips across the 1.5-mile-long span. The alerts estimate the road-closure duration, rather than alerting subscribers to when the bridge reopens to vehicular traffic. To subscribe, go to the WSDOT homepage at http://www.wsdot.wa.gov/, click on "E-mail updates," type in your e-mail address, then click on "Hood Canal Bridge Alerts," one of several WSDOT e-mail and text alert services.

For the quarter ending September 30, 2009

Public Transportation

Carpools, buses, solo drivers saving time in SR 167 HOT lane

More than 30,000 solo drivers paid an average toll of $1 to escape heavy traffic on SR 167 and drive in the high-occupancy toll (HOT) lane during the pilot project's first year. The SR 167 HOT Lanes Pilot Project's first Annual Performance Summary indicates that more and more people are finding value in this unique option to leave congestion in the rearview mirror.

This four-year pilot project studies how variably-priced, electronic tolling can ease traffic congestion on SR 167 between Auburn and Renton. It began May 3, 2008, when solo drivers with a Good To Go! transponder were offered the choice to pay for a faster trip in the carpool lane when extra space was available. Despite an opening year that saw skyrocketing gas prices, economic recession, and unprecedented snowstorms, solo drivers increasingly chose to pay for faster trips in the HOT lane. The number of solo drivers using the HOT lane has increased nearly every month since opening.

ARRA funds help build Aberdeen Transit Station

With the help of a Recovery Act grant and additional funding from a Federal Transit Administration grant, Grays Harbor Transit has started construction of the Aberdeen Transit Station expansion and improvement project. The project will enhance safety for both riders and local traffic and accommodate future growth of bus ridership. In addition to enlarging the station, the project instals better lighting, adds security cameras, and provides a covered seating area for passengers. A park and ride lot will be expanded to provide parking for up to 35 vehicles, and sidewalks and bike racks will make the station more accessible.

Currently, buses leaving the station pull onto Wishkah Street, one of the busiest traffic corridors through Aberdeen, and must merge across three lanes of traffic in order to turn onto their routes. When the station project is completed, bus traffic will enter onto a less busy street where they will be routed to a signalized intersection to cross Wishkah. These revisions will help improve traffic flow and vehicle safety.

ARRA funds help expand Aberdeen Transit Station.

Announcements, awards, and events

WSDOT takes contractor bidding system online

WSDOT is finishing testing and expects to begin taking construction contractor bids online in mid-October, an effort targeted at reducing administrative paperwork and staff time, as well as reducing costs for contractors. In the last 12 months, the number of bidders on WSDOT contracts has increased from an average of four bidders per contract to double-digit bidder turnouts. By accepting and managing contractor bids online, WSDOT can take advantage of the latest electronic bidding technology to increase efficiency and save money and processing time. Online bidding also eliminates bidding errors with a built-in system that verifies calculations and finds missing data.

Western states' transportation directors name Hammond as association president

Washington Transportation Secretary Paula Hammond was unanimously elected by transportation directors from 18 states to serve as president of the Western Association of State Highway and Transportation Officials (WASHTO) during the organization's annual meeting in Seattle. Texas Transportation Department Executive Director Amadeo Saenz was elected as vice president. Both officers' terms will run through July 2010.

As WASHTO president, Hammond will work along with the other 17 states to influence federal transportation issues like SAFETEA-LU reauthorization, climate change policy, and Recovery Act project delivery.

WSDOT wins national recognition for durable, long-lasting pavement

WSDOT recently received national recognition as a 2008 Perpetual Pavement Award winner by the Asphalt Pavement Alliance (APA) for a four-mile section of I-5 near Everett's northern city limits. The award is given to agencies with asphalt pavements that are at least 35 years old and never had a structural failure. The average time span between resurfacing of each winning pavement must be no less than 13 years and the road must demonstrate the qualities expected from long-life asphalt pavements: excellence in design, quality in construction, and value to drivers. WSDOT's pavement preservation goal is to preserve state highways at the lowest cost per year of pavement life. The WSDOT pavement management system has been recognized as one of the best in the nation. Presentations will be made in October during a special ceremony at the International Conference on Perpetual Pavements in Columbus, Ohio, September 30 – October 2, 2009.

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2001	1 / Mar 31, 2001 (FY01 Q3)	2 / June 30, 2001 (FY01 Q4)	3 / Sept 30, 2001 (FY02 Q1)	4 / Dec 31, 2001 (FY02 Q2)
2002	5 / Mar 31, 2002 (FY02 Q3)	6 / June 30, 2002 (FY02 Q4)	7 / Sept 30, 2002 (FY03 Q1)	8 / Dec 31, 2002 (FY03 Q2)
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Edition ranges (e.g. 3-12) include first and last edition in the range. All editions can be accessed at:
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Corrections to this revised edition from the version published on November 20, 2009, include:

page	*change*	*date revised*
14	Typographical error corrected; text reading 'between 2005 and 2007' should have read 'between 2006 and 2008.' Affects two sections of table Travel Times Analysis: High Demand Puget Sound Commute Routes: 95% reliable travel times and Duration of congested period.	12/7/2009

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Americans with Disabilities Act (ADA) Information

Persons with disabilities may request this information be prepared and supplied in alternate formats by calling the Washington State Department of Transportation at (360) 705-7097. Persons who are deaf or hard of hearing may call Access Washington State Telecommunications Relay Service by dialing 7-1-1 and asking to be connected to (360) 705-7097.

Civil Rights Act of 1964, Title VI Statement to Public

Washington State Department of Transportation (WSDOT) hereby gives public notice that it is the policy of the department to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities. Persons wishing information may call the WSDOT Office of Equal Opportunity at (360) 705-7098.

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
- 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 this or a previous edition of the *Gray Notebook*, visit www.wsdot.wa.gov/accountability

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