Washington State
Department of Transportation

The Gray Notebook

GNB 30

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

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Secretary of Transportation

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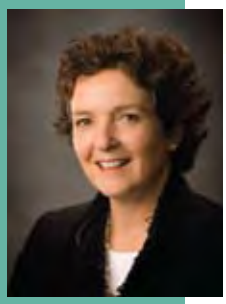
In this edition

Annual Reports
Highway Safety
Capital Facilities
Bridges
Environmental Permits
Construction Contracts

Quarterly Reports
Incident Response
Rail
Washington State Ferries
Capital Projects
Workforce Safety and Training

A Message from Paula Hammond



Dear Reader:

I am proud to bring you the 30th edition of the quarterly published *Gray Notebook (Measures, Markers & Mileposts),* the Washington State Department of Transportation's comprehensive performance report.

This anniversary edition confirms our strong commitment to "no-surprises" performance reporting. We took a fresh look at the *Gray Notebook* (GNB) and enhanced it to meet our changing needs. This redesign makes it easier to find results through closer alignment with the recently updated agency strategic plan *Business Directions*; it also connects WSDOT's performance results with Washington's transportation policy goals and the Governor's statewide Progress Report. Some of the enhancements include:

- **New Executive Summary** The summary highlights key performance reports and results of the respective edition (see page v).
- **Organization by Policy Goal** The five legislative goals (Safety, Preservation/Maintenance, Mobility/Congestion, Environment, and Stewardship) are the framework for the new GNB. Performance reports previously included in the "White Pages" are redistributed into the relevant sections; the "Beige Pages" appear in Stewardship.
- **Performance Dashboard** Provides key performance measures for each of the five statewide policy goals (see page vi).
- **New Section Intros** Each policy goal section is introduced by a single page that shows the statewide policy goal and WSDOT's corresponding, strategic business direction. A sidebar directs readers to articles within the section, related articles elsewhere in this edition, and reports on the policy topic published in prior GNBs (see page 1).
- **New Table of Tables & Graphs** A comprehensive list of all graphed or tabular performance measures or other data and their corresponding page numbers (see page iv).
- **Key performance results at a glance:** Each performance article, such as bridge asset condition, has a gray panel on the side of the first page that highlights key performance results (see example page 13).

This edition of the GNB marks the beginning of the new fiscal year, which means we are half way through the 07-09 biennium. This makes it a good time to check in on the progress, successes, and challenges WSDOT faces as we work to provide Washington's citizens with a transportation system and services they can rely on.

WSDOT is in the middle of delivering the largest capital construction program in our state's history. This biennium, we are at the peak of delivery of the 2003 and 2005 revenue packages. We have successfully turned out 152 of the original 391 projects selected, and have another 71 projects in construction or advertised for construction. This is an impressive record considering the steep construction cost increases. Each one of these projects provides a benefit to drivers and the movement of freight that will make trips safer, faster, and less stressful. We are working to build five new ferries, and have continued the strong record of safe and on-time ferry service across the Puget Sound.

Transportation systems not only link every community and its citizens across our state with families and friends, recreation and jobs, but are the backbone of the economic vitality we all enjoy. The public expects and deserves a return on the investment they have made in our transportation system, and WSDOT will continue to be transparent and accountable, reporting on the results of the services it provides. We continuously strive to improve our performance reporting, and I welcome your feedback on this GNB edition.

Sincerely,

Paula Hammond
Secretary of Transportation

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Capital Facilities annual report 10
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Bridge Assessment annual report 13
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Fish Passage Barriers annual report 39
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Executive Summary

An executive summary of articles in Edition 30 of the *Gray Notebook*

The new executive summary provides a high level review of information reported the June 30, 2008, edition of the *Gray Notebook*.

- The *Gray Notebook*'s Beige Pages present a quarterly assessment of WSDOT's **capital project delivery** performance. As of June 30, 2008, WSDOT has delivered a total of 152 Nickel and Transportation Partnership Account (TPA) projects for $1.768 billion, 100% on target with legislative budget expectations. Of those projects, 89% are on-time; 86% are on-budget; and 77% are both on-time and on-budget. As of this quarter, about 57% of projects funded by Nickel and TPA are under construction or completed (pp. 42-73).
- The **Construction Cost Trends** report shows that WSDOT's Construction Cost Index (CCI) has risen 21.3% in the first two quarters of 2008. From 2002-2007, WSDOT's CCI grew 65.5%, slightly less than five comparable western state's CCIs, which averaged 69.3% in the same period (pp. 91-93).
- The **Construction Contracts** annual update shows that for fiscal year (FY) 2008 WSDOT awarded 149 highway construction and ferry terminal contracts, of which 99 (66.4%) were awarded below the engineer's estimate. This is a significant change from FY 2007, when only 77 contracts (48.1%) of 160 were awarded below the engineer's estimate. The total final cost of contracts completed in FY 2008 exceeded the award amount by 2.7% (pp. 94-96).
- The annual **Bridge Assessment** update notes an increase in WSDOT's bridge inventory from 3,559 in FY 2007, to 3,607 in FY 2008. In FY 2008, 97% of WSDOT bridges are in good or fair condition. Of bridges more than 20 feet long, 3% have federal sufficiency ratings of less than 50. Currently, 372 of 922 bridges in the Seismic Retrofit Program have been fully or partially retrofitted or replaced (pp. 13-18).
- The **Highway Safety** annual update reports that Washington has met the national target rate of 1.00 fatality per 100 million Vehicle Miles Traveled. From 2006 to 2007, the state saw a decrease in traffic fatalities from 635 to 568 (10.6% reduction). This continues a downward trend in fatalities over the past 10 years, due in part to new state laws, increased enforcement, and significant investments in highway safety projects, including installation of cable median barriers and centerline rumble strips (pp. 4-8).
- The **Incident Response** quarterly update shows that the average clearance time dropped to 11.8 minutes. The average duration of incidents on the key Puget Sound routes lasting longer than 90 minutes dropped by 7% compared to the same quarter last year (pp. 29-31).
- The **Environmental Programs** annual update reports that to date WSDOT has replaced 218 of the 1,440 "high-priority" culverts identified by Washington Department of Fish and Wildlife (pp. 39-40).

Navigating the WSDOT Information Stream

Linking performance measures to strategic goals

WSDOT's mission The mission of WSDOT is to keep people and business moving by operating and improving the state's transportation systems vital to our taxpayers and communities.

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 new law establishing five policy goals for transportation agencies in Washington (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 state;
- 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 the new 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 first full Transportation Progress Report will be published in October 2008. The January 2008 Baseline Report is available at: http://www.ofm.wa.gov/performance/trans_progress_report_draft012908.pdf.

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 policies adopted by the Governor. The plan implements the policy goals and describes the agency strategic directions and initiatives that 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.

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/default.htm.

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 and Safety GMAP forums. Information about GMAP can be found at: http://www.accountability.wa.gov/default.asp.

About WSDOT's new Performance Dashboard

A new 'dashboard' of performance measures (next page) is presented in this edition. This dashboard, currently in draft form, 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.

Performance Dashboard

✓ Goal has been met. ↑ Performance is trending in a favorable direction. ↔ Trend is holding. ↓ Performance is trending in a unfavorable direction.

Safety

Measure	2006	2007	Goal	Goal met	Progress	Comments
Number of **traffic fatalities** per 100 million vehicle miles traveled (VMT) in Washington State	1.12	1.0	1.0	✓	↑	Working toward additional reductions through *Target Zero*
Yearly **OSHA-recordable injury and illness rate** per 100 WSDOT maintenance & engineering workers (annualized)	5.1	4.5	6.0	✓	↑	Continuing to aggressively improve worker safety

Preservation

Measure	2006	2007	Goal	Goal met	Progress	Comments
Percentage of state **highway pavements** in fair or better condition	93.5%	93.5%	90.0%	✓	↔	Performance level exceeds goal - challenges ahead
Percentage of **state bridges** in fair or better condition	97.4%	97.0%	97.0%	✓	↔	Performance level meets goal - trending downward

Mobility (Congestion Relief)

Measure	2007	2008	Goal	Goal met	Progress	Comments
Annual **hours of delay** statewide on highways compared to maximum throughput (51 MPH)[1]	23,330	---	To be established	---	Available late fall	New data will be available in September 30, 2008 GNB - "*Moving Washington*" initiative
Average clearance times for **major (90+ minute) incidents** on key Puget Sound corridors	161 minutes	157 minutes	5% reduction	✓	↑	Met 2007 goal, included in "*Moving Washington*" initiative
Percentage of **Washington State Ferries** trips departing 'on-time'[2]	91%	93%	90%	✓	↑	Performance exceeds service goal, remains a high priority
Percentage of **Amtrak *Cascades*** trips arriving 'on-time'[3]	60%	63%	80%	---	↑	Performance is improving - remains below service goal

Environment

Measure	2006	2007	Goal	Goal met	Progress	Comments
Cumulative number of WSDOT **stormwater treatment facilities** constructed or retrofitted[4]	761	809	To be established	---	↑	WSDOT continues to meet federal requirements annually
Cumulative number of WSDOT **fish passage barrier improvements** constructed	205	218	To be established	---	↑	Over 1,000 additional barrier projects identified

Stewardship

Measure	2007	2008	Goal	Goal met	Progress	Comments
Total number of Nickel and TPA **projects delivered, and percentage of on-time and on-budget delivery performance**	92 / 76%	152 / 77%	90% on-time on-budget	---	↑	Performance has improved over previous fiscal year, despite increases in material costs
Variance of total project costs compared to **Legislative budget expectations**[5]	0%	0%	0%	✓	↔	Overall program budget within Legislative expectations
Percentage of **completed contracts** final costs within 10% of the original award amount	80.1%	85.5%	100%	---	↑	Performance has improved with better estimates and contracts

[1] 'Maximum throughput' is defined as the optimal traveling speed, where the greatest number of drivers can occupy the highway at the same time; usually measured as 51 MPH. The data represents the year prior to the year in which it was reported.
[2] 'On-time' departures for Washington State Ferries includes any trip recorded by the automated tracking system as leaving the terminal within 10 minutes of the scheduled departure time.
[3] 'On-time' arrivals for Amtrak *Cascades* are any trips that arrive at their destination within 10 minutes or less of the scheduled time.
[4] Facilities included in Clark, King, Pierce, and Snohomish counties.
[5] 'Budget expectations' are the figures established by the Legislature annually for projects under construction.

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 pg. vi)

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 30 pp. 4
		Rate of traffic fatalities per 100 million miles traveled	annual	GNB 30 pp. 4
		Percent reduction in collisions before and after state highway improvements	annual	GNB 30 pp. 6-7
		Number of recordable workplace injuries and illnesses	quarterly	GNB 30 pp. 2
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 28 pp. 53
		Percent of state bridges in fair or better condition	annual	GNB 30 pp. 13
		Percent of targets achieved for state highway maintenance activities	annual	GNB 28 pp. 74
		Number of ferry vessel life-cycle preservation activities completed	quarterly	GNB 30 pp. 24
		Percent of ferry terminals in fair or better condition	quarterly	GNB 30 pp. 25
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 27 pp. 61-84
		Reliable travel times on the most congested state highways around Puget Sound	annual	GNB 27 pp. 61-84
		Percentage of commute trips while driving alone	annual	GNB 27 pp. 92
		Average length of time to clear major incidents lasting more than 90 minutes on key highway segments	quarterly	GNB 30 pp. 31
		Ferry ridership	quarterly	GNB 30 pp. 20
		Ferry trip reliability	quarterly	GNB 30 pp. 22
		Percent of ferry trips on-time	quarterly	GNB 30 pp. 23
		Amtrak *Cascades* ridership	quarterly	GNB 30 pp. 26
		Percent of Amtrak *Cascades* trips on time	quarterly	GNB 30 pp. 26

Linking performance measures to strategic goals

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 pp. 36
		Number of fish passage barriers fixed and miles of stream habitat opened up	annual	GNB 30 pp. 39
		Number of WSDOT stormwater treatment facilities constructed or retrofitted	annual	GNB 28 p. 67
		Number of vehicle miles traveled	annual	GNB 27 pp. 74
		Transportation-related greenhouse gas emissions (measure to be developed)	n/a	n/a
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 30 pp. 42-87

Navigating the WSDOT Information Stream

Organization of the redesigned *Gray Notebook*

Through 29 editions, a little more than seven years, WSDOT has published a quarterly performance report titled *Measures, Markers & Mileposts*, 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 this, the 30th, edition, the *Gray Notebook* (now its formal title) makes a host of other changes. This page will help you find the information and reports you are looking for.

How is the new *Gray Notebook* organized?

The *Gray Notebook (GNB)* now 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 GNB 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 contains 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.

More easily tracked business plan results

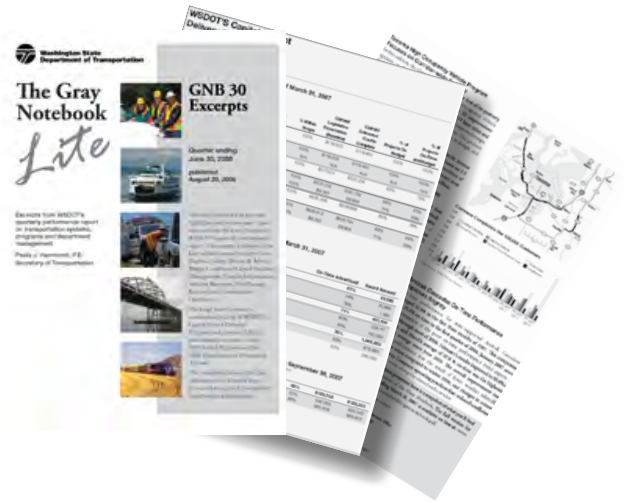
By aligning the *Gray Notebook*'s articles with WSDOT's business goals as outlined in the strategic plan, *Business Directions*, we hope to making tracking measurable performance results against specific strategic actions more simple.

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*. *Lite* allows for a quick review and provides a short synopsis of selected topics. It is published as a four-page folio with a two-page Beige Page summary insert and can be accessed at http://www.wsdot.wa.gov/Accountability/GrayNotebook/navigateGNB.htm .

Navigating the WSDOT Information Stream

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.

Navigating the WSDOT website

The WSDOT home page (shown at left; 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/, shown below) report on all WSDOT capital delivery program 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, all 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 anaysts, 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.

In this section

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Incident Response 29

Workforce Training 92

Program Highlights 94

Earlier safety-related articles

Safety Rest Areas, GNB 29

Worker Safety: Quarterly Update

WSDOT Employees: Recordable injuries and illnesses

With over 7,000 employees, safety is WSDOT's highest priority. The goal for fiscal year (FY) 2008 was to reduce OSHA-recordable injuries and illnesses among employees to 264, 50% from the FY 2006 baseline of 525 injuries. As WSDOT refined its accident data management capabilities, an additional 59 cases were identified and added to the original baseline of 466. Under the readjusted baseline, the Northwest and Olympic regions met their FY 2007 goals.

FY 2008 injuries up 4.5% over FY 2007

Fiscal year 2008 closed with 376 total injuries and illnesses, an increase of 17 over FY 2007, but a substantial decrease of 28% from FY 2006. While WSDOT's aggressive goal was not met, there were improvements throughout the department. Both Eastern and Southwest regions achieved their annual goals, and out of 668 organizational units, 527 (79%) finished the year without injuries.

During the fourth quarter of FY 2008, WSDOT sustained 133 OSHA-recordable injuries and illnesses, an increase of 47 over the third quarter and 17 more than the same quarter one year prior.

Stretch and flex pilot study

While the number of sprains and strains has been in decline since 2006, at 49% of injuries this year, they continue to be a challenge and concern for WSDOT.

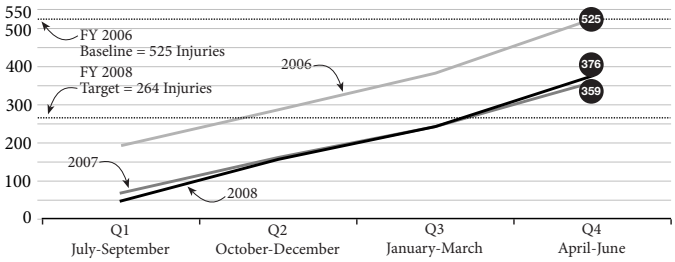
Studies have shown that increased strength and flexibility can help reduce the number and severity of injuries. To that end, WSDOT began a six month, pilot study in April to determine the feasibility of a Stretch and Flex Program. In the Olympic Region, one engineering and six maintenance crews have volunteered to participate in the study. The exercises take about 15 minutes every morning, and responses have been mostly positive. A final report will be submitted in October 2008.

Worker safety

WSDOT sustained 376 injuries/illnesses during FY 2008, 17 more than FY 2007.

In FY 2008, 49% of all injuries were sprains and strains (183 total).

Cumulative OSHA-recordable injuries and illnesses
FY 2006-08



Data Source: WSDOT Safety Office.

A group of WSDOT employees stretch before starting work.

Progress towards achieving OSHA-recordable injury reduction goal (by region)
FY 2008 (July 2007 - June 2008); Target goal: 50% reduction in OSHA-recordable injuries (264 injuries/illnesses)

Region	FY 06 Baseline	FY 07 Total	FY 08 Total	FY 08 Target	Comments	Met goal Y/N
Northwest	122	77	78	61	44% sprain/strain; 24% hearing loss/STS illnesses.	N
North Central	33	20	17	16	41% sprain/strain; 23% hearing loss/STS illnesses.	N
Olympic	71	45	41	35	39% sprain/strain; 32% hearing loss/STS illnesses.	N
South Central	33	29	22	16	36% sprain/strain; 18% hearing loss/STS illnesses.	N
Southwest	31	17	14	15	21% sprain/strain; 14% hearing loss/STS illnesses; 29% contusions.	Y
Eastern	56	23	28	28	68% sprain/strain; 23% hearing loss/STS illnesses.	Y
Urban Corridors[1]	N/A	N/A	7	4	29% sprain/strain; 14% hearing loss/STS illnesses; 29% contusions.	N
Headquarters	23	28	19	11	68% sprain/strain; 16% occupational illnesses.	N
Ferry System	156	120	150	78	54% sprain/strain; 16% hearing loss/STS illnesses; 11% contusions.	N
WSDOT Total	525	359	376	264[2]	49% of all injuries were sprain/strain.	N

Data Source: WSDOT Safety Office.

[1]WSDOT has started tracking OSHA-recordable injuries for Urban Corridors (UCO) as a separate region for FY 2008; it was initially part of the Northwest region.

[2]As a result of rounding by regions, the goal of 264 total injuries/illnesses for FY 2008 is slightly more than a 50% reduction of the WSDOT baseline.

Worker Safety:
Quarterly Update

WSDOT Workers: Recordable injuries and illnesses

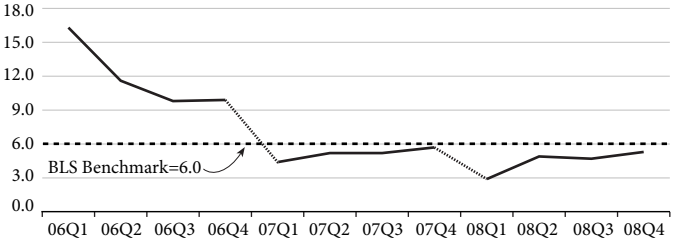
OSHA-recordable injury and illness rates[1]: annualized

Highway, street, and bridge construction workers

The injury rate for WSDOT's highway, street, and bridge construction workers was 5.4 per 100 workers during the fourth quarter, which is 0.7 more than the previous quarter and 0.3 less than the same quarter one year prior. WSDOT's current OSHA-recordable rate is lower than the most recent Bureau of Labor Statistics Benchmark (2006) by 0.6.

Yearly OSHA-recordable injuries and illnesses rate for maintenance and engineering workers: annualized

OSHA-recordable injury rate per 100 workers[1]



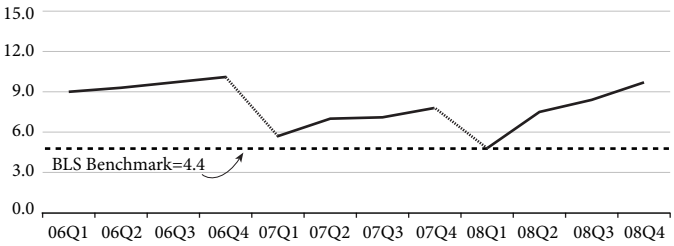
Data Source: WSDOT Safety Office.
[1]Rates are cumulative for each FY.

Ferry system

Ferry workers' annualized injury rate through the fourth quarter was 9.7 per 100 workers. This is 1.3 more per 100 workers than the previous quarter and 1.9 more than the same period one year prior. The ferry system's current OSHA-recordable rate is higher than the most recent Bureau of Labor Statistics Benchmark (2006) by 5.3 in the industry classification of Inland Water Transportation Workers.

Yearly OSHA-recordable injuries and illnesses rate for ferry system workers: annualized

OSHA-recordable injury rate per 100 workers[1]



Data Source: WSDOT Safety Office and Washington State Ferries.
[1]Rates are cumulative for each FY.

Number of OSHA-recordable injuries/illnesses by category of WSDOT worker

Highway maintenance workers

For this quarter, highway maintenance workers reported 49 injuries, 37% of all injuries agency-wide. This was 18 more than the previous quarter and two less than the same quarter in FY 2007. There were 142 days away from work associated with these injuries, and 24 were sprain/strain injuries.

Highway engineering workers

For the fourth quarter, highway engineering workers reported 25 injuries, 19% of all injuries agency-wide. This was 12 more than the preceding quarter and six more than the same period in FY 2007. There were 155 days away from work associated with these injuries, and nine were sprain/strain injuries.

Administrative staff

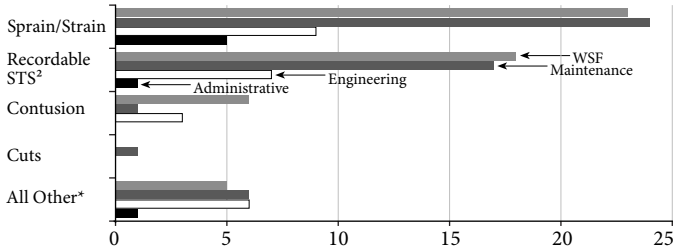
There were seven injuries to WSDOT administrative staff for the fourth quarter of FY 2008. This is four more injuries than the previous quarter and the same as FY 2007 fourth quarter; one of the injuries had two days away associated with it. The most frequently injured parts of the body were the back and shoulder with two injuries each.

Ferry system

Ferry workers reported 52 injuries, 39% of all injuries agency-wide for this quarter. This was 13 more than the preceding quarter and 13 more than the same period in FY 2007. There were 161 days away associated with these injuries, and 23 were sprain/strain injuries.

Number of injuries by type

April 1 through June 30, 2008 (fourth quarter, FY 2008)



Data Source: WSDOT Safety Office and Washington State Ferries (WSF).
* Calculated by subtracting the subtotals from the total reported injuries for the quarter.
Note: If no measure is shown, then no injuries of that type were reported by other WSDOT groups.

[1]OSHA-recordable Injuries and Illnesses is a standard measure that includes all related deaths and work related illnesses and injuries which result in death, loss of consciousness, days away from work, days of restricted work, or medical treatment beyond first aid. The U.S. Bureau of Labor Statistics provides the selected 2006 national average benchmark. One worker equals 2,000 hours per year.

[2]An OSHA recordable Standard Threshold Shift (STS) is if an employee's hearing test reveals that the employee experienced a work-related STS in hearing in one or both ears, and the employee's total hearing is 25 dB or more above audiometric zero (averaged at 2000, 3000 and 4000 Hz) in the same ear(s) as the STS, the case must be considered recordable.

Highway Safety: Annual Update

2007 Traffic fatality data

Traffic fatalities in Washington State

Keeping citizens safe on Washington State's highways is a top priority for WSDOT and the state. Washington State's Strategic Highway Safety Plan, Target Zero, outlines the goal to achieve zero traffic deaths and zero serious injuries by the year 2030 for all public roadways. This statewide, multi-agency plan sets aggressive reduction goals and objectives, identifies traffic safety needs, and provides an inventory of proven, effective strategies to meet them.

Traffic fatalities decrease 10.6% to 568 in 2007

Over the past decade, there has been a downward trend in traffic fatalities on Washington State's highways, streets, county roads, and other public roadways. Washington experienced decreases in fatalities in 2003 and 2004 respectively (see table), with a spike in 2005 to 654. However in 2006, the number of traffic fatalities decreased to 635 fatalities on Washington's public roads. This trend continued in 2007 with a 10.6% decrease from 2006. These reductions are due in part to new state laws, including the seat belt law, tougher impaired-driving laws, increased enforcement (including speed and DUI patrols), and significant investments in highway safety projects. These projects include cable median barriers, rumble strips, and intersection modifications. Although WSDOT has made progress, there were still 568 traffic fatalities in 2007.

Washington State traffic fatalities
2002-2007

Year	Fatalities
2002	659
2003	600
2004	567
2005	654
2006	635
2007	568

Data Source: Fatal Accident Reporting System (FARS).

Fatality rates per capita

Washington's average fatality rate per capita is about 10 traffic fatalities for every 100,000 people, which is below the national average rate of approximately 14 fatalities per 100,000 people. In 2004 and 2005, Washington ranked seventh in the nation for fewest traffic fatalities in relation to population. For 2006, the most recently available national data, Washington improved to fifth lowest in the nation.

Washington State reaches national milestone: 1.00 fatality rate per 100 million VMT

Traffic fatality rates are commonly expressed as deaths per 100 million vehicle miles traveled (VMT). The current national target, set in 2003 by then-U.S. Secretary of Transportation Norman Mineta, is to lower the fatality rate to 1.00 fatality per 100 million vehicle miles traveled by 2008. In 2007, Washington State hit the national target with a fatality rate of 1.00, down from 1.12 in 2006. In comparison, the last national fatality rate reported by the National Highway Traffic Safety Administration was 1.41 for 2006.[1]

[1]The national fatality rate for 2007 will not be available until early 2009.

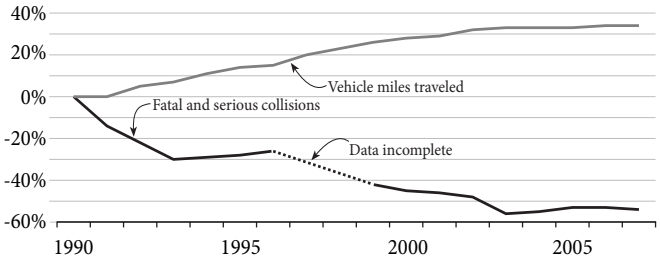
Highway Safety Highlights for 2007

In 2007, Washington saw a 10.6% decrease in traffic fatalities as compared to 2006, and met the national target rate of 1.00 fatalities per 100 million VMT.

With a 96.4% seat belt usage rate, Washington is second in the nation for highest seat belt usage.

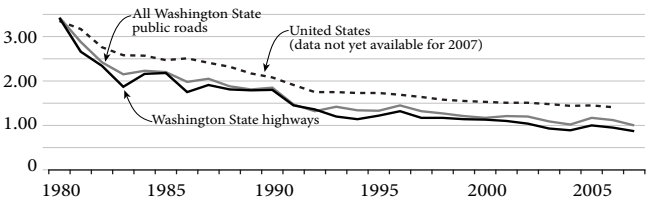
Washington has seen a 62% reduction of serious injury and fatal collisions in the median since the installation of cable median barriers.

Fatal and serious collisions compared to VMT on Washington highways (state routes and interstates)
Percent change between 1990-2007



Data Source: WSDOT-Transportation Data Office.

Traffic fatality rates in Washington compared to the national average
Fatalities per 100 million VMT (1980-2007)



Provided by: WSDOT Transportation Data Office (TDO).
Data Sources: U.S. Fatalities/VMT: NHTSA Traffic Safety Facts; WA Fatalities: FARS; State Highway Fatalities: WSDOT-TDO; WA VMT: WSDOT-TDO.

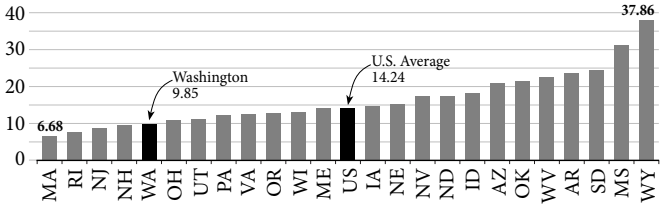
Highway Safety: Annual Update

Seat belt use

Over the past 17 years, the fatality rate on all Washington public roads (state, city and county) has decreased 46% from 1.85 in 1990 to 1.00 in 2007. For Washington State highways only during this same period, fatal and serious injury collisions declined 54%, from 2,491 collisions in 1990 to 1,157 in 2007 while the state highway VMT increased 34%.

Fatality rates in the U.S.

Traffic deaths per 100,000 people in 2006; select states only



Provided by: WSDOT-Traffic Data Office (TDO).
Data Source: National Highway Traffic Safety Administration (*Traffic Safety Facts 2006 book*).

Washington State second in the nation for seat belt usage

When used correctly, seat belts reduce the risk of injury and death by about 70%, according to local and national research (Harborview Injury Prevention and Research Center (2000), National Highway Traffic Safety Administration (NHTSA) (2001)). In 2007, Washington State was second in the national rankings for seat belt usage, with a 96.4% usage rate. This is the highest-ever annual compliance rate in Washington, slightly above the 2006 usage rate of 96.3%.

Percent of seat belt use nationally

Top six ranking states and territories for 2007

State	2007	2006	2005
Hawaii	97.6%	92.5%	95.3%
Washington	96.4%	96.3%	95.2%
Oregon	95.3%	94.1%	93.3%
California	94.6%	93.4%	92.5%
Michigan	93.7%	94.3%	92.9%
Maryland	93.1%	91.1%	91.1%

Data Source: Traffic Safety Facts: Research Note DOT HS 810 949 (US DOT NHTSA). 2005 and 2006 data provided for comparative purposes only.

Washington's seat belt usage rate has been above 90% since 2002, when the Click it or Ticket Seat Belt Project began. The Click it or Ticket program model calls for stepped up enforcement that puts officers in the field specifically to look for seat belt violations. This effort is accompanied by publicity warnings for motorists that the patrols are in effect. WSDOT supports this effort by displaying the seat belt message on lighted, variable message road signs on over 150 highways in the state.

There are several seat belt enforcement programs planned for the coming year. The nighttime seat belt emphasis will continue. WTSC is also planning to target teenage users, through high school and community-based programs. A third upcoming program will focus on usage of child car seats.

Washington State seat belt use rates

By type of road, 2007

Type of road	2007	2006	2005
Interstate Highways	97.6%	97.6%	96.9%
US Routes	95.1%	95.3%	93.9%
State Routes	95.0%	95.8%	93%
City Streets	93.6%	91.2%	92.5%
County Roads	92.0%	93.1%	91%

Data Source: Washington Traffic Safety Commission. 2005 and 2006 data provided for comparative purposes only.

Passenger cars and SUVs have the highest seat belt use rates in Washington

The Washington Traffic Safety Commission (WTSC) conducts an annual survey to learn detailed information about seat belt usage. Based on type of vehicle, the highest useage rates are among passenger cars and SUVs (both 97.0%), while pick-up trucks are lowest at 94.7%. Of all types of roads in Washington, interstates show the highest seat belt use rate (97.6%) and county roads the lowest (92.0%).

For more information on Washington State's seat belt usage, please visit: http://www.wtsc.wa.gov/programs/seatbelts.php.

Nighttime seat belt enforcement campaign results in over 5,000 citations

Observational surveys of seat belt use show that nighttime rates lag daytime rates by about six percentage points (NHTSA (2007)), and the nighttime traffic death rate is at least four times higher than the daytime rate (WTSC). WTSC found that seat belt use is lower at night because people think the police cannot spot non-users under nighttime lighting conditions.

In 2007, the WTSC received a pilot grant from the NHTSA to develop a program that improves nighttime compliance. This grant will fund additional seat belt usage enforcement in 2008 and 2009, and a research project examining the risk factors for nighttime non-seat belt wearers, to see if those factors differ from daytime non-seat belt wearers. As we reported in the June 2006 *Gray Notebook*, individuals not wearing a seatbelt

Centerline rumble strips/Cable median barriers

are often impaired—in a review of 1,176 fatalities where failure to wear a seatbelt was cited as a factor, 59% also involved drugs or alcohol. Impaired drivers will also be targeted through the nighttime enforcement campaign.

In May 2008, the Washington State Patrol (WSP) and 54 other law enforcement agencies participated in nighttime seat belt patrols at 343 locations throughout the state. The locations were chosen based on research showing where risky driving behavior was likely. Altogether, law enforcement officers wrote over 5,069 citations to adults for being unbuckled, and 257 to drivers for having unbuckled children.

Before and after look: centerline rumble strips

In 2006, there were 65 fatal collisions on state highways where "over centerline" was identified as a contributing circumstance. To reduce these collisions, WSDOT has installed centerline rumble strips on roughly 960 miles of Washington highways.

Rumble strips are grooves or rows of raised pavement markers placed perpendicular to the direction of travel to alert inattentive drivers. As a vehicle passes over the rumble strips, they produce noise and vibration, alerting the driver that they are drifting from their lane. Of the 960 highway miles with centerline rumble strips, WSDOT engineers have conducted preliminary evaluations of 518 miles that have been in place six months or longer.

Preliminary results indicate:

- 28% reduction in all fatal and serious injury collisions
- 26% reduction in all cross-centerline collisions
- 50% reduction in fatal and serious injuries resulting from cross-centerline collisions.

It is important to note that these reductions may not be entirely attributable to rumble strips, as other safety improvements may have been implemented under the same contract that installed the rumble strips.

Previous analyses of rumble strips have focused on cross-centerline collisions. As a next step, WSDOT will analyze all collision types—not just over-centerline—before and after the installation of centerline rumble strips. Although reducing over-centerline collisions is the expected benefit from centerline rumble strips, there may be other collisions types affected by rumble strips. This study will evaluate centerline rumble strips, shoulder rumble strips and the combination of centerline and shoulder rumble strips. It will also identify the contributing factors and site conditions where rumble strips are the most and least effective, and is expected to be available in six to nine months. The study's outcomes will guide future locations that would benefit from rumble strip installation.

Before and after look: cable median barriers

Cable median barriers are installed to reduce the risk of vehicles leaving the roadway and striking hard objects, steep slopes, bodies of water, or crossing into oncoming traffic. While it is not possible to prevent all crossover collisions or vehicles leaving the road, cable barriers on the roadside or in the median help reduce the risk of very severe collisions.

WSDOT installed 43 miles of cable median barrier in 2007, bringing the statewide total to 177 miles. WSDOT engineers analyzed the performance of the state's cable median barriers from 1995 through 2007 by reviewing nearly 2,550 collisions in the median. They found:

- A 62% reduction of serious injury and fatal collisions (24.8/year to 9.5/year after installation).
- Annual cross median collisions decreased 73%.

These reductions are significant: traffic volume grew 13% for the 177 miles of highway where WSDOT installed cable median barriers during this same time.

Collision rates after cable barrier installation
1995-2007

	Before	After	% change
Annual median collisions	223	561	+152%
Median collision rate (per 100 million VMT)	7.64	14.66	+92%
Annual serious injury median collisions	16.6	5.2	-69%
Annual fatal median collisions	8.2	4.4	-46%
Serious injury median collision rate (per 100 million VMT)	0.57	0.22	-61%
Fatal median collision rate (per 100 million VMT)	0.28	0.12	-57%

Data Source: WSDOT Design Office.

Collisions in the median routinely increase after any type of median barrier system is installed. An errant vehicle that may have been able to travel 30 or 40 feet into an open median before installation may only be able to travel 15 to 20 feet before it strikes a newly placed barrier. This creates a dilemma for WSDOT engineers in determining how to balance the benefits and risks of barriers. Median barriers reduce the risk of serious crossover collisions but also create new risks for drivers who

Cable median barriers

run off the road, as the barriers are more likely to be struck, possibly redirecting vehicles back into traffic.

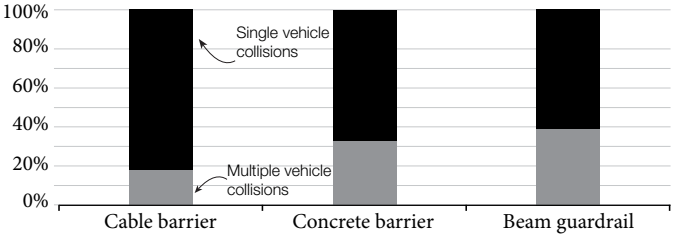
Cable barrier effect on cross-median incidents

	Before	After	% change
Annual cross-median incidents	54.4	14.9	-73%
Cross-median collision rate (per 100 million VMT)	1.85	0.58	-69%
Annual serious injury cross-median collisions	8.6	1.5	-83%
Annual fatal cross-median collisions	5.0	2.2	-56%

Data Source: WSDOT Design Office.

Cable barriers offer two advantages over concrete or beam guardrail barriers: vehicles have a lower likelihood of rebounding back into traffic, and injuries are usually less severe. Concrete barriers reduce cross-median collisions more effectively than cable, but result in more frequent injuries. Cable barriers are also effective in reducing rollover collisions in the median. Although cable barriers may not contain a vehicle that is already rolling, those highways with barriers experienced a 37% reduction in annual median rollover collisions. These collisions often result in severe injuries, as occupants are subject to a wider range of forces and impacts with their vehicle's components.

Barrier type and percent of collisions involving single or multiple vehicles



Data Source: WSDOT Design Office.

Number of injuries per collision

	Cable barrier	Concrete barrier	Beam guardrail
Single vehicle collisions	0.19	0.45	0.46
Multiple vehicle collisions	1.00	0.69	0.70
All collisions	0.33	0.53	0.55

Data Source: WSDOT Design Office.

Cable barrier effect on rollover collisions in medians

	Before	After	% change
Annual median rollover collisions	83.4	52.1	-37%
Median rollover collision rate (per 100 million VMT)	2.86	1.45	-49%
Annual serious injury median rollover collisions	8.4	2.6	-69%
Annual fatal median rollover collisions	2.8	0.7	-75%

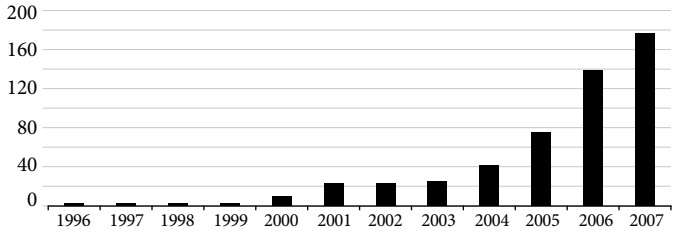
Data Source: WSDOT Design Office.

Next steps

The locations initially identified as potential sites for cable barrier installations on Washington highways are nearing completion. In 2002, WSDOT engineers identified approximately 169 miles of divided highways with full access control and medians up to 50 feet in width as focus areas for median crossover protection. Since that time, about 150 miles have been addressed (with cable barrier or another safety treatment), while another seven miles are currently under contract for cable barrier installation.[1]

Miles of cable median barrier on Washington State highways

Total number of miles by year, cumulative



Data Source: WSDOT Design Office.

The expanded use of cable barriers and advancements in technology provides WSDOT with additional data for research and data, which in turn present several questions and challenges. First is determining whether cable barrier has a role on other types of roads. Placement as a median barrier in other locations means having to consider routes with partial or modified access control and with wider medians. As current and future research projects conclude, there will likely be other challenges and enhanced guidance for cable barrier systems.

[1]Cable median barriers have been installed on other lane miles with wide medians based on a location's accident history.

Highway Safety: Annual Update

Cable median barriers

Comparing cable barriers to concrete barriers

Concrete barriers are slightly more effective than cable barriers at preventing vehicles from crossing the median and entering oncoming traffic in the opposing lane.

- 97.6% of collisions with concrete barriers did not reach the opposing lane, compared to 96.7% of collisions with high-tension cable barrier.

Cable barriers are more effective at keeping vehicles in the median without redirecting them back into their lane.

- Cable barriers contained 83% of collisions in the median, compared to only 38% of concrete barrier collisions.

A vehicle that strikes a concrete barrier is more likely to rebound back into traffic and create a secondary collision.

- WSDOT found that cable barrier collisions involve multiple vehicles 18% of the time, while concrete barriers involve multiple vehicles 33% of the time.

Cable barriers cost significantly less than concrete barriers. New barriers range between $200,000 - $425,000 per mile. Concrete barriers range between $650,000 -$2.7 million per mile—three to six times as much as cable barriers. Installing cable median barriers allows WSDOT to treat three to six times more highway miles than concrete, extending the safety benefit to even more drivers.

Can cable barriers be used interchangeably with concrete barriers?

Cable median barrier is typically used in areas with medians wider than 24 feet. The cables may flex as much as 12 feet when struck, allowing some vehicles to deflect the cable into opposing traffic if placed too close to the adjacent lanes. In narrower medians, concrete barrier is frequently used. Another factor is maintenance: cable median barriers require more maintenance. In stretches of road with narrow shoulders, concrete barriers may be used to minimize traffic exposure for WSDOT maintenance crews, who would otherwise be exposed to high-risk working conditions.

Are other states using cable barriers?

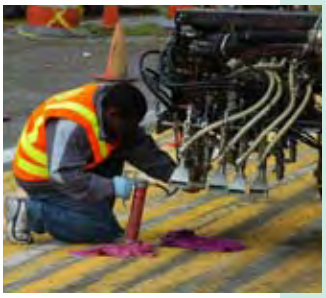
In 1997, WSDOT was one of four states that had installed cable median barriers. As of 2007, all but three states are either using cable median barriers or have installations pending, and states that have installed cables have seen a reduction in fatal and serious collisions. WSDOT continues to be recognized as a national leader in reducing fatal collisions and the cable barrier program is being studied by other states as a best practice.

Cable barriers contained 83% of collisions in the median, compared to only 38% of concrete barrier collisions.

WSDOT installed 43 miles of cable median barrier in 2007, bringing the statewide total to 177 miles.

This RV found itself tangled up in cable barrier, which kept it from both rebounding back into traffic and running through into oncoming traffic.

Preservation



Statewide policy goal:

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

WSDOT's business 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

Annual Update: Capital Facilities 10
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See also

Washington State Ferries 20
Quarterly Report on Capital Projects (Beige Pages) 42

Earlier preservation-related articles

Safety Rest Areas, GNB 29

Asset Management: Capital Facilities Annual Update

Facility conditions

Program overview

WSDOT's Capital Facilities Program maintains, operates, and is responsible for capital improvements at 946 department-owned buildings and structures located at 296 separate facilities across Washington State. The program also funds acquisition of land and construction of new or replacement facilities in both urban and remote locations. Sites include regional headquarters complexes, maintenance and operation shops, project engineering offices, laboratories, materials storage, communications sites, pits, quarries, and stockpile storage areas. The value of these assets is estimated at $1.2 billion.

These facilities accommodate 6,100 employees (excluding 2,200 Ferries staff), and provide storage and support for 6,500 vehicles and equipment valued at $220 million—all of which support the design, operation, maintenance, and preservation of the state highway system.

For the 2007-09 biennium, ending June 30, 2009, WSDOT's capital budget for new building design, construction, and property acquisition totals $6.3 million. The budget for operating and maintaining the buildings for the biennium is $34 million. The operating program provides funding for basic building operations, regularly scheduled maintenance, and repairs to keep buildings and sites in operational condition. The program also addresses minor environmental issues, Americans with Disabilities Act (ADA) compliance, Computer Aided Facilities Management System support, as well as renovation and replacement projects; it also pays statewide project and program staff.

Capital facilities highlights

Currently, 84% of facilities are in fair or better condition, compared to 85% in 2006.

In 2008, a $188.2 million backlog of deferred maintenance items exists, up from $135.8 million in 2006.

Only 58% of preventive maintenance activities were completed in 2007, compared to 73% in 2006 and 86% in 2005.

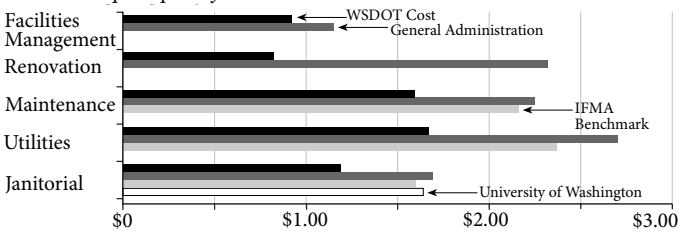
WSDOT is spending less on maintenance

WSDOT compares itself to the International Facilities Management Association's benchmark average, General Administration spending, and the University of Washington spending as a basis for benchmarking facility operating and maintenance costs.

As shown in the graph to the right, WSDOT spends less than all three entities in every area. This disparity is largely due to current budget constraints.

2007-2009 Biennium benchmarks for capital facilities

Annual cost per square foot



Data Source: WSDOT Facilities Office

Note: Data for the University of Washington was unavailable for all categories except janitorial; data for IFMA was available for all categories except renovation and facilities management.

Facility conditions

The condition of buildings and facility structures located on 279 complexes are evaluated once every two years by the region facility managers and their staff. These assessments are summarized to report the condition of WSDOT-owned facilities to the Office of Financial Management (as mandated by RCW 43.82.150).

In 2008, 84% of the total number of facilities were in fair or better condition: 16 facility complexes were in good condition, and 218 were in fair condition. This is down 1% from 2006 at 85%. The table at right shows complete, inventory condition information.

The region facility managers identify deficiencies in the building and site systems (e.g., roofs, air-handling equipment, pavement, and plumbing), then estimate the cost to correct those problems and create a list of preservation as well as improvement needs.

WSDOT facility conditions

2008 Evaluation

Condition	Facility count	Building count[1]
Good	16	55
Fair - High	45	118
Fair - Mid	83	217
Fair - Low	90	302
Poor	45	238
Total Facilities	279	930

Data Source: WSDOT Facilities Office.

[1]Building Count is the number of buildings assessed at each facility.

Note: Not all sites and buildings in the facilities inventory are assessed, such as sites without a building or buildings that are less than 100 square feet.

Asset Management:
Capital Facilities Annual Update

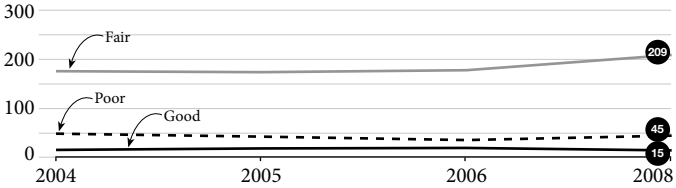
Facility maintenance, construction, and preservation

To address the backlog, deficiencies are reviewed, packaged into projects, and assigned to a category for project prioritization. The most critical projects are prioritized within the available funding for delivery within the current biennium.

For 2008, the backlog has grown to $188.2 million, up 38% from $135.8 million in 2006. Of the total backlog, $39.1 million are high priority projects and a 10 year plan to eliminate these has been developed. The total backlog is expected to continue growing as site and building systems age and inflation drives the cost of materials and labor up. Approximately 17% of buildings are major facilities more than 50 years old.

WSDOT facilities condition trend

Number of facilities, 2004-2008



Data Source: WSDOT Facilities Office.

Preventive maintenance program

Preventive maintenance is a schedule of planned maintenance actions to prevent breakdowns and system failures by replacing and servicing worn components before they fail. System failures are very costly because they are unanticipated. They also result in lost production due to system downtime.

The implementation of the facilities preventive maintenance program in the 2003-05 biennium allowed WSDOT to identify critical equipment and define their required maintenance schedules. Funding was then quantified and allocated for the predefined level of maintenance. In calendar year (CY) 2006, 73% of preventive maintenance tasks were completed (5,212 of 7,077 tasks). In CY 2007, this decreased to 58% (5,484 of 9,463 tasks). It should be noted that more tasks were completed in 2007, but WSDOT was faced with a larger inventory of tasks as project managers identified more facility components that needed maintenance during the year.

Preservation projects 2007-09

Preservation projects typically include roof, paving, HVAC, cranes, elevators, hoist, and ADA-required renovations. Projects are prioritized each biennium based on needs identified by the region facility managers during their condition assessment reviews. The table to the right reflects the total cost from all sources for selected projects from the 2007-09 biennium.

Select capital facility preservation projects

2007-2009 Biennium

Project	Project cost	Status
NWR - Northup structural study	$5,000	Feb-08
NWR - Corson TEF Shop crane repair	$56,000	Jul-08
NWR - Dayton Ave. elevator	$1,365,000	Aug-09
SCR - Union Gap freight elevator	$17,000	Jul-07
SWR - ACE elevator renovations	$852,000	Dec-08
HQ - Mottman Modular Office Bldg. repairs and spgrades	$10,000	Jun-09
NCR - Okanogan Maintenance Bldg. paint exterior	$48,000	Jun-09
NCR - Euclid Ave. PE office renovations	$64,000	Aug-08
NCR - Euclid Ave. site renovation	$57,000	May-09
OR Complex emergency repairs	$100,000	Jun-09
NCR - Wenatchee Ave. Region Office complex ESCO	$25,000	Jul-07
SCR - Lookout Mt. Tower and Bldg. replacement	$14,000	Jul-07
HQ - Ednal Lucille Goodrich Bldg. cell repeater	$20,000	Jul-07
HQ - Tumwater Emergency Response Bldg.	$87,000	Jul-07
HQ - Transportation Bldg. HVAC Energy Saving Company	$306,000	Jan-08
SCR - Union Gap Office remodel	$135,000	Jul-08

Data Source: WSDOT Facilities Office.

Listed below are the priority categories:

- Safety/code compliance: Hazardous site or building conditions that jeopardize the health and safety of the users, or are necessary to address conditions that do not comply with local, state or federal regulations.
- Environmental: Site or building conditions not in compliance with local, state or federal environmental regulations.
- Building preservation: Prevention or correction of failed building system to prevent further facility deterioration.
- Utilities: Site or building water, sewer and electrical service deficiencies.
- Mechanical systems and energy conservation: Failing or inefficient HVAC, electrical, and plumbing systems.
- Security: Site or building security deficiencies.
- Site: Site condition requiring paving or drainage corrections or additions.

Asset Management:
Capital Facilities Annual Update

Facility maintenance, construction, and preservation

Stewardship

Capital facilities construction projects 2007-09

Wenatchee Administrative Building equivalent value exchange

As the final phase of a staged relocation of the North Central Region Complex, WSDOT proposes to exchange the North Wenatchee Avenue property and two other properties for construction of a new administrative building, which will also house project engineering functions, at the Euclid Avenue Facility. WSDOT is studying the feasibility of the project.

Vancouver light industrial

As the final phase of a staged relocation of the 1930s-vintage Vancouver Regional Office Complex, this project will move the remaining functions from the Main Street facility to a location that is central to the areas of operations and zoned for light industrial activities. Buildings will be constructed to house the region-wide and area maintenance crews and their equipment. Region-wide functions consist of striping, signals, bridge, large signs and facilities maintenance. Area maintenance crews are responsible for highway maintenance activities on sections of I-5, I-205, SR 14 and SR 500 through SR 503. Site selection is under way and acquisition is planned for April 2009.

Tri Cities Area maintenance facility

A new facility will be constructed to replace the existing antiquated and undersized Pasco Area Maintenance Facility that supports the highway maintenance activities on sections of I-82, I-182, U.S. 395, U.S. 12, SR 124, SR 240, and SR 397. A site that is more central to operations and zoned for light industrial functions is currently being selected and acquisition is planned for May 2009.

The current Pasco administration and shop building with boarded up doors and garages. The facility was originally built in 1939 and has had minor renovations and additions over the years.

Other program highlights

ADA Transition Plan update

The Federal Highway Administration (FHWA) has mandated that WSDOT complete an update to the 1994 ADA Transition Plan by June 30, 2008. WSDOT's Facilities Office and Office of Equal Opportunity (OEO) are working together to update the plan.

The OEO has arranged for state, Independent Living Centers to have their consumers conduct ADA-compliance assessments at WSDOT facilities. The findings will be documented and addressed in the transition plan.

Sustainability assessment

Last biennium, WSDOT Facilities Office completed two projects that contributed to energy efficiency. One included a relamping project at the Eastern Region Headquarters, and a second replaced and upgraded the HVAC system for the Transportation Building data center. Both projects will help realize cost savings from reduced energy consumption.

Additionally, WSDOT Facilities Office is providing data and technical support to the agency's climate control and sustainability initiatives, including:

- Enhanced tracking of statewide energy consumption in response to the Governor's Executive Orders 05-01 and 04-01;
- 2007 and future greenhouse gas emissions in response to HB 2815; and
- Analysis and response to a draft Governor's Executive Order on "green buildings" for state facilities.

The WSDOT HQ Facilities Office continues to look for energy-saving opportunities within budget allowances, opportunities to reduce facility energy consumption, and better ways to measure energy performance.

OFM Needs study

WSDOT Facilities Office is currently working with the Office of Financial Management (OFM) to provide facilities needs information for long-range planning and management (see RCW 43.82.055).

Asset Management: Bridge Assessment Annual Update

Bridge Preservation Highlights:

- For FY 2008, 97% of WSDOT's bridges are in good or fair condition.
- WSDOT's bridge inventory increased from 3,559 to 3,607 total structures between FY 2007 and FY 2008.
- As of June 30, 2008, 3% of WSDOT bridges over 20 feet in length have federal sufficiency ratings of less than 50.
- Currently, 372 of 922 bridges in the Seismic Retrofit Program have been fully or partially retrofitted, or replaced.
- In 2007, 27 state owned bridges were damaged by over-height trucks.

Sunrise over the Hood Canal Bridge

WSDOT is responsible for managing over 3,500 bridges and structures. WSDOT manages all state-owned bridges using the Washington State Bridge Inventory System, which tracks the condition of all bridges statewide. It is WSDOT policy that the structural condition of 95% of its bridges rate fair or better, meaning that all primary structural elements are sound. The condition rating is based on the structural sufficiency standards established in the FHWA *Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges* (NBIS). This rating relates to the evaluation of bridge superstructure, deck, substructure, structural adequacy, and waterway adequacy. For more information on FHWA and WSDOT bridge condition ratings, please see the June 30, 2007 *Gray Notebook*, pp. 58-64.

WSDOT's bridge preservation program consists of the following four main program elements that ensure that state-owned bridges remain in safe and operational condition:

- **Inspection** – Inspect one-half of all bridges every year.
- **Replacements and rehabilitations** – Repair bridges with deteriorated bridge elements such as concrete columns or floating bridge anchor cables. Rehabilitate mechanical and electrical operating systems on moveable bridges. Replace bridges as needed.
- **Preservation** – Extend bridge service life by repainting steel structures; also repair and overlay concrete bridge decks.
- **Risk reduction** – Seismic retrofit of bridges and scour repair of bridge piers in rivers. This work provides a proactive approach to minimizing damage to bridges due to earthquake and high water events.

Bridge condition update: 97% of WSDOT bridges in good or fair condition

Each year, WSDOT reports on the condition of its bridges to the Office of Financial Management in accordance with reporting standards set by the Governmental Accounting Standards Board (GASB). The Governor's Government Management Accountability and Performance (GMAP) goal is to maintain 97% of all bridges statewide at a condition rating of good or satisfactory (fair). This measure is consistent with data provided in the Comprehensive Annual Financial Report (CAFR), which groups together the number of bridges, ferry terminal structures, and culverts. For FY 2008, 88% of WSDOT bridges were in good condition, and 9% were in fair condition. Roughly 3% of bridge structures (2.99%) had a condition rating of poor, a slight increase compared to FY 2007 (2.60%). No bridge currently rated as "poor" is unsafe for public travel.

Bridge structural condition ratings

Condition ratings by fiscal year (based on the number of bridges)

Category	Description	2002	2003	2004	2005	2006	2007	2008
Good	A range from no problems to some minor deterioration of structural elements.	87%	86%	87%	89%	88%	88%	88%
Fair	All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, cracking, spalling, or scour.	10%	11%	10%	9%	9%	9%	9%
Poor	Advanced deficiencies such as section loss, deterioration, cracking, spalling, scour, or seriously affected primary structural components. Bridges rated in poor condition may have posted truck weight restrictions.	3%	3%	3%	2%	3%	3%	3%

Source: WSDOT Bridge Office. Data as of June 30 of each calendar year

Asset Management: Bridge Assessment Annual Update

Bridge Replacement and Rehabilitation

Bridge inventory: changes from 2007 to 2008

The number of vehicular bridges over 20 feet in length has increased from 2,990 to 2,995 since July 2007. This increase is due to new bridges being built and older bridges being replaced within the highway system. In addition, the number of bridge structures less than 20 feet long has increased from 325 to 336 primarily due to the inclusion of more of these structures in the inventory. The numbers for the ferry terminal structures has also increased mainly due to an increase in the number of parts at each terminal location in the inventory. WSDOT has 21 ferry terminal locations but for inspection purposes 54 structures that carry vehicles and 17 that do not carry vehicles have been identified in the inventory.

Inventory of WSDOT bridge structures

As of June 30, 2008	No. of Structures	Square Footage
Vehicular bridges greater than 20 feet in length[1]	2,995	44,418,060
Structures less than 20 feet in length	336	n/a
Border bridges (maintained by border state)	6	n/a
Culverts greater than 20 feet in length	91	n/a
Pedestrian structures	63	295,690
Tunnels and lids	39	n/a
Ferry terminal structures[2]	71	711,704
Buildings (I-5 Convention Center)	1	n/a
Railroad bridges	5	n/a
Total of all structures	3,607	45,425,454

Source: WSDOT Bridge Office

[1]The Comprehensive Annual Financial Report (CAFR) reports 3,140 which includes culverts and passenger ferry terminals.

[2]CAFR reports only the number of Ferry Terminal Structures that carry vehicular traffic only.

Replacement and rehabilitation

The bridge preservation program includes funding for the replacement and rehabilitation of selected bridges. The 2005 TPA includes funding for the replacement of 25 bridges and the SR 104 Hood Canal bridge. There are an additional 33 bridges identified and prioritized for replacement or rehabilitation using pre-existing funding. The bridge replacement budget for the June 2007-2009 biennium is $245.4 million with the Hood Canal bridge having the largest single project budget at $141.5 million. Funds from the 2005 TPA for these bridge replacements totaled $41.5 million excluding the Hood Canal bridge.

In order to qualify for federal funds for replacement or rehabilitation a bridge must first have a sufficiency rating less than 50 and be classified as Structurally Deficient (SD) or Functionally Obsolete (FO). To select candidates for replacement and rehabilitation WSDOT considers only those bridges with a sufficiency rating less than 50 and classified as SD. As of June 30, 2008, 90 bridges over 20 feet in length meet these criteria (roughly 3% of the total inventory of bridges over 20 feet). The current priority list is obtained from this group of candidates. The current list of 33 bridges were prioritized based on their traffic volumes, structural condition, and any load restrictions in place.

FHWA bridge ratings and federal funding

The Federal Highway Administration (FHWA) requires all state transportation agencies to report annual state, city, and county data concerning the structural condition, functional adequacy, and essentiality for public use of all bridges statewide. The FHWA uses these data to calculate sufficiency ratings for bridges and to determine if a bridge is Structurally Deficient (SD) and/or Functionally Obsolete (FO). Sufficiency ratings and SD/FO determinations are used to help allocate federal bridge replacement and rehabilitation funding to states. In 2007, of 7,717 Washington state, city, and county owned bridges reported statewide, 415 (5%) were classified as SD and 1,911 (25%) were classified as FO. As of June 2008, 142 WSDOT bridges were classified as SD.

Sufficiency rating: This is a qualitative value that measures the bridge's relative capability to serve its intended purpose. The value is generated from a formula that uses inspection data required by the NBIS program. A sufficiency rating will vary from 0 to 100, with a smaller value indicating a lower sufficiency and therefore a higher need of either repair or replacement.

Structurally Deficient (SD): The bridge is in a structurally deteriorated condition and does not adequately carry its intended traffic loads.

Functionally Obsolete (FO): The bridge does not have adequate approach alignment, geometry or clearance to meet the intended traffic needs and is below accepted design standards.

Percent of all bridges classified as structurally deficient [1]

All states, District of Columbia, and Puerto Rico

Rank	State	No. of bridges	Number SD	Percent SD
1	DELAWARE	857	20	2%
2	ARIZONA	7,389	187	3%
3	FLORIDA	11,666	306	3%
4	NEVADA	1,704	48	3%
5	TEXAS	50,272	2,186	4%
6	**WASHINGTON**	**7,717**	**415**	**5%**
11	OREGON	7,261	560	8%
16	MINNESOTA	13,068	1,158	9%
52	PENNSYLVANIA	22,325	5,588	25%
TOTAL		**600,022**	**72,274**	**12%**

Source: FHWA (2007) [1] Includes all state, city, and county bridges reported to NBIS.

Asset Management: Bridge Assessment Annual Update

Bridge Replacement and Rehabilitation

WSDOT constructed 109 bridges over 20 feet in length that carry vehicular traffic from 2002-2007, 22 of these were funded through the bridge preservation program. On average WSDOT builds 22 bridges per year, with just over four per year built under the bridge preservation program.

Bridge replacement projects:

- U.S. 97 Columbia River Biggs Rapids Bridge (near Goldendale, Klickitat) Project details: http://www.wsdot.wa.gov/projects/us97/biggsbridge
- SR 542 Boulder Creek Bridge (near Glacier, Whatcom) Project details: http://www.wsdot.wa.gov/Projects/SR542/BoulderCreekBridgeReplacement/
- U.S. 101 Walker Creek Bridge (near Brinnon, Jefferson)
- U.S. 101 West Fork Hoquiam River Bridge at milepost 98.13 (near Humptulips, Grays Harbor)
- U.S. 101 West Fork Hoquiam River Bridge at milepost 99.49 (near Humptulips, Grays Harbor) Project details: http://www.wsdot.wa.gov/Projects/US101/ForkHoquiam RiverBridge/
- U.S. 101 Purdy Creek Bridge (near Shelton, Mason) Project details: http://www.wsdot.wa.gov/Projects/US101/PurdyCreekBridge/
- SR 6 South Fork Chehalis River Bridge (near Adna, Lewis) Project details: http://www.wsdot.wa.gov/Projects/SR6/ChehalisRiverBridge/
- U.S. 12 Tieton River West Crossing (near Naches, Yakima) Project details: http://www.wsdot.wa.gov/Projects/US12/TietonRiverBridge/default.htm

Major bridge repair

The major repair category of the bridge preservation program includes corrective work that cannot be accomplished within typical maintenance programs and must be done through contracts. This work addresses a specific bridge element in need of repair and is not intended to upgrade all deficiencies to current standards. The most common types of repairs include: expansion joint replacement, concrete column repair , floating bridge anchor cable replacement, bridge rail replacement. A prioritized list of major repair needs for bridges is developed each biennium. If an unexpected problem arises on a bridge that needs to be repaired as soon as possible an emergency contract would be used.

Major bridge repair projects include the following:

- U.S. 101 Mud Bay bridges - Column repair (near Olympia, Thurston) Project details: http://www.wsdot.wa.gov/Projects/US101/MudBayBridges/
- SR 153 Methow River Bridges - Rail replacement (near Methow, Okanogan) Project details: http://www.wsdot.wa.gov/Regions/NorthCentral/projects/SR153MethowRiverBridge/
- I-5 McAllister Creek Bridge - Column repair (Thurston)
- I-90 Homer M. Hadley Floating Bridge – Expansion joints (near Mercer Island, King) Project details: http://www.wsdot.wa.gov/Projects/I90/HomerHadleyBridgeRepair/
- U.S. 12 Touchet River Bridge - Concrete apron repair (near Touchet, Walla Walla)
- U.S. 2 Deep Creek Bridge - Rail replacement (near Spokane, Spokane) Project Details: http://www.wsdot.wa.gov/Projects/US2/DeepCreekBridge/
- I-5 North Fork Lewis River Bridge southbound – Expansion joint replacement (near La Center, Clark)
- I-5 Nisqually River Bridge northbound – steel truss rehabilitation (near Olympia, Thurston)

Movable bridge repair

WSDOT owns and operates 17 movable bridges on state highways, and shares funding responsibility for the maintenance and operations of three additional movable span bridges with Oregon and Idaho. Twelve of these bridges are over 50 years old, and only two are less than 40 years of age. A program to update the antiquated mechanical, electrical, and control operating systems of the WSDOT's movable span bridges was approved by the legislature in 1993.

Movable bridge repairs include corrective work on electrical and mechanical systems that cannot be accomplished within the typical maintenance program. A prioritized list of movable bridge repair needs is developed each biennium.

The U.S. 101 Simpson Avenue Bridge near Hoquiam in Grays Harbor County was recently completed in the spring of 2008. The $9.2 million project rehabilitated the electrical and mechanical systems on the bridge, which was built in 1928.

Local bridge conditions

Of the 7,717 Washington State bridges, 4,800 belong to local governments. More than 90% of these county and city bridges are currently in fair or good structural condition. WSDOT is responsible for the training and certification of local agency bridge inspectors. WSDOT monitors condition ratings to ensure federal bridge funds are used efficiently based on structural condition and the best long-term financial investment for the replacement, rehabilitation, or preventative maintenance of local agency bridges. For more information on the condition of city and county owned bridges, please see the Attainment Report, p. 10 at: http://www.ofm.wa.gov/performance/trans_progress_report_draft012908.pdf.

Asset Management: Bridge Assessment Annual Update

Bridge Preservation

Bridge preservation

Preservation is a statewide goal to keep transportation facilities in sound operational condition. The objective is to achieve the best long term financial investment for a transportation facility and prevent failure of the existing system. In keeping with this, WSDOT's bridge preservation program aims to extend bridge service life through strategies including the repainting of steel structures and the repair and overlay of bridge decks.

Steel bridge painting

Protective paint coatings on steel bridge elements are essential to prevent corrosion that can reduce the steel's capacity to carry truck loads. Bridge painting can become a major project with significant cost due to the size of the steel structure and the complexity of safety, environmental, and containment system requirements. WSDOT owns 270 existing painted steel bridges that require routine painting. Washington pays equal shares to repaint seven steel bridges over the Columbia River, four of which are owned and maintained by Oregon, and one over the Snake River in Clarkston, owned and maintained by Idaho. The Tacoma Narrows Bridge is painted by maintenance personnel at the bridge. Twenty-six steel bridges that are scheduled for replacement will not be painted again before replacement.

Bridge inspection data is used to determine the condition of the paint coatings on steel bridges. Inspectors use three condition states to rate the paint (see photos below). If a bridge has 2% or greater steel area in condition state 3 then it is programmed for repainting. Previously painted steel bridges typically need to be repainted every 15 to 20 years. New steel bridges can last 30+ years before the original paint system needs to be replaced. Currently, there are 49 steel truss or arch-type bridges with paint more than 15 years old, and 70 steel girder or box-type bridges with paint more than 20 years old. The oldest documented paint system is 37 years, on three bridges built in 1971.

There are two basic options to repaint a steel bridge either overcoat the existing paint or remove all the old paint to bare metal and then apply a new paint coating. The cost to overcoat is the least expensive about 10% of a bridge's replacement cost. The cost to remove the existing paint down to bare metal is 2 to 3 times more than overcoating or typically 20-30% of the bridge's replacement cost. The decision to overcoat or to specify full removal of the existing paint is dependent on the condition of the existing paint coating. WSDOT uses a target of 2-5% paint failure to determine when a bridge should be repainted. Nationally, it has been accepted that if 20% or more of the existing paint coating has failed with evidence of corrosion then full removal is recommended.

There are 60 WSDOT bridges identified for repainting based on their condition. The cost to repaint these bridges is currently estimated to be $170.5 million. This estimate could increase if more bridges need full paint removal instead of an overcoat. The current funding needed over the next 10 years is $18 million in the 2009-11 biennium and then $38 million in the following four biennia.

There is currently one bridge under contract, SR 105 Johns River Bridge (near Westport, Grays Harbor). Work will begin in the summer of 2008 which includes removing all the paint and applying a new three-coat system.

Other bridge painting projects scheduled to begin prior to July 2009 include:

- U.S. 101 Columbia River Astoria Bridge (North Spans in Washington)
- SR 433 Columbia River Lewis & Clark Bridge (near Longview, Cowlitz,)
- SR 542 North Fork Nooksack River (near Glacier, Whatcom)

Bridge paint condition states

Condition State 1: Paint is in good condition.

Condition State 2: Paint is failing but no steel exposure.

Condition State 3: Paint has failed with steel exposure.

Asset Management: Bridge Assessment Annual Update

Bridge Preservation / Bridge Risk Reduction

The Lewis and Clark Bridge is the only crossing from Washington to Oregon between Astoria and Portland.

Bridge deck protection

Nationally, concrete bridge deck deterioration (from corrosion of the reinforcing steel) is the single biggest bridge preservation issue. WSDOT has been working since the early 1980's on a systematic program to prevent concrete deck deterioration by using corrosion resistant epoxy-coated rebar in new bridges and by the repair of deterioration and traffic-related wear in existing bridges with new durable protective overlays. WSDOT inspects and performs concrete deck testing to determine which bridges require repair and overlay through a construction contract. A threshold criteria of 2.5% deterioration has been established to determine when a bridge without an existing overlay should be programmed for a future contract. Statewide, there are 57 bridges that have been identified for future repair and overlay by contract. WSDOT is able to address 7 to 10 bridges per biennium based on current funding levels for this work.

For the 2007-2009 biennium, WSDOT has been given $20.8 million to repair and overlay 14 bridges. The 2005 Transportation Partnership Account provided $15.4 million for the I-5/Spokane Street viaduct in Seattle that was completed in 2007. Currently, there are two bridges under construction, and there are four bridges scheduled to go to contract in the fall of 2008.

Bridge deck protection projects under construction or scheduled to begin before July 2009 include:

- SR 153 Methow River Bridges deck repair (Okanogan) http://www.wsdot.wa.gov/Regions/NorthCentral/projects/SR153MethowRiverBridge/
- U.S. 97 Okanogan River Bridge deck repair (South of Tonasket - Okanogan) http://www.wsdot.wa.gov/Projects/US97/STonasketBridgeDeck/
- I-90/Medical Lake Rd. Bridge deck repair (Spokane)
- SR 26/Palouse River Bridge - deck repair (Whitman)

Safety

Bridge Risk Reduction

Earthquakes and high-water events pose substantial risks to transportation infrastructure in Washington State. As part of its bridge preservation program, WSDOT uses seismic retrofit of bridges and scour repair to mitigate the potential risks associated with these events.

Seismic retrofit

The purpose of the bridge seismic retrofit program is to minimize the risk of catastrophic failures from future earthquakes through seismic retrofitting. In the early 1990's, WSDOT engineers reviewed the details on all state owned bridges in western Washington to determine which bridges need to be retrofitted. WSDOT initially grouped the deficiencies by type: 1) simple spans with limited support width, 2) Major bridges, 3) Bridges with single column supports, and 4) bridges with multiple columns. The first three groups were given the highest priority based on their higher risk. With these three groups nearing completion, the priority will be focused on the remaining bridges with multiple columns in the Puget Sound Region.

New seismic criteria was adopted by AASHTO for bridges in January 2008. The new criteria is based on a 1,000 year earthquake return interval verses the previous code that used a 475 year return interval.

The seismic retrofit program identified 922 bridge structures in need of retrofit or replacement. Of these, 217 have been completely retrofitted, 153 have been partially retrofitted, with an additional 19 under contract. In addition, two bridges have been replaced, and 13 are planned for replacement. As of June 30, 2008, 506 bridges have had no retrofit work done. Additional analysis revealed that 12 of these bridges do not require retrofit.

WSDOT will retrofit 15 bridges on or near I-5 in South Seattle and on SR 900 in Renton to withstand major earthquakes. Crews will install steel jackets to reinforce the bridge columns.

Asset Management: Bridge Assessment Annual Update

Bridge Risk Reduction

The 2005 Transportation Partnership Account provided $87 million to complete projects for 172 high and moderate risk bridges in the Puget Sound area. This work has begun and is scheduled to be complete within 8 years. The planned 2007-09 biennium budget allocates $39.2 million for the seismic retrofit of bridges. This includes $27.2 million using TPA funds and nearly $12 million using existing preservation funding. The cost to retrofit all the remaining bridges is estimated to be nearly $500 million.

WSDOT has collaborated with Federal, State and Local Agencies to determine how the remaining seismic retrofits should be prioritized. The conclusion was to focus on the bridges on I-5 from the McCord Air Force Base near Lakewood to the I-5 and I-90 interchange in Seattle. Retrofitting these bridges along I-5 will provide a systematic plan that will begin to provide a earthquake resilient route that could be used to speed a recovery following a major seismic event.

Seismic bridge retrofit projects under contract:

- I-5 South Seattle vicinity seismic retrofits (near Seattle, King) http://www.wsdot.wa.gov/Projects/I5/SSeattleSeismic/
- I-405 bridges, Renton vicinity, 4 bridges (King)
- I-5 / Burlington vicinity bridge seismic retrofits, 2 bridges (Snohomish)

Seismic bridge projects under design:

- I-90 / Richards Rd to Winery Rd mileposts 9.88 to 26.87, 19 bridges originally included, 16 bridges require retrofit (King)
- I-90 and I-5 to 12th Avenue South, 3 bridges (King)
- I-5 Central King to South Snohomish, 26 bridges originally included, 19 bridges require retrofit (King, Snohomish)
- SR 99 Aurora Avenue George Washington Memorial Bridge (Seattle, King)
- I-5 236th Street SW and 228th Street SW, 2 bridges originally included, 1 bridge requires retrofit (King)
- US 12 / 3rd street Elma vicinity, 1 bridge, engineering analysis determined retrofit was not required.

Scour mitigation

"Scour" is defined as the eroding away of the stream bed material from under bridge foundations. Scour generally happens when a river is experiencing high water flows. Nationally as in Washington State, more bridges have collapsed from the scour of bridge foundations than from any other cause. Each biennium, a list of bridges requiring scour mitigation is developed, including the type of scour repair needed for each bridge. During the preliminary engineering phase of a project, WSDOT coordinates with the Washington State Department of Fish and Wildlife and Department of Ecology to obtain permits to perform any in-water-work. Most repairs consist of adding rock "rip-rap" around bridge pier foundations to replace streambed material that has been removed over time.

Current scour mitigation projects include the following:

- U.S. 101 Humptulips River (near Humptulips, Grays Harbor)
- SR 20 Coal Creek (near Sedro-Woolley, Skagit
- SR 9 Thunder Creek (near Sedro-Woolley, Skagit)

Over-height trucks pose increasing risk for WSDOT bridges

Bridge damage caused by over-height truck impacts is a significant issue on state highways which can create disruptions to the system and potentially high financial impacts. When a bridge is impacted by an over-height truck a request is made to the Bridge and Structures Office to send engineers to the site to assess the damage, determine the type of repairs needed, and establish if the bridge needs to have load restrictions in order to remain open to the public. Maintenance crews are on site to set up traffic control and perform any emergency repairs soon after the damage is reported. WSDOT has set up procedures to temporarily repair damaged prestress girders and determine if full girder replacement is needed.

In 2007, 27 bridges were damaged with two bridges being hit multiple times. In 2007 and 2008, contracts were advertised and awarded to replace prestress girders on four bridges. Recently, the SR 11 Chuckanut Drive bridge over I-5 was hit in July 2008 and will require girder replacement by contract in 2009.

On 10/31/2007 a truck pulling an oversized load on I-90 struck an overpass near Easton. The overpass was damaged beyond repair and was removed on 11/1/2007. A new bridge was completed on 12/15/2007.

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.

Moving Washington

Moving Washington is WSDOT's three-part strategy to fight congestion on the state transportation system, make trips more reliable and safe, and improve overall traffic flow. Moving Washington strategies include:

Managing demand: *WSDOT is reducing demand on the system by providing citizens with options such as HOV lanes, Commute Trip Reduction programs, and Traveler Information.*

Operating efficiently: *WSDOT is making the system operate more efficiently by using tools such as ramp meters, synchronized traffic signals, and incident response trucks to clear traffic accidents.*

Adding capacity strategically: *WSDOT is delivering the largest transportation capital construction program in our state's history. Capital projects improve safety by relieving chokepoints that cause recurring congestion.*

More information on Moving Washington is available at:
http://www.wsdot.wa.gov/Congestion/

In this section

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Semi-annual Update: Travel Information 32

See also

Quarterly Report on Capital Projects (Beige Pages) 42

Earlier mobility-related articles

Freight and CVISN, GNB 29

Washington State Ferries Quarterly Update

Ridership & Revenue

Washington State Ferries Highlights

- Farebox revenue was down 1.9% for the quarter, and down 3.4% for the fiscal year.
- Ridership is down 7.3% for the quarter, and down 5% for the fiscal year.
- Customer complaints averaged 3.5 per 100,000 riders - a 60% reduction over last quarter.
- The average number of missed trips for the ferry system shrank to an average of 2.2 per regular commuter.
- Overall on-time performance is 91% for the quarter.
- All three of WSF's preservation programs, the vessel, terminal, and emergency expenditures programs, were over-spending above planned expenditures for the quarter.
- Twelve vessel preservation activities were completed this quarter, bringing the biennial total to 25 systems preserved.
- 86% of the ferry system's 20 terminals have components in fair or better condition.

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. Currently, it is the largest operating auto-ferry fleet in the world, carrying over 11 million vehicles and 24 million passengers each year.

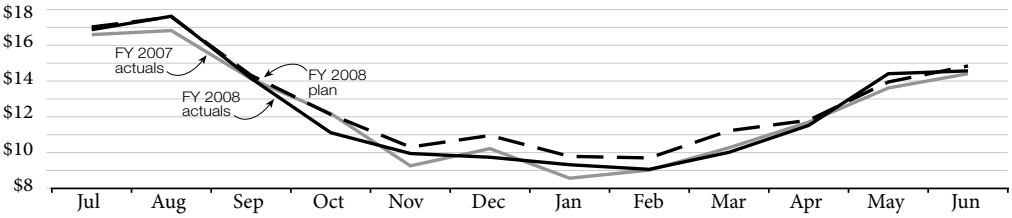
Stewardship

Farebox revenue below forecasted levels

Farebox revenue was only 1.9% below projected levels for the quarter. Revenues have been below projected levels through fiscal year 2008. Farebox revenue was $40.5 million during the quarter, which is $103,605 less than projected revenue of $40.6 million. However, farebox revenue for the fourth quarter was $156,000 more than the same quarter a year ago. At the end of fiscal year 2008, WSF total farebox revenue was $148.4 million which was 3.4% below projected levels of $153.6 million for the fiscal year ending June 30, 2008. WSF took in an additional $1.5 million in the 2008 fiscal year compared with the 2007 fiscal year.

WSF farebox revenues by month

Actual revenue vs. planned revenue for fiscal year 2008; Dollars in millions



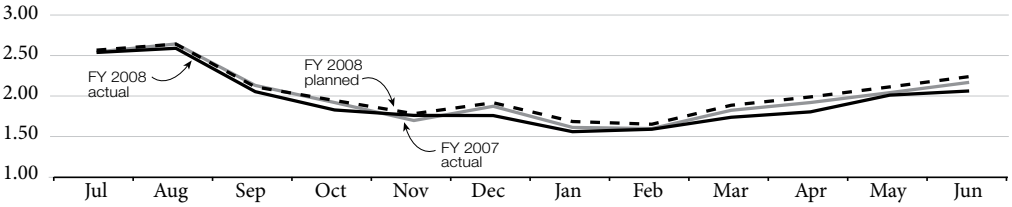
Data Source: WSDOT Ferry System.

Ridership levels remain below expected levels

For the fourth fiscal quarter, 5.88 million persons traveled on the ferry system. For the quarter, WSF ridership was 7.3% below projected levels, or 464,000 fewer riders. At the end of fiscal year 2008, 23.3 million people rode the ferry system, which was 5% lower then the total expected ridership levels for fiscal year 2008 (24.5 million riders expected). Some of the decline in fiscal year ridership can be attributed primarily to higher fuel prices for travelers, who have reduced discretionary travel in western Washington. Both in-state and out-of-state holiday-travelers make up an important portion of ridership, particularly in the late spring (fourth fiscal quarter).

WSF ridership by month for fiscal year 2008

Per fiscal year 2008, July 1, 2007 - June 30, 2008; Numbers in millions



Data Source: WSDOT Ferry System.

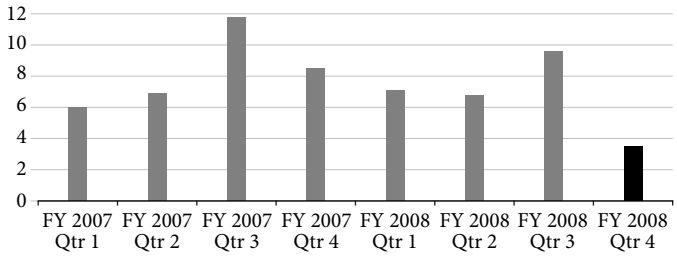
Washington State Ferries
Quarterly Update

Customer Service

Customer feedback improves with 60% fewer complaints than last quarter

In the fourth fiscal quarter, WSF had an average of 3.5 complaints per 100,000 customers. There were 208 complaints made during the quarter. This is an decrease of 60% over the previous quarter (9.6 complaints per 100,000 customers) and a 59% decrease from the same quarter one year ago (8.5 complaints per 100,000 customers).

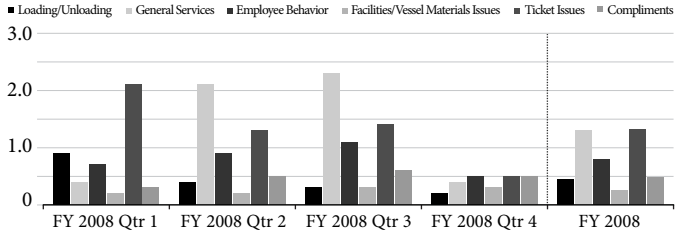
WSF average number of complaints per 100,000 customers



Data Source: WSDOT Ferry System.
Note: Beginning FY 2008 Quarter 4, WSDOT added four new complaint categories to its inventory that were not featured in previous quarters' calculations. They are 'Advertising', 'Vendors', 'Noise', and 'Reservations'.

The overall decrease in complaints was attributed to fewer customers expressing concerns about WSF's services (classified as 'General Service' complaints), ticketing issues, on-time performance, and safety issues. There was a 93% reduction in complaints related to WSF's schedule this quarter, a significant improvement over the third fiscal quarter, which was affected by reduced service on the Fauntleroy – Vashon – Southworth route from January 14th to February 4th. There were also 43% fewer complaints related to WSF employee behavior.

WSF common complaints per 100,000 customers



Data Source: WSDOT Ferry System.

For the fourth fiscal quarter, WSF created four new specific complaint categories to track customer satisfaction. They are advertising, vendors, noise, and reservations. Because of expanded use of advertising and commercial vendors on select vessels, WSF will more closely monitor these factors to better evaluate its partnership programs. Overall, WSF monitors customer complaints, comments, and compliments in order to evaluate its services 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 against other transportation service providers.

WSF begins new advertising program

WSF began a partnership with a Seattle-based company in December 2007 to develop advertising on-board ferry vessel and in the terminals marketing targeted goods and services for ferry riders. WSF has been carefully exploring and expanding its existing, limited advertising programs in an effort to generate new revenue sources to address growing operating costs. The new advertising program is designed to be complimentary to both the WSF infrastructure (both vessels and terminals) and the diverse customer base that it serves day-to-day. Gradually, WSF will roll out new advertising and promotional activities across the ferry system that are designed to add value to the cost of riding a ferry. The first vessels to feature on-board advertising were the M/V *Tacoma* and M/V *Wentachee*, and the first terminals included Colman dock in Seattle and the Bainbridge Island terminal.

The first advertiser to take advantage of the program was a local outdoor/travel equipment manufacturer, and the ads consisted of the appliqué's on the inside walls of the ferries' car decks, and additional limited product give away's. Since then, additional firms, both local and international, have been attracted to the WSF advertising program bringing additional revenue opportunities to WSF. So far, WSF has raised $169,632 in net revenue from the new advertising ventures. While these funds remain small in comparison to WSF annual fiscal operating costs, a strategic plan for carefully growing advertising funds, in addition to revenue from on-board and in-terminal private vendors is expected to continue to add financial value.

On-board the M/V *Tacoma*, ferry riders could see appliqué's from a local outdoor manufacturer, one of the first to take advantage of WSF's new advertising program.

Washington State Ferries
Quarterly Update

Service Reliability

Mobility

Average number of missed trips reduced by two-thirds

Trip reliability for the fourth fiscal quarter improved dramatically with an average of 2.2 missed trips compared with the previous quarter, (6.6 missed trips/system-wide) a 66% decrease. In the third quarter, 40,606 sailing trips were scheduled. Of those, 251 were canceled and 33 were replaced, resulting in a total of 40,388 trips during the quarter (40,606 scheduled trips – 251 cancelled trips + 33 replacement trips = 40,388 net trips).

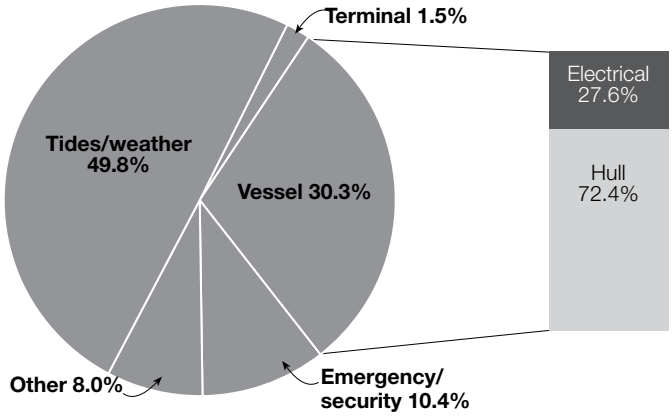
WSF's missed trip index measures trip reliability averages, and utilizes a transportation industry-based standard calculation to evaluate performance. Assuming 400 trips a year for each commuter, WSF had a system-wide missed-trip rate of 2.2 trips/commuter per year, based on the quarterly performance.

Routes with the best and worst missed trip indexes

Trip reliability also improved over the fourth fiscal quarter. Seven of 10 routes had a missed trip reliability average less than the system-wide average, and three routes had no missed trips this quarter (between Seattle and Bremerton, Bainbridge, and Vashon (passenger-only)). The Port-Townsend-Keystone route concluded the quarter with a missed trip reliability average of 24.8 missed trips for each regular commuter. Strong tidal conditions in Admiralty Inlet and prolonged winter weather during the spring proved to be serious challenges to the M/V *Steilacoom II* as it operated on this route.

WSF reasons for trip cancellations

Fourth quarter, FY 2008



Data Source: WSDOT Ferry System.

The terminal at Keystone Harbor, Whidbey Island.

WSF missed-trip reliability comparison

	Fourth quarter, fiscal year 2007			Fourth quarter, fiscal year 2008		
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	30	1.8	99.56%	20	1.2	99.70%
International Route	4	8.1	97.96%	2	4.0	99.00%
Edmonds - Kingston	16	1.4	99.65%	8	0.7	99.83%
Seattle - Vashon (Passenger Only)	2	2.1	99.49%	0	0.0	100.00%
Fauntleroy - Vashon - Southworth	29	1.1	99.72%	52	2.0	99.50%
Keystone - Port Townsend	133	19.5	95.13%	113	24.8	94.17%
Mukilteo - Clinton	26	1.6	99.61%	2	0.1	99.97%
Pt. Defiance - Tahlequah	20	2.6	99.35%	21	2.7	99.32%
Seattle - Bainbridge Island	3	0.3	99.27%	0	0.0	100.00%
Seattle - Bremerton	5	0.8	99.80%	0	0.0	100.00%
TOTAL	268	2.6	99.35%	218	2.2	99.46%

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.

Washington State Ferries
Quarterly Update

Service Reliability

On-time performance declines 2% from last quarter

WSF's system-wide on-time performance rating declined 2.1% from the previous quarter. For the fourth fiscal quarter, WSF had an average of 91.7% of sailings recorded as sailing "on-time". Compared with the same quarter year-on-year, on-time performance was slightly ahead of the 91% recorded in the fourth quarter of fiscal year 2007. Overall, the system averaged a 91% on-time performance rating for the fiscal year, but this was a decline from the 94% average recorded in fiscal year 2007.

The average sailing delay increased 18% as compared to the previous quarter (3.9 minutes versus 3.3 minutes). However, as compared to a year ago, the average sailing delay decreased 5% during the quarter (4.1 minutes in 2007). The sailing delay is the duration between the 10 minute on-time "window" and when a vessel is detected as leaving its terminal.

WSF calculates its on-time performance rating using an automated tracking system on each of its terminals which 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 does not include completed trips on the Port Townsend – Keystone route. Because WSF is using a leased vessel from Pierce County ferry system, the boat is without an automated tracking system that can report on-time departures.

WSF implements new reservation system

Until recently, the Port Townsend – Keystone route had two ferry vessels available for the busier summer sailing season. Until the new replacement vessels for this route become operational, WSF is making use with one leased vessel, the 55-car M/V *Steilacoom II* from the Pierce County Ferry System. In order to make better use of the limited capacity available on this route, WSF began a pilot program to give travelers an opportunity to reserve a place and time-slot on the M/V *Steilacoom II*'s sailing schedule.

On May 19, reservations could be made at both terminals, followed by online and phone reservations on May 21. This is the first time the reservation system has been used on a domestic WSF route. The Anacortes – Sydney, B.C. ("international route") uses a reservation system for its limited sailings. For more information, visit the online reservation website: https://business.wsdot.wa.gov/ferries/reservations/.

WSF on-time performance comparison

	Fourth quarter, fiscal year 2007			Fourth quarter, fiscal year 2008		
Route	Number of actual trips[1]	Percentage of trips 'on-time'[2]	Average delay from scheduled sailing time[3]	Number of actual trips[1]	Percentage of trips 'on-time'[2]	Average delay from scheduled sailing time[3]
San Juan Domestic		84%	5.3 minutes	5,068	97%	6.8 minutes
International Route		62%	10.0 minutes	151	77%	6.9 minutes
Edmonds - Kingston		87%	4.8 minutes	4,073	90%	4.1 minutes
Seattle - Vashon (Passenger Only)		98%	2.9 minutes	347	99%	2.8 minutes
Fauntleroy - Vashon - Southworth		90%	4.3 minutes	9,539	94%	3.6 minutes
Keystone - Port Townsend		80%	7.1 minutes	N/A[4,5]	N/A[4,5]	N/A[4,5]
Mukilteo - Clinton		97%	3.0 minutes	6,213	99%	2.6 minutes
Pt. Defiance - Tahlequah		95%	3.6 minutes	2,389	96%	4.3 minutes
Seattle-Bainbridge Island		96%	2.1 minutes	3,859	98%	2.6 minutes
Seattle - Bremerton		98%	2.8 minutes	2,424	92%	3.2 minutes
TOTAL		**91%**	**4.1 minutes**	**35,978**	**92%**	**3.9 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.

[2]The 'Percentage of Trips On-Time' category is rounded to the nearest (whole) percentage point for this table.

[3]The 'Average delay from the scheduled sailing time' is the duration between the 10 minute "window" and when a vessel is detected as leaving the terminal.

[4] The M/V Steilacoom II from the Pierce County ferry system is not equipped with the automated tracking system, and can not provide calculated on-time performance statistics

[5] On-time performance statistics reported in the March 31, 2008 Gray Notebook for the Port Townsend - Keystone route included trips taken on the M/V Snohomish, one of WSF's high-speed passenger-only vessels (equipped with the automated tracking system). The figures do not include trips completed on the M/V Steilacoom II from the Pierce County ferry system.

Washington State Ferries
Quarterly Update

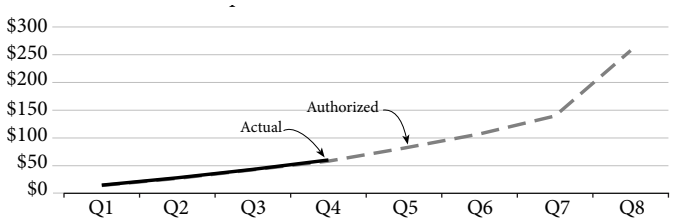
Construction & Preservation

Preservation

Construction program expenditures

The WSF construction program provides for capital investments throughout the ferry system. This program preserves existing terminals and builds new ferry terminals and vessels; it is budgeted at approximately $250 million dollars.

WSF construction program expenditures
Through fourth fiscal quarter, 2007-09 biennium
Authorized vs. actual expenditures, cumulative dollars in millions



Data Source: WSDOT Ferry System.
Note: Authorized figures have been revised since the last reporting. See the March 31, 2008 edition of the *Gray Notebook* for more previous figures.

Vessel construction biennium-to-date

At the end of the fourth fiscal quarter, vessel construction expenditures were over-spending by $0.7 million, a 2% variance from the authorized funds ($34.6 million) for the quarter ending June 30, 2008. The major sources of the variance are lower then expected bids and reduced project scope for refurbishment work on the M/V *Tacoma* and M/V *Hyak*. In addition, late billings for previously performed drydock work on the M/V *Hyak*, and a delay in a dockside work contract are contributed to the quarterly variance.

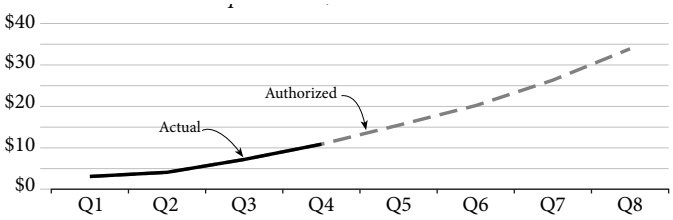
Terminal construction biennium-to-date

Terminal construction expenditures were over-spending by $0.9 million, a 5% variance from the authorized funds ($17 million) for the quarter ending June 30, 2008. For more information on the terminal program's variance, please see pages 69-70 of the Watchlist in this edition of the *Gray Notebook*.

Emergency expenditures biennium-to-date

Emergency expenditures are over-spending by $2.8 million for the biennium, less than a 1% variance from the authorized funds ($10.8 million) for the quarter ending June 30, 2008. The variance is due to the timing of payments for emergency work already underway or completed, and thus expenditures are closer to the biennial allotments than were reported in recent editions of the *Gray Notebook*.

Emergency expenditures for Washington State Ferries
Through fourth fiscal quarter, 2007-09 biennium
Authorized vs. actual expenditures, cumulative dollars in millions



Data Source: WSDOT Ferry System.
Note: Authorized expenditures have been revised since last reporting. See March 31, 2008 *Gray Notebook* for older figures.

Ferry system preservation

Vessel preservation

WSF uses a life-cycle preservation system that includes two system classifications (Category 1 and Category 2 systems). Each vessel has components that are classified as either being a Category 1 or Category 2 system. Category 1 systems are those components that are considered by regulatory agencies (such as the U.S. Coast Guard) as "vital" to the protection of people, the environment, and infrastructure. These include systems necessary to start, keep in motion, stop, land, and unload a vessel. The Category 2 systems are all other vessel components that are refurbished as part of a life-cycle preservation system.

For the 2007-2009 biennium, WSF planned on refurbishing or replacing 43 Category 1 systems and 50 Category 2 systems. So far this biennium, WSF has replaced 10 Category 1 components, including three steel hull replacements during the fourth fiscal quarter. There have been 15 Category 2 systems replaced, which include potable water tank, sewage tank structural preservation, and topside and hull (bottom) painting during the fourth fiscal quarter.

Vessel preservation activities
Fourth quarter of fiscal year 2008, 2007-2009 biennium

System	Systems preserved[1]	Planned number of preservations
Category 1 Systems	10	43
Category 2 Systems	15	50
Total	**25**	**93**

Data Source: WSDOT Ferry System.
[1] Cumulative to date.

Construction & Preservation

Terminal preservation

WSF ferry system terminals are included in WSDOT's inventory of over 3,500 bridges and related structures. Currently, WSF manages 20 ferry terminals, comprised of 597 separate components. Just like other state bridges, WSF uses the Washington State Bridge Inventory System to track the condition of all ferry terminal components. Included in the conditional assessment are all of the critical components of a terminal's super and sub-structures, including the landing aids (wingwalls and dolphins), vehicle transfer span systems, overhead loading systems, trestles and bulkheads, and finally, pavements.

Terminal components are assessed on of 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.) The rating system evaluates the level of deterioration, damage, and compromised functionality on terminal components before giving them a structural condition rating. What defines "good" versus "poor," for example, is defined in the explanatory table below.

WSF last reported on terminal condition ratings in the September 30, 2007 *Gray Notebook*. Since the last report, condition ratings have changed very little, although the percentage of components that were rated "good" or "fair" dropped from 87% to 86%. The table (below) details the condition levels of these components for all 20 of WSF's terminals. The majority of structures that were rated "poor" or "sub standard" in the last WSF 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 erosion and 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 reduce marine contamination by removing creosote sources from the water.

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

WSF structural condition rating for terminal systems

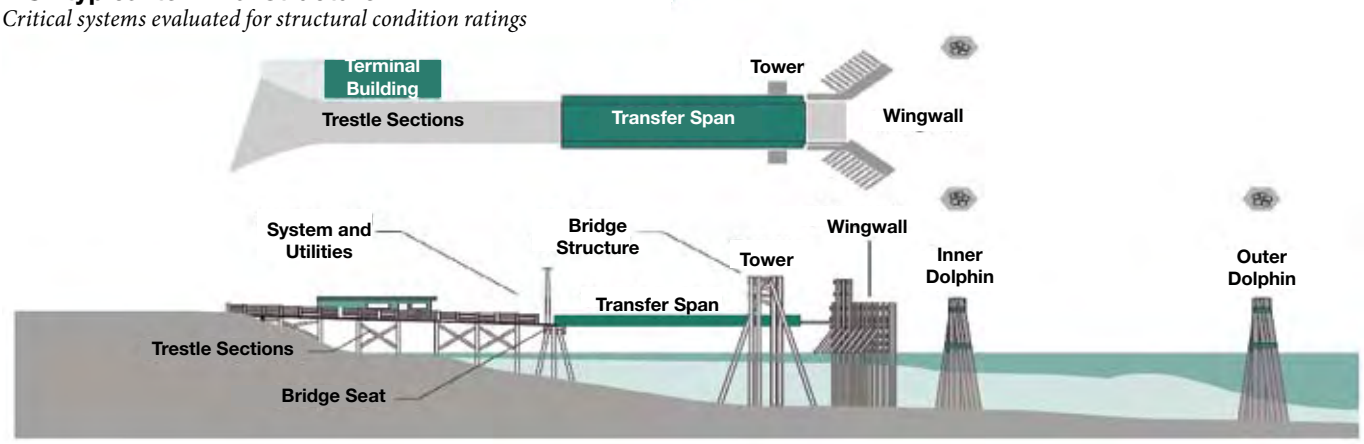
System	Good	Fair	Poor	Sub-standard
Landing aids[1]	51%	24%	16%	10%
Vehicle transfer spans	30%	59%	10%	1%
Overhead loading systems	53%	44%	3%	0%
Trestle & bulkheads	25%	68%	7%	0%
Pavement	58%	33%	5%	4%
Total average	**41%**	**45%**	**10%**	**4%**

Data Source: WSDOT Ferry System

[1] Includes dolphins and wingwalls.

WSF typical terminal structure

Critical systems evaluated for structural condition ratings



Rail: Quarterly Update

State-supported Amtrak *Cascades*

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, using five European-designed, Talgo trains. Three trains are owned by Washington State, and the other two are owned by Amtrak.

Amtrak *Cascades* service is jointly funded by Amtrak who provides funding for one daily round-trip, Oregon funds two routes, and Washington State, through WSDOT, funds four trips.

Amtrak *Cascades* continues record growth during second quarter of 2008

State-supported Amtrak *Cascades* service continues to demonstrate record growth in ridership. At 137,694, the second quarter of 2008 had a 10% increase over the same period in 2007. Overall ridership for all Amtrak *Cascades* trains was up 9.9% at 203,359 for the quarter. Ridership in May and June was at an all-time high.

High gasoline prices, especially at the start of the summer travel season, have fueled strong demand. On comment cards, customers noted the great value in saving money and avoiding traffic. The new Amtrak *Cascades* Thruway bus service has also contributed to the increased ridership. The service began May 12, averaging 40 riders a day connecting Everett, Mount Vernon, and Bellingham to trains arriving and departing in Seattle.

On-time performance improves by 5% from this time last year

On-time performance for state-supported Amtrak *Cascades* trains was 67.1% for the second quarter of 2008, the best second quarter performance in more than five years and a 5% increase over the same period in 2007.

Steady improvement has been made in on-time performance since the beginning of the year. Completion of several track improvement projects has reduced the amount of slow travel around construction zones. Operating practices have been modified and are being monitored to improve performance. In addition, WSDOT has been working with BNSF and Amtrak to achieve 80% or better on-time performance.

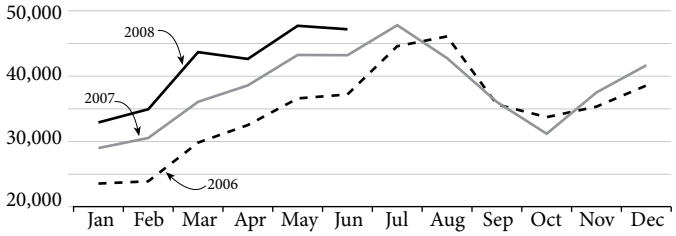
Amtrak *Cascades*.

Rail Highlights:

- Ridership on state-supported Amtrak *Cascades* was at 137,694 during the second quarter of 2008, a 10% increase over 2007.
- On-time performance for state-supported Amtrak *Cascades* trains was 67.1% for the second quarter of 2008, a 5% increase over 2007.
- Grain Train carloads for the second quarter of 2008 increased 5% over the same period in 2007.

State-supported Amtrak *Cascades* monthly ridership

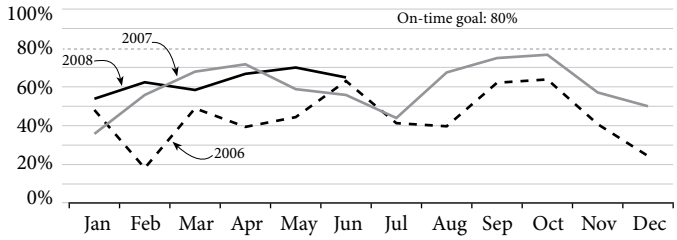
Number of passengers



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

State-supported Amtrak *Cascades* on-time performance

Percent on-time



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

Note: 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*

Ridership by funding entity

There are 11 daily, Amtrak *Cascades* trains that connect major cities along the I-5 corridor. Washington, Oregon, and Amtrak jointly fund their operation. The table below shows how many people are riding trains that are funded by each entity.

Amtrak *Cascades* ridership by funding entity

Funding Partner	2nd Quarter 2007	2nd Quarter 2008
State of Washington	124,871	137,694
State of Oregon	30,079	31,818
Amtrak	30,134	33,847
Total Ridership	185,084	203,359

Data Source: Amtrak and WSDOT State Rail and Marine Office.
Washington-funded: Amtrak *Cascades* 501, 506, 507 (Seattle/Portland), 508, 510, 513, 516, and 517.
Oregon-funded: Amtrak *Cascades* 500, 504, 507, and 509 between Portland and Eugene.
Amtrak-funded: Amtrak *Cascades* 500 and 598 between Seattle and Portland.

Stewardship

Amtrak *Cascades* monthly revenue

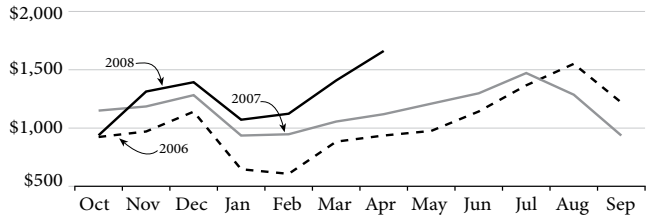
Revenue includes ticket receipts, income from food and beverage sales, and proceeds from mail and express shipments on state-supported Amtrak *Cascades*.

The timeframe used for this measurement is the federal fiscal year (FFY) (Oct. 1-Sept. 30). This timeframe is used because it coincides with the same 12-month period used for the WSDOT/Amtrak annual operating agreement.

WSDOT generally receives Amtrak *Cascades* revenue data 60 days after a given month has passed due to the slower processing times for food, beverage, and mail receipts.

During the first seven months of FFY 2008 (Oct. 2007-Apr. 2008), total revenues for state-supported Amtrak *Cascades* trains were up 16% when compared to the same period in 2007. Revenue growth was particularly strong in March which was up 33%. This is likely due to higher fuel costs driving many people away from automobile travel and towards alternatives such as trains.

State-supported Amtrak *Cascades* revenue per month
FFYs 2006, 2007 and 2008 (Oct. 2007 - Apr. 2008)



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

"New train smell" for Amtrak *Cascades*

WSDOT has partnered with Amtrak to complete a major interior renovation on all coach and business class cars used on Amtrak *Cascades*. The $10 million project began summer 2007, and the first two completed trainsets returned to service in April and June.

Both coach and business class cars have been outfitted with new leather seating surfaces, updated interior color schemes and paneling, and new flooring.

After the completion of the improvements, the three state-owned trainsets' service life will be extended to approximately 2029. Phase I of the refurbishment will be completed in November 2008.

The new interior of a coach car on Amtrak *Cascades* with updated seating and flooring.

Renovations in the business class cars.

Washington State Grain Train

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

Grain Train shipments increase 5% over same quarter in FY 2007

Use of the WSDOT Grain Train cars reversed a first quarter decline with a jump in carloads from 119 in March to 190 in April. Total carloads for the second quarter of 2008 increased five percent over the same quarter last year, with 508 carloads compared to 486 in the second quarter of 2007.

Grain Train use is likely to remain strong in the short term, as the U.S. Department of Agriculture's (USDA) Grain Transportation Report forecasted a continuing "strong demand for U.S. agricultural exports." This report also highlighted an important new shipping trend: containerized grain exports to Asia. According to USDA, "Containerized grain exports to Asia continue to reach new records with April 2008 volumes (the latest data available) reaching nearly 40,000 twenty-foot equivalent units, the highest volume ever recorded during the month of April." It is unknown what impact this will have on use of the Grain Train cars long term.

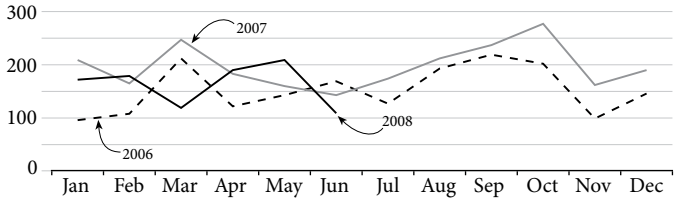
Nationally, rail grain deliveries and carloads are up substantially. USDA reports that rail deliveries to Pacific Northwest (PNW) Ports are up 39% from the same 4-week period (ending July 9, 2008) a year ago and 27% above the 4-year average. Class I railroads have originated 16% more carloads of grain year-to-date above the same period in 2007. As PNW has lower ocean shipping rates than the Gulf and East coast ports, it is likely that this trend will continue.

The USDA's weekly Grain Transportation report can be accessed through the Agricultural Marketing Services website: http://www.ams.usda.gov/AMSv1.0/

A Grain Train "at work for Washington State."

Washington Grain Train carloads

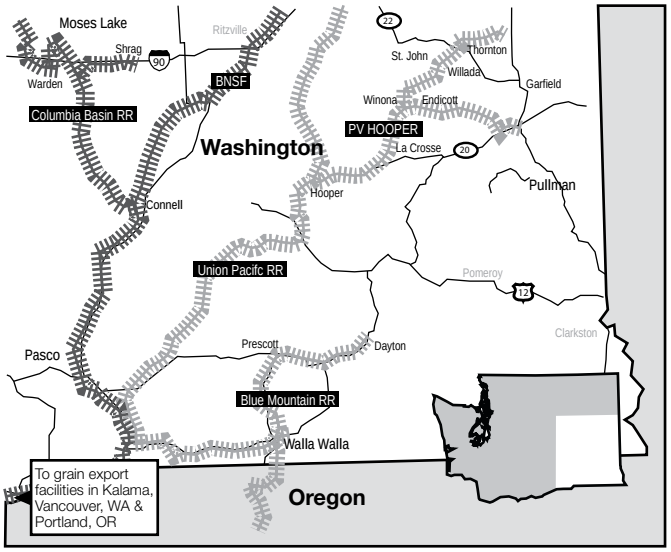
Carloads per month; not cumulative



Data Source: WSDOT State Rail and Marine Office.

Note: Cumulatively, there have been 978 carloads for 2008, compared to 850 in 2006 and 1,107 in 2007 through the second quarter.

Communities served by Washington Grain Train



Data Source: WSDOT State Rail and Marine Office.

Incident Response Quarterly Update

Incident Response Highlights

- Average statewide clearance time dropped to 11.8 minutes this quarter.
- The number of over-90-minute incidents responded to statewide dropped to 119, a 36% reduction from Q2 of 2007.
- IR program responds to 55% fewer fatality incidents this quarter (17) than the same quarter last year (38).
- Average duration of over-90-minute incidents on the nine key congested routes dropped by 7% compared to Q2 of 2007.
- Incidents involving commercial motor vehicles on the key congested routes last 21% longer than other incidents.

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. Additionally, 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 these major incidents.

As of June 2008, WSDOT's IR fleet includes 50 vehicles on 34 designated roving routes statewide. WSDOT's IR program, with the cooperation of the WSP, has implemented innovative strategies to help reduce incident clearance times, including:

- Instant Tow Program dispatches tow trucks more quickly to the scene of incidents; and
- Major Incident Tow Program clears incidents involving heavy trucks more quickly;
- Agreements with 14 county coroners for the off-site extrication of the deceased.

More information on the IR program can be found at www.wsdot.wa.gov/Operations/IncidentResponse/.

Statewide clearance time drops by 1.5 minutes from two-year average

The average clearance time for incidents occurring from 2005 through Quarter 1 2008 ranges from 12.9-14.4 minutes[1]. For Quarter 2 of 2008, the average clearance time was 11.8 minutes. Although the 11.8 minute average clearance time is the lowest reported in the program, statistical testing shows that it is not significantly different from average clearance times[1] for the second quarters of 2005, 2006, and 2007, and is more likely a function of seasonal variation. Quarter 2 shows a low average clearance time for all those years, likely because these months do not see either harsh winter weather conditions or high summer travel traffic. This noticeable drop can be attributed in part to a decrease in the number and proportion of over-90-minute incidents that WSDOT responded to in Quarter 2 of 2008.

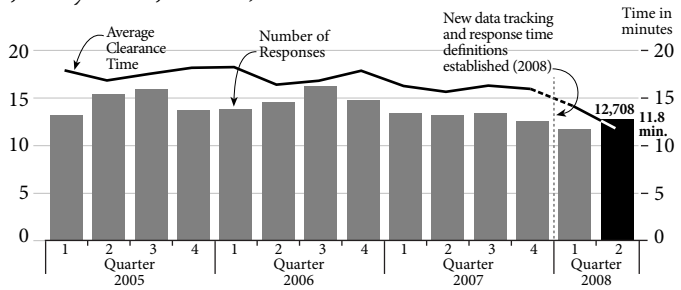
Over the past two years, over-90-minute incidents represented 1.3% to 1.8% of all quarterly responses. In Quarter 2 of 2008, over-90-minute incidents dropped to only 1.0% of all incidents that WSDOT responded to. This drop was mirrored across nearly all of the types of over-90-minute incidents that WSDOT responds to, with the exception of injury collisions and incidents related to debris blocking traffic (see the table on the next page).

In real numbers, over-90-minute incidents continued its downward trend this quarter to 119. The quarterly average for 2006 was 233, for 2007 the average stood at 190, and for Quarter 1 of 2008, 177 incidents. In addition to the program's ongoing efforts to clear incidents more quickly, this general decrease can be linked in part to the decrease in incident responders on the road, as described in the March 2008 *Gray Notebook*, p. 75. The decrease in over-90-minute incidents may also be attributed to the recent decrease in traffic volumes on state highways over the past few months (see gray box on p. 30).

[1] Times adjusted to reflect the new standard of using "notification time" as the beginning of the incident.

Number of responses and overall average clearance time

January 2005 - June 2008, clearance time in minutes



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

Note: WITS-WSDOT Incident Tracking System used by Incident Response to keep track of daily activity at incidents. New system implemented in January 2008 which allows greater accuracy of time collection.

Incident Response Quarterly Update

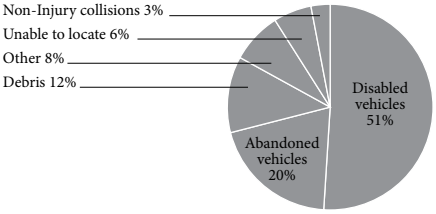
Fatality Incidents

IR responses to incidents statewide broken out by duration and type of incident

Quarter 2, 2008

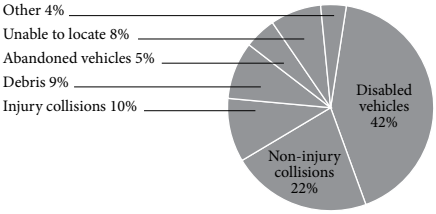
Incidents Lasting Less Than 15 Minutes (9,832)

Fatality, Injury and Police Activity were less than 1% (not shown). There were 15 Fires and 5 Hazardous Materials involved incidents in addition to or as a result of above incidents.



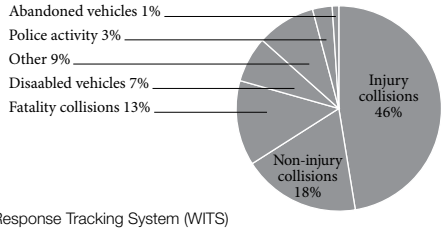
Incidents Lasting 15 to 90 Minutes, (2,756)

Fatality and Police Activity was less than 1% (not shown). There were 2 Hazardous Materials and 73 Fire involved incidents in addition to or as a result of above incidents.



Incidents Lasting 90 Minutes and Longer (119)

There were 6 Hazardous Materials and 10 Fire Involved Incidents in addition to or as a result of above incidents.



Data Source: WSDOT Incident Response Tracking System (WITS)

Number of incidents lasting over-90-minutes by type

Based on statewide responses by WSDOT

	2006-2007 2-year avg.	2008 actual number of responses	
Response Type		**Q1**	**Q2**
Abandoned Vehicle	2.4	4	2
Disabled Vehicle	26.6	19	7
Debris Blocking Traffic	7.9	3	4
Fatality Collision	30.6	29	14
Injury Collision	66.8	50	49
Non-Injury Collision	51.1	47	19

Source: WSDOT Traffic Office

Other agencies tracking highway data are seeing similar drops

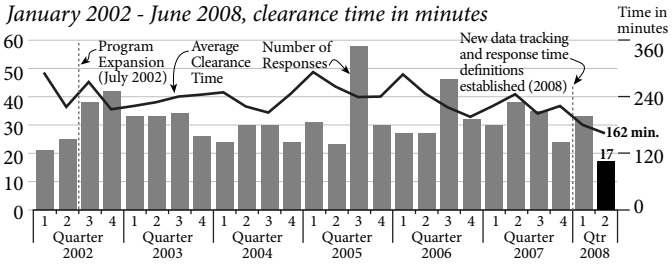
The drop in over-90-minute statewide responses is also reflected in data tracked by the WSP and the Washington Traffic Safety Commission (WTSC). Preliminary data from the WSP's Time and Activity System for the first six months of 2008 shows an overall decrease of 2% in the number of responses to collisions. Troopers have responded to 28% fewer fatalities, 9% fewer injury collisions, and 2% fewer property damage collisions versus the same period in 2007. However, their responses to non-reportable collisions (non-injury collisions with under $700 worth of damage) are up 10% for the same time period. Final data on collisions will not be available until later this year. Preliminary fatality data from the WTSC as of July 17, 2008 showed only 245 traffic fatalities as of June 30, 2008, down 8% from 266 at the same point last year, but up 6% from 231 at the same point in 2006.

IR program responds to 55% fewer fatality incidents than the same quarter last year

During Quarter 2 of 2008, the IR program attended 17 fatality collisions statewide—the lowest quarterly number since the expansion of the IR program in 2002. This is a 55% decrease from fatality incidents in the same quarter of 2007 (38 incidents), and a 48% decrease from 33 such incidents last quarter. This may be attributable to fewer fatality incidents as discussed earlier, or it may indicate that IR assistance was not necessary at all of them. For more information concerning fatalities on state highways, please see p. 4.

Number of responses and average clearance time of fatality collisions

January 2002 - June 2008, clearance time in minutes



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.

Common trends? Number of major incidents are dropping as traffic volumes fall and gas prices rise

According to WSDOT's Transportation Data Office, which collects and analyzes statewide traffic data, traffic volume across the state dropped in April, May, and June of 2008 compared to the previous three years. Data for June 2008 shows a 4.2% drop across the state compared to June 2007. According to the federal government's Energy Information Administration, the average price of a gallon of gas in Washington State went above $4.00 in the last week of May.[1] This is the first quarter of data following the sharp rise in gas prices. WSDOT will continue to watch these trends to see if there is indeed a correlation between high gas prices, lower traffic volumes, and the drop in the number of 90+ minute incidents.

[1] http://tonto.eia.doe.gov/dnav/pet/hist/mg_tt_waw.htm

Incident Response
Quarterly Update

Over-90-Minute Incidents

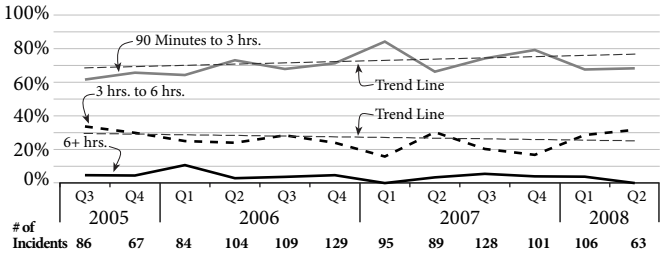
WSDOT and WSP joint GMAP measure

Average duration of over-90-minute incidents on the key Puget Sound routes drops by 7% compared to Quarter 2 of last year

In the second quarter of calendar year 2008, the average duration of the 63 over-90-minute blocking incidents on the nine key highway segments was 153 minutes. This is a decrease of 3% from last quarter, and a decrease of 7% from the same quarter last year. This quarter saw the lowest number of incidents since the tracking of this measure began. There were no extraordinary incidents (those lasting 6+ hours) recorded this quarter. It is likely that the drop in the number of over-90-minute incidents and the decrease in incident duration is associated with trends discussed earlier.

Percentage of over-90-minute incidents by quarter

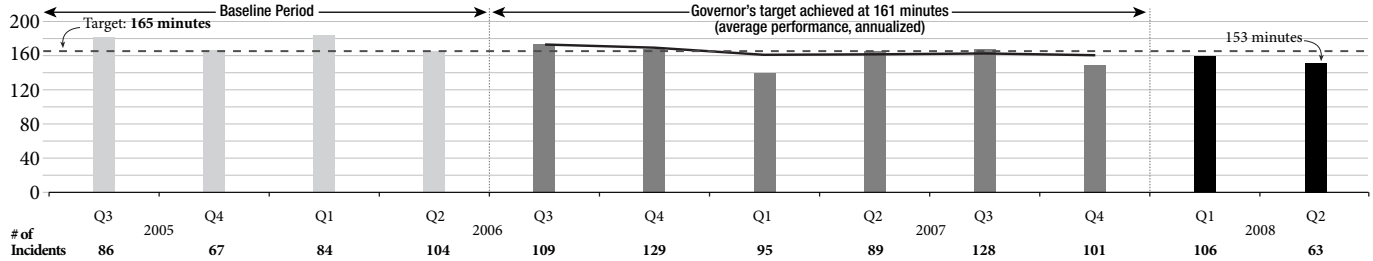
Quarter 3, 2005 – Quarter 2, 2008



Data Source: WSDOT Traffic Office and WSP.

Reducing average incident clearance time for over-90-minute incidents

July 2005 – June 2008; time shown in minutes, for key highway segments



Data Source: Washington State Patrol and WSDOT Traffic Office.
Baseline Data Source: 2006-08: WSP, Computer Aided Dispatch System, 2005-08: WSDOT Incident Response Tracking System.
[1]*Selected Key Highway Segments*--I-5 (Oregon to Canadian Border), I-90 to North Bend, I-405, SR 18 to I-90, SR 16 to Purdy, SR 167, SR 520, SR 512, and I-205.
Clearance Time (for this measure only) is the time between first recordable awareness of an incident and all lanes open.
[2]The Governor's Cabinet Strategic Action Plan (CSAP) goal for IR sought to reduce the average duration of over-90-minute road closure times on the key highway segments by 5%, from 174 minutes to 165 minutes for the performance period Q3 2006 to Q4 2007.

Incidents involving commercial motor vehicles last 21% longer than other incidents

Since 2006, vehicles weighing over 10,000 lbs, known as commercial motor vehicles (CMVs), have accounted for 41.8% of all over-90-minute incidents for the nine key GMAP routes. CMVs are over-represented in these over-90-minute blocking incidents; in 2006 and 2007, only 3%-23% of all the vehicles traveling on these routes were CMVs. Truck-related incidents from this time period blocked the road, on average, for 181 minutes—21% longer than incidents without CMVs involved, which averaged 150 minutes of road-blocking time. For more information on the Major Incident Tow program focused on clearing CMV-related incidents more quickly, please see the March 30, 2008 *Gray Notebook*, p. 76.

Over-90-minute blocking incidents that involve commercial motor vehicles (CMVs)

Quarter 1, 2006 – Quarter 2 , 2008	2006				2007				2008	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Avg. duration of incidents involving CMV's	195	184	200	203	154	168	187	159	186	156
Avg. duration of incidents without CMV involvement	175	151	154	146	128	163	151	140	140	153
Number of CMV-involved incidents	38	43	44	51	43	31	59	46	43	22
Number of incidents without CMV involvement	46	61	65	78	50	58	69	55	62	41
Percent of All Over-90 incidents involving a CMV	45%	41%	40%	40%	46%	35%	46%	46%	41%	35%
Total of All Over-90 Incidents	84	104	109	129	93	89	128	101	106	63

Source: WSDOT Traffic Office and WSP
Note: Valid CMV-related incident data for Q3 and Q4 of 2005 is not available.

Travel Information: Semi-annual Update

WSDOT provides real-time traffic and travel information to the public through several systems: the 5-1-1 telephone information system, the Traffic and Travel Information website, highway advisory radio broadcasts, and variable message signs. Using these tools, the public can access a broad range of products, from traffic camera images, to rest area locations and weather information. WSDOT tracks 5-1-1 calls and website views for performance reporting purposes.

Winter weather conditions spur large increase in 5-1-1 usage

Updated every few minutes, the 5-1-1 system allows callers to access a variety of types of information such as mountain pass conditions, traffic conditions, ferry information, and contact numbers for airlines, local transit agencies, and passenger rail services.

The first two quarters of calendar year 2008 saw large increases in 5-1-1 calls. Calls to 5-1-1 were up 87% over the same period last year, and 49% over the same period in 2006. Most of this increase can be attributed to severe weather events in January and February of 2008. Major storms in Western Washington, and high snowfall and associated avalanches and closures in the mountain passes, drove the public's interest in traveler information. More information on mountain pass snowfall and avalanche activities from last winter is available in the March 31, 2008 *Gray Notebook*, pp. 55-59.

Usage of WSDOT's website

In January 2008, WSDOT began using a new tool to track website usage to provide a more accurate picture of how users interact with the site rather than raw numbers. In the past, website visit counts included both the number of page views as well as the number of times camera images on the page were accessed. This meant that one visit was often counted as several visits. The new tool only counts page views and excludes camera image views and pages that automatically refresh.

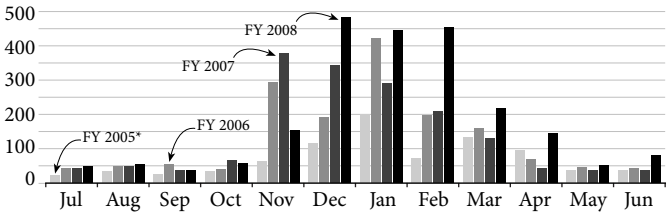
This change in methodology has significantly reduced the number of website page views reported. For example, in January 2007, WSDOT recorded 5.7 million page views per day. In January 2008, WSDOT recorded 437,000 page views per day. Though the new methodology makes direct comparisons with prior years impossible, it is likely that the winter storms in January and February 2008 did in fact drive high website usage in these months compared to prior years. The pattern of fewer website visits and page views during months with better weather continues to be evident using the new methodology.

Travel Information Highlights

Calls to WSDOT's 5-1-1 travel information system between January and June 2008 increased 87% compared to the same period in 2007, primarily due to severe winter weather conditions.

Total calls to travel information

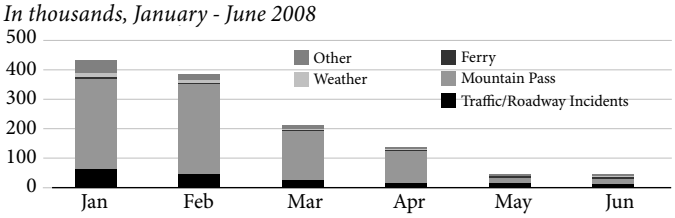
In thousands, FY 2005-2008



Data Source: BCMS, WSDOT Traffic Office.
Data Note: Starting January 2005, 1-800-ROAD and 206-DOT-HWY numbers connect directly to 5-1-1, and the call counts are reported in 5-1-1 call total.

Types of information requested from 5-1-1 traveler information

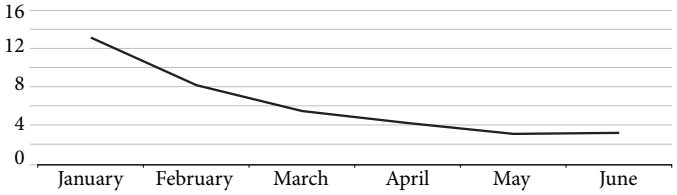
In thousands, January - June 2008



Data Source: 5-1-1 iNi (Interactive Northwest Inc.) Activity Summary-Combined Report, Avaya BCMS combined report of PBX and VDN Daily historical numbers, WSDOT Traffic Office.
Note: Total number of information types will not add up to the total number of calls to 5-1-1 because more than one type of information may be requested in one call, or one caller may hang up without selecting a category. Only completed calls are recorded.

WSDOT travel and traffic website usage

Total monthly views, in millions, January - June 2008



Data Source: WSDOT Communications Office.

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

Environmental reporting overview 34

Annual Update: ESA Documentation 35

Annual Update: Programmatic Permits 37

Annual Update: Fish Passage Projects 39

See also

Quarterly Report on Capital Projects (Beige Pages) 42

Earlier Environment-related articles

Environmental Documentation, GNB 29

Environmental Reporting

WSDOT strives to remain a good steward of Washington State's natural resources as it works to maintain and enhance the transportation system statewide. The *Gray Notebook* serves as a periodic examination of the department's environmental responsibilities. The table below contains all of the current performance measures used to evaluate the compliance with existing environmental regulations and the effectiveness of individual programs.

Measuring and reporting on environmental performance helps WSDOT in several ways. Performance measures allow WSDOT to evaluate the effectiveness of programs designed to improve project delivery, mitigate environmental damage, and improve local conditions for travelers and citizens alike. For example, WSDOT has developed permits and other programs which can expedite the required environmental documentation for both small and large projects, in order to aid in on-time, on-budget project delivery. In the future, WSDOT is continually expanding its environmental reporting (and measures) to cover emerging concerns such as climate change in order to address larger legislative, administrative, and societal demands for improved environmental quality.

Environmental reports and performance measures by quarter

Measure	Performance Measure	Appears in
Programmatic Permits	Programmatic permits issued by Washington Dept of Fish & Wildlife	June
	Programmatic permits issued by Washington Dept of Ecology	June
Fish Passage Barriers	Completed stand-alone fish passage barriers removal projects	June
	Fish passage projects going to construction	June
Noise Quality	Number (and total miles) of noise walls in Washington State	September
Air Quality	Air quality violations incurred annually (proposed measure)	September
	Estimated reductions in emissions through fuel conservation and alternative fuel use	September
Environmental Management Systems	Number of projects using commitment tracking system	March
Erosion Control Preparedness	Site inspection ratings for erosion and sediment control assessment results	December
	Percentage of activities in compliance	December
Construction Site Water Quality	Statewide water quality monitoring results (in vs out-of-compliance events)	December
	Monthly compliance with NPDES general permit benchmarks	December
Stormwater Treatment Facilities	Number of facilities constructed or retrofitted annually	December
Wetland Replacement Monitoring	WSDOT replacement wetland total cumulative acreage & number of sites	March
	Site management activities by WSDOT region	March
	Number of wetland mitigation acres achieved vs required	March
	Dept of Ecology scores for removed and replaced wetlands	March
	Percentage of US Army Corps of Engineers wetland close-out agreements received	March
Environmental Compliance Assurance	Non-compliance events by type compared with cumulative Nickel & TPA project delivery	December
	Non-compliance events by type and month occurring	December
National Environmental Policy Act Documentation	Duration of processing times for Environmental Impact Statements annually	December
	Duration of processing times for environmental assessments annually	December
Integrated Vegetation Management	Pounds of herbicide used statewide annually	December
	Number of herbicide violations received by WSDOT	December
Endangered Species Act Documentation	Number of projects under review by US Fish and Wildlife Service, NOAA Fisheries	Quarterly
	Number of projects with Biological Assessments under way	Quarterly
	Number of projects with ESA reviews completed	Quarterly
	Duration of formal ESA consultations annually	September
	Duration of informal ESA consultations annually	September

Note: This table includes measures reported in the 2007 editions of the *Gray Notebook*. It is subject to change.

Environmental Programs

Endangered Species Act Documentation

The Endangered Species Act (ESA) requires that all projects with federal funds or permits be evaluated for effects and potential impacts the project may have on listed endangered and threatened species. Projects that will result in impacts to listed species undergo consultation either informally or formally with '*the Services*': US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA Fisheries). WSDOT projects with no effect on ESA-listed species do not undergo consultation with the Services.

Nickel projects with ESA components

There are 24 planned Nickel construction projects in the 2007-09 biennium. Nineteen of these projects have completed an ESA review. The remaining projects consist of one informal consultation three internal ESA reviews, and one project that does not yet have enough information.

There are 11 projects funded for the 2009-11 biennium; their ESA review status has not changed much since the March 31, 2008 *Gray Notebook*. Of these, two have completed consultation and one is currently under formal consultation (***I-5/NE 134th Street Interchange*** (***Salmon Creek Interchange***)). One of the remaining projects will undergo informal consultation and six will be reviewed for ESA compliance in the future. One project does not have enough information at this time to determine consultation status.

Transportation Partnership Account projects with ESA components

Of the 104 Transportation Partnership Account (TPA) funded projects in the 2007-09 biennium, 73 have completed an ESA review or consultation. One project is undergoing formal consultation (***SR 410/White River Slope Stabilization***). The remaining TPA-funded projects in the 2007-09 biennium include four informal consultations, nine formal consultations, 14 internal ESA reviews, and three projects that do not have enough information to determine consultation need at this time.

Sixty-three TPA projects are funded in the 2009-11 biennium. Five of these projects are undergoing consultation at the Services: four formal consultations (***SR 14/Camas -Washougal Lanes and interchange***, ***I-90/Snoqualmie Pass east***, ***I-5/SR 501 Ridgefield interchange*** and ***SR 500/St. John's Boulevard interchange***) and one informal consultation (***I-5/SR 432 Talley Way Interchange***). Fourteen have completed ESA review or consultation, and 28 will be completed in the future; 16 are waiting for additional information to make a determination.

Pre-Existing Funds projects with ESA components

More than half (180) of the 262 Pre-Existing Funds (PEF) projects in the 2007-09 biennium have completed an ESA review or consultation. Sixty-four projects currently have biological assessments in preparation or will be finishing an internal ESA review. The remaining 18 projects do not have sufficient information to determine consultation need at this time.

Six of the 97 PEF funded projects for the 2009-11 biennium have completed ESA review. Slightly less than 50% of the projects (45) will complete ESA review in the near future. One project is under formal consultation at this time (***SR 303/Manette Bridge Bremerton Vicinity***). The remaining three projects need additional information to determine consultation status.

Endangered Species Act Documentation Highlights

Of the 390 Nickel, TPA, and PEF-funded projects scheduled for construction in the 2007-09 biennium, 272 have completed the necessary ESA documentation and reviews.

As of June 30, 2008, no projects (zero) from the 2007-09 biennium are undergoing informal review with USFWS and NOAA Fisheries.

As of June 30, 2008 only one project from the 2007-09 biennium is undergoing formal review with USFWS and NOAA Fisheries.

Endangered Species Act Documentation

Endangered Species Act compliance status for all projects

Number of projects	2007-09 Nickel projects	2009-11 Nickel projects	2007-09 TPA projects	2009-11 TPA projects	2007-09 PEF projects	2009-11 PEF projects
Projects under review at the Services	0	1	1	5	0	1
ESA review or biological assessment underway	4	7	27	28	64	45
Projects which lack sufficient information to start the biological assessment[1]	1	1	3	16	18	45
ESA review complete[2]	19	2	73	14	180	6
Total # of Projects	**24**	**11**	**104**	**63**	**262**	**97**

Data Source: WSDOT Environmental Services

[1]This means that WSDOT does not yet have enough information regarding design to begin an ESA review.

[2]Projects that have completed an ESA review include those requiring consultation (formal or informal) with the services and those that did not require consultation ('no effect' reviews or programmatic biological assessments).

ESA status updates for local species

Washington State Northern Rocky Mountain gray wolf update

In the March 31, 2008, edition of the *Gray Notebook*, the delisting of the Northern Rocky Mountain (NRM) population of gray wolf and its effects on WSDOT projects was discussed. The de-listing affected the eastern third of Washington State, leaving the western two-thirds still within the listed designation (See the map on page 50 of the March 31, 2008, *Gray Notebook*).

At the time of the delisting, gray wolves were rarely observed in Washington State and although there were occasional reports of individual sightings, neither the presence of wolf packs nor recent individual sightings had been confirmed. In June 2008, WDFW conducted howling surveys in western Okanogan County, based on new reported sightings and photographs taken by remote camera. The surveys confirmed that Washington State may have at least one active wolf pack for the first time since the 1930s. In addition, a gray wolf, confirmed through DNA analysis, was hit by a car in western Lincoln County in June 2008, providing further evidence of the species' renewed presence in the state. Due to these recent confirmations of wolves, projects occurring within western Okanogan County (along SR 153, SR 20, or SR 97), may have certain timing restrictions or other minimization measures implemented to avoid impacting wolves during sensitive time periods or near sensitive areas such as known dens, rendezvous sites, or near elk calving areas. Such restrictions were not required with no wolves documented present in more than 50 years, now, their documentation requires careful protection of their habitat.

New hydroacoustic impact thresholds and guidance

WSDOT, in conjunction with FHWA, USFWS, and NOAA, has accepted and will be implementing revised noise impact thresholds for listed fish species and diving marbled murrelets. Training on the new higher thresholds will be provided to biologists beginning in August 2008. Information on the new thresholds will be included in the *Biological Assessment Preparation for Transportation Projects* handbook and in courses taught under WSDOT's Training and Consultant Qualification program, presented by both WSDOT and consulting agency staff. Acceptance of these new thresholds means WSDOT projects beginning an ESA consultation will need to factor in the new thresholds when discussing the impacts of in-water pile driving, on listed fish and diving marbled murrelets. The new thresholds may reduce the number of formal consultations based on underwater noise impacts.

Programmatic Permits

WSDOT's programmatic permits are agreements with state water resource regulatory agencies including the Washington State Department of Ecology (DOE) and the Washington State Department of Fish and Wildlife (WDFW) that cover routine environmental activities in the construction and maintenance of state transportation facilities. WSDOT continuously develops programmatic permits with water resource agencies to help simplify and expedite regulatory processes.

These permits, which cover routine in-water environmental activities, improve efficiency by reducing the number of staff hours otherwise spent processing individual permits and by providing a standard expectation by which to design a given project to. The following tables display the types of current programmatic permits that have been issued for WSDOT activities by DOE and WDFW. There were no new permits issued for WSDOT in 2007, but four permits were renewed: the 'noxious aquatic plant control' and 'aquatic mosquito control' permits with DOE and the 'overwater structure maintenance and repair' and the 'freshwater sediment test boring' permits with WDFW.

For updates and additional information about WSDOT's programmatic permits, visit http://www.wsdot.wa.gov/Environment/Programmatics/default.htm.

Environmental programmatic permits issued by Department of Ecology
2006-2007[1]

Activity covered	Description and guidance	Effective date	Expiration date	2006 activities using permit	2007 activities using permit
Washing and painting bridges and ferry terminals	Covers the following washing and painting activities: • Bridge washing • Ferry terminal washing • Bridge painting • Ferry terminal painting	4/3/04	4/3/09	31	21
Aquatic plant and algae management general permit	Allows the application of herbicide to control non-noxious invasive plant species within WSDOT right-of-way	4/28/06	4/1/11	7	2
Aquatic mosquito control	Allows the application of pesticide to control mosquito species within WSDOT right-of-way	3/7/07	4/7/10[2]	62	16
Noxious aquatic plant control	Allows the application of herbicides to control noxious invasive plant species within WSDOT right-of-way	1/16/08	2/16/13	7	0

Data Source: WSDOT Environmental Services

[1]Permits generally expire five years after they are issued, and annual reporting of permits begins in December of each year.

[2]The Washington State Department of Ecology is choosing to issues this permit on a three-year term rather then a five year term to stagger the re issuance schedule of the General Aquatic Pesticide Permits.

Programmatic Permits Highlights

WSDOT currently has four active programmatic permits with the Washington State Department of Ecology (DOE) for water-based activities.

WSDOT currently has 10 active programmatic permits with the Washington State Department of Fish and Wildlife (WDFW) for water-based activities.

Since the June 30, 2007 *Gray Notebook*, WSDOT has renewed/updated four expired permits: two permits with the DOE and two with WDFW.

In 2007, WSDOT carried out 39 activities involving DOE permits, and 1,302 activities involving WDFW permits.

Environmental Programs

Programmatic Permits

Environmental programmatic permits issued by Washington Department of Fish and Wildlife

2006-2007[1]

Activity covered	Description and guidance	Effective date	Expiration date	2006 Activities using permit	2007 Activities using permit
Marine Water Sediment Test Boring	Allows test boring and sediment sampling for WSDOT projects in all state marine waters	3/10/04	2/15/09	2	7
Channelized Stream Maintenance	Allows 50 cubic yards of sediment removal per project, per year	6/28/04	6/01/09	51	31
Maintenance of Fishway Facilities	Allows 50 cubic yards of sediment removal per project, per year	6/28/04	6/01/09	5	1
Culvert Maintenance	Allows structural repair and allows 50 cubic yards of sediment removal per project, per year	6/10/04	6/01/09	60	54
Culvert Replacement in Non-Fish Bearing Waters	Allows replacement of culvert in same location	6/10/04	6/01/09	8	0
Large Woody Debris & Material Removal and Relocation--Bridge	Allows the removal and relocation of non-embedded large woody debris and material (including associated bedload) from WSDOT bridges	6/29/04	6/01/09	68	50
Forty Marine Pile Removal and Replacement	Allows the replacement and removal of up to forty piles per project in Marine Waters	3/7/05	3/5/10	2	2
Overwater Structure Maintenance and Repair[2]	Covers bridge and ferry terminal maintenance and repair	1/22/08	1/21/13	1449 (for all over-water bridges)	1089
Beaver Dam Removal	Allows the removal of beaver dams within WSDOT right-of-way statewide	5/2/08	5/1/13	126	56
Freshwater Sediment Test Boring	Covers freshwater sediment test boring activities statewide	6/20/08	6/19/09[4]	5	12

Data Source: WSDOT Environmental Services

[1] Permits expire five years after they are issued, and annual reporting of permits begins in December of each year.

[2] New guidance for sediment test boring permit is under development

[3] Culvert maintenance activities dropped because work was approved under individual Hydraulic project approvals, or because culverts did not need cleaning due to site specific reasons (low rainfall and sediment deposition)

[4] This permit was issued for (only) one year because of pending changes in WDFW's in-water work windows that are due to be finalized at the end of CY 2008.

Fish Passage Barriers

WSDOT and the Washington State Department of Fish and Wildlife (WDFW) have worked cooperatively since 1991 on a program to inventory, prioritize and correct fish passage barrier culverts on streams that flow under state highways.

WSDOT is committed to doing its part for the environment by removing barriers to fish habitat. WSDOT's strategy is to continue correcting barriers as part of highway construction projects where the department has in-stream work; and to spend money provided by the Legislature for stand-alone projects that are high priority corrections.

How culverts are designed for better fish passage

When a fish passage barrier is identified and scheduled for correction, WSDOT works with WDFW to pick the best alternative for correcting the fish passage problem. Culvert designs are based on the latest edition of WDFW's *Design of Road Culverts for Fish Passage* manual. This manual provides a variety of culvert correction options. The goal is to select a design that maximizes fish passage for the species found in a effected stream and can be successfully constructed at that particular location.

WSDOT and WDFW, where feasible, prefer to use a type of design called "stream simulation" to correct a culvert barrier. This design method best mimics the natural conditions that previously occurred in the streambed location prior to the existing culvert being placed. These new culverts designed to simulate natural streambeds are constructed wider than the existing stream channel width and sloped at a similar gradient as the existing natural stream. The expanded use of stream simulation culverts is based on the principle that if fish can migrate through the natural channel, they can also migrate through a man-made culvert that simulates the natural channel.

Inventory of Barriers

WDFW's on-going statewide inventory of fish bearing culverts on WSDOT's 7,045 miles of highway system was finally completed during the Fall of 2007. A total of 6,469 crossings were examined by WDFW and 1,440 WSDOT-owned fish passage barriers with significant habitat gain have been identified as needing modification or replacement. To date, WSDOT has removed 218 of these barriers, thus improving access to approximately 486 miles of upstream habitat.

Before: A round steel culvert, 12-feet in diameter was a barrier to fish passage due to a 2-foot outfall drop at Terrell Creek on SR 548 at MP 6.35 near Birch Bay. The upstream end of culvert was damaged further impeding fish passage.

After: In 2007, the steel culvert at Terrell Creek was replaced with a 17-foot wide concrete arch stream simulation culvert. This project improved fish access to upstream habitat for chum and coho salmon, and steelhead, sea-run, and resident cutthroat trout.

Fish Passage Barriers Highlights

- The Washington Department of Fish & Wildlife (WDFW) has now inventoried 100% of culverts along WSDOT-managed highways.
- WDFW has identified 1,440 culvers as "high-priority" for removal or repair.
- As of June 30, 2008, WSDOT has replaced 218 of the identified barriers.
- In 2007, WSDOT replaced 12 priority culverts as stand-alone projects and as part of mobility and safety enhancement projects.
- In 2008, WSDOT plans to replace three of the WDFW identified culverts, including one as part of a safety enhancement project and two as part of mobility improvement projects.

Environmental Programs

Fish Passage Barriers

Completed fish passage construction for 2007

Project location	Project funding	Project actions to improve fish passage
I-5 north of Bothell	PEF	Installed four concrete weirs at Swamp Creek downstream of the existing 6-foot culverts to backwater the culverts and provide better fish access upstream.
I-405 north of Bothell	PEF	Installed seven concrete weirs at Swamp Creek to backwater an existing 16-foot double-box culvert and improve fish access by backwatering the culvert.
SR 92 northeast of Lake Stevens	PEF	Replaced wooden baffles inside the 8-foot box culvert at Catherine Creek with steel baffles and installed three concrete weirs downstream to help backwater the culvert to improve fish access.
SR 548 north of Bellingham	PEF	A 12-foot diameter round culvert was replaced with an 18-foot wide culvert at Terrell Creek.
SR 207 northwest of Wenatchee	SRFB[1]	Chelan County installed two 12-foot culverts to reconnect a ½-mile of secondary channel habitat of Nason Creek that was disconnected from the main channel when SR 207 was originally built.
SR 305 north of Poulsbo	PEF[2]	A single round 5-foot diameter culvert was replaced with a 10-foot box culvert at Dogfish Creek.
SR 305 south of Poulsbo	PEF2	Two round 3-foot diameter culverts were replaced jointly by WSDOT and the city of Poulsbo with a 15-foot box culvert at Dogfish Creek during an improvement project at the intersection of SR 305 & SR 307.
SR 542 east of Nooksack	PEF, TPA	A single round 2-foot culvert was replaced at an unnamed tributary to Boulder Creek with a 14-foot wide box culvert.
SR 524 east of Bothell	Nickel	Replaced an 18-inch culvert with an 8-foot by 6-foot culvert at Whistle Creek.
SR 270 east of Pullman	Nickel	A 4-foot culvert was replaced with an 8-foot culvert on an unnamed tributary to Paradise Creek.
SR 270 east of Pullman	Nickel	A 2-foot culvert was replaced with a 9-foot culvert on an unnamed tributary to Paradise Creek.
SR 24 east of Yakima	PEF, Nickel[2]	A 7-foot culvert was replaced with a 12-foot culvert on an unnamed tributary to the Yakima River.

Data Source: WSDOT Environmental Services.
[1] Salmon Recovery Funding Board.
[2] Includes additional funding sources outside of WSDOT's three primary finance packages, the Pre-Existing Funds (PEF), 2003 Nickel and 2005 Transportation Partnership Account (TPA).

Fish passage projects going to construction in 2008

Project Location	Project funding	Project actions to improve fish passage
I-5/ SR 502 near Vancouver	Nickel[1]	Replace culvert along Gee Creek to enhance available fish habitat. Project is being combined with mobility improvements on the I-5/ SR 502 interchange.
SR 539, near Bellingham	PEF	Replace culvert at Deer Creek to improve stream flow and improve habitat. Project is being constructed in combination with mobility improvements on SR 539.
SR 20 north of Deception Pass	PEF, Nickel	Replace existing culvert with a new bridge spanning over Meadow Creek to improve fish passage. Project is being constructed in combination with safety enhancements on SR 20.

Data Source: WSDOT Environmental Services.
[1] Includes funding from local sources in addition to WSDOT's funding.

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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See also

Worker Safety 2

Highway Construction: Nickel and TPA Project Delivery Performance Overview

Project Delivery Highlights for Nickel and TPA combined:

- Both Nickel and TPA programs are 100% on or under their total legislative baseline of $1.768 billion to date.
- 89% of Nickel and TPA projects combined are early or on-time — down two percentage points from last quarter.
- 86% of Nickel and TPA projects combined are under or on-budget — down two percentage points from last quarter.
- 77% of Nickel and TPA projects combined were on-time and on-budget — the same as last quarter.

WSDOT has successfully delivered 152 Nickel and TPA projects on target with the $1.768 billion Legislative budget

Since 2003, WSDOT has delivered a total of 152 Nickel and Transportation Partnership Account (TPA) projects for $1.768 billion, on target with the legislative budget expectation. By June 30, 2008, more than half of the projects funded by Nickel and TPA will either be under construction or completed.

WSDOT delivers 23 projects during the 4th quarter of FY 2008

WSDOT's capital program delivery performance held steady at 77% in delivering projects on-time and on-budget through the fourth quarter of FY 2008, as another seven Nickel projects and 16 TPA projects were completed. The projects were all completed within scope.

On-time and on-budget performance on individual projects declines slightly

For the 152 highway projects completed through June 30, 2008, changes from the previous quarter are:

- On-time delivery performance decreased two percent to 89%;
- On-budget performance decreased two percent to 86%; and
- On-time and on-budget project delivery performance stayed at 77% this quarter.

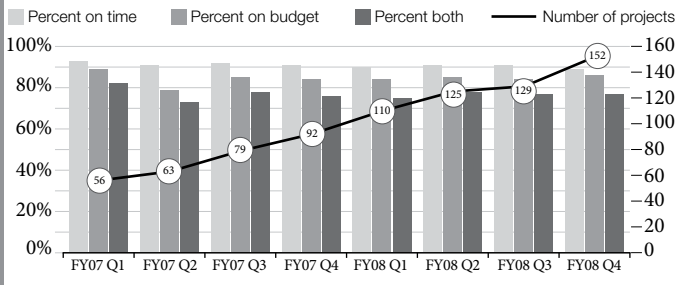
71 Nickel and TPA projects under construction or advertised for construction

This quarter, nine new projects were advertised for construction. Two projects were advertised earlier than scheduled, two were late, and the rest were on-time. Three projects are pending contract awards, and will be reported next quarter. Six projects have been awarded for a cumulative construction contract total of $38.8 million.

32 projects totaling $899 million scheduled to advertise by year end

Seven significantly sized projects have budgets of $20 million, while another seven have budgets between $10 and $20 million. All but four are on their original schedule. The U.S. 101/Hoodsport vicinity project is delayed due to Endangered Species Act compliance and other state water quality permit acquisitions. The Spokane, Stevens, and Pend Oreille project, SR 532/270th St. NW to 72nd Ave. NW project, and the N. Stevens and Ferry project have been delayed due to environmental permit issues. The SR 532/270th St. NW to 72nd Ave. NW is also dealing with right-of-way issues.

Cumulative performance of Nickel and TPA projects



Data Source: WSDOT Project Control and Reporting.

Original project appropriation information

The beige pages report and measure the agency's project delivery performance against the most recent Legislative baseline (currently the 2008 supplemental budget). In addition, this *Gray Notebook* will report the amount that was original appropriated in the 2003 Nickel and 2005 TPA funding packages. Original appropriation data for this edition includes Nickel and TPA projects completed through March 31, 2008. Despite construction cost increases of 60%, WSDOT has delivered 129 projects, 18% above original appropriated amounts. See page 83 for complete information.

Highway Construction Performance Dashboard

Each quarter, WSDOT provides a detailed update on the delivery of the highway capital programs in the *Gray Notebook* and on the web (at www.wsdot.wa.gov) through the Project Pages and Quarterly Project Reports. The *Gray Notebook*'s Beige Pages do not generally include planning studies of projects that do not have a construction phase. The total cumulative number of projects line represents projects that include construction. Since PEF projects are budgeted by program for improvement and preservation of the highway system, the delivery of the work included on the PEF projects is reported programmatically in six categories of work. Each of the 153 Nickel and 238 TPA projects funded has a line item budget; they are monitored and reported at the individual project level. Budgets for PEF, Nickel, and TPA in this edition of the *Gray Notebook* are based on the 2007 Budget, with references to the 2008 Supplemental Budget as appropriate.

Highway construction performance dashboard
As of June 30, 2008; dollars in thousands

	Nickel (2003)	Transportation Partnership Account	Combined Nickel & TPA	Pre-Existing Funds
Total number of projects[1]	153	238	391	758
Total program budget	$3,946,466	$9,415,872	$13,362,338	$4,411,627
Schedule, Scope, and Budget Summary: Results of completed projects				
Cumulative to date: 2003 – June 30, 2008	For Nickel and TPA details, see pages 45-49			See pages 74-78
Total number of projects completed	100	52	152	
% Completed early or on-time	89%	90%	89%	
% Completed within scope	100%	100%	100%	
% Completed under or on-budget	88%	81%	86%	
% Completed on-time and on-budget	80%	71%	77%	
Baseline estimated cost at completion	$1,594,195	$173,929	$1,768,124	
Current estimated cost at completion	$1,596,088	$171,696	$1,767,784	
% of total program over or under budget	0.1% over	1.3% under	0.0% under	
Biennium to date: 2007-09				
Total number of projects completed	31	29	60	163
% Completed early or on-time	84%	90%	87%	–
% Completed within scope	100%	100%	100%	–
% Completed under or on-budget	84%	86%	85%	–
% Completed on-time and on-budget	74%	76%	75%	–
Baseline estimated cost at completion	$840,292	$159,010	$999,302	$1,271,405
Current estimated cost at completion	$842,714	$156,981	$999,695	$1,280,311
Advertisement Record: Results of projects entering into the construction phase or under construction				
Cumulative to date: 2003 – June 30, 2008	For Nickel and TPA details, see pages 50-54			
Total number of projects in construction phase	21	50	71	N/A
% Advertised early or on-time	71%	90%	85%	–
Total award amounts to date	$383,582	$621,908	$1,005,490	–
Biennium to date: 2007-09	For Nickel and TPA details, see pages 50-54			
Total advertised	10	38	48	133
% Advertised early or on-time	90%	92%	92%	N/A
Total award amounts to date	$198,488	$109,524	$308,012	N/A
Advertisement schedule for projects in the pipeline: Results of projects now being advertised for construction or planned to be advertised				
July 1, 2008 through December 31, 2008	For Nickel and TPA details, see pages 55-56			See pages 74-78
Total projects being advertised for construction bids	5	27	32	49
% On schedule or early	100%	85%	88%	–

Data Source: WSDOT Project Control & Reporting.
[1] The total number of reportable project with a construction phase.
[2] The total number of dollars in the total expenditure plan for all projects listed by type of funding. These dollars do not necessarily align with the projects counted in the row above.

Rail and Ferries Performance Dashboard

A total of five Nickel projects and three Transportation Partnership Account (TPA) rail construction projects have been delivered on time and on budget as of June 30, 2008 (100% on-time, 100% on-budget) for $30,415 million. Five projects (three Nickel-funded, two TPA-funded) in construction have total award amounts of $25,972. Six rail projects are planned to be advertised prior to September 30, 2008.

To date, Ferries has not completed any construction projects using Nickel or TPA funding, but three projects (two Nickel-funded and one TPA-funded) are in construction.

Rail performance dashboard *As of June 30, 2008; dollars in thousands*	**Nickel (2003)**	**Transportation Partnership Account**	**Combined Nickel & TPA**
Schedule, scope and budget summary: completed projects			
Cumulative to date, 2003 – June 30, 2008	5	3	8
% 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	$22,450	$7,965	$30,415
Current estimated cost at completion	$22,450	$7,965	$30,415
% of total program on or under budget	100%	100%	100%
Advertisement record: projects under construction or entering construction phase			
Biennium to date, 2007-09			
Total advertised	3	2	5
% Advertised early or on time	100%	100%	100%
Total award amounts to date	$20,308	$5,664	$25,972
Advertisement schedule: projects now being advertised or planned to advertise			
April 1, 2008 through September 30, 2008			
Total being advertised for construction	3	3	6
% On schedule or earlier	33%	67%	50%

Ferries performance dashboard *As of June 30, 2008; dollars in thousands*	**Nickel (2003)**	**Transportation Partnership Account**	**Combined Nickel & TPA**
Advertisement record: projects under construction or entering construction phase			
Cumulative to date, 2003 – March 31, 2008			
Total number of projects in construction phase	2	1	3
% Advertised early or on time	25%	100%	40%
Total award amounts to date	$10,712	$49,196	$59,908
Advertisement schedule: projects now being advertised or planned to advertise			
April 1, 2008 through September 30, 2008			
Total being advertised for construction	0	0	0
% On or better than schedule	N/A	N/A	N/A

Data Source: WSDOT Project Control and Reporting Office

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

152 Highway projects completed as of June 30, 2008

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

Project description	Fund type	On-time adver-tised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
Cumulative to Date								
2003-05 Biennium Summary See Gray Notebook for quarter ending Sept 30, 2006, 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
2005-07 Biennium Summary See Gray Notebook for quarter end 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

Project description	Fund type	On-time advertised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
Biennium to date (2007-09)								
US 2/Dryden — Install signal (Chelan)	Nickel	√	√	√	$498	$498	√	√
I-5/Lexington Vicinity — Construct new bridge (Cowlitz)	Nickel	√	√	√	$5,000	$5,000	√	√
SR 17/Pioneer Way to Stratford Rd — Widen to four lanes (Grant)	TPA	√	Early	√	$20,989	$20,997	√	√
US 12/Wynoochee River Bridge — Upgrade bridge rail (Grays Harbor) Delay is to tie with another project for efficiency.	Nickel	Late	√	√	$257	$368	Over	
US 101/Quinault River Bridge — Upgrade bridge rail (Grays Harbor) Advertisement date changed to balance with Nickel Bridge Rail retrofit allocation.	Nickel	Late	√	√	$268	$276	√	√
SR 105/Johns River Bridge – Upgrade bridge rail (Grays Harbor) Advertisement date changed to balance with Nickel Bridge Rail retrofit allocation.	Nickel	Late	√	√	$338	$347	√	√
US 101/Mt Walker — Add passing lane (Jefferson) Advertisement was delayed for possible redesign of structural elements. Redesign was deemed unnecessary and the project was advertised in 4/07.	TPA	Late	√	√	$3,550	$2,397	Under	√
SR 116/SR 19 to Indian Island — Upgrade bridge rail (Jefferson) Advertisment delay due to Dept. of Archeology and Historic Preservation (DAHP) review required for this project.	Nickel	Late	Late	√	$475	$585	Over	
I-5/Pierce Co Line to Tukwila Inter-change — Add HOV lanes (King) The delay in operational complete date from May 2007 to July 2007 was due to poor weather that reduced the number of workable contract days.	Nickel	Early	Late	√	$142,593	$139,856	√	
I-5/S Seattle NB Viaduct — Bridge paving (King) Project is over budget due to increased quantities for polyester concrete, project security, and additional contractor incentive payment.	TPA	√	Early	√	$14,360	$16,072	Over	

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

Project description	Fund type	On-time advertised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
I-5/Southbound Viaduct, South Seattle vicinity — Bridge repair (King)	TPA	√	Early	√	$1,108	$1,266	Over	
Project is over budget due to increased traffic control and additional contractor incentive payment.								
I-90/Eastbound Ramps to SR 18 — Add signal and turn lanes (King)	Nickel	√	Early	√	$5,012	$5,012	√	√
I-90/Eastbound Ramps to SR 202 — Construct roundabout (King)	Nickel	√	√	√	$1,832	$1,843	√	√
SR 99/S 284th to S 272nd St — Add HOV lanes (King)	Nickel	√	√	√	$15,404	$15,153	√	√
SR 167/15th St SW to 15th St NW — Add HOV lanes (King)	Nickel	√	Early	√	$41,491	$42,717	√	√
Operational completion was expected in December 2007, based on an accelerated schedule submitted by the contractor. The contractor was unable to complete the paving operations in 2007 due to bad weather in November and December; further, harsh winter weather damaged remaining ramps, which required roadway and paving repairs.								
SR 169/SE 291st St vicinity (Formerly SE 288th Street) — Add turn lanes (King)	TPA	√	√	√	$2,606	$2,669	√	√
I-405/SR 520 to SR 522 — Widening (King)	Nickel	√	√	√	$87,293	$82,273	Under	√
SR 516/208th and 209th Ave SE — Add turn lanes (King)	Nickel	Late	Late	√	$1,881	$2,398	Over	
Right-of-way and environmental permitting issues.								
SR 522/I-5 to I-405 — Multimodal improvements (King)	TPA	Early	Early	√	$22,581	$22,487	√	√
SR 3/SR 303 Interchange (Waaga Way) — Construct ramp (Kitsap)	Nickel	√	√	√	$24,828	$27,339	Over	
Increase is due to change orders to cover overruns in erosion control, traffic control and slope maintenance.								
SR 3/Imperial Way to Sunnyslope — Add lanes (Kitsap)	TPA	Late	Early	√	$2,911	$1,547	Under	√
Delay is due to unresolved utilities issues.								
SR 401/US 101 to E of Megler Rest Area vicinity — Upgrade guardrail (Pacific)	Nickel	Early	Early	√	$296	$152	Under	√
Pierce and Thurston Co — Roadside safety improvements (Pierce, Thurston)	TPA	√	Early	√	$1,000	$936	Under	√
SR 7/SR 507 to SR 512 — Safety improvements (Pierce)	Nickel	√	Late	√	$20,268	$21,176	√	
The operationally complete date was delayed due to additional time needed for signal system installation, which resulted in delaying the paving and sidewalk work.								
SR 20/Thompson Road — Add signal (Skagit)	TPA	Early	√	√	$1,038	$1,038	√	√

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Project description	Fund type	On-time advertised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
US 2/Fern Bluff to Sultan startup — Stormwater drainage improvements (Snohomish)	TPA	√	Early	√	$1,012	$465	Under	√
US 2/10th St Intersection vicinity — Stormwater drainage improvements (Snohomish)	TPA	√	√	√	$534	$212	Under	√
US 2/Pickle Farm Road and Gunn Road — Add turn lanes (Snohomish)	Nickel	Late	√	√	$1,322	$1,346	√	√
Advertisement delay to address design deviations and late addition of consultant staff to ensure timely delivery of the project.								
SR 9/SR 522 to 228th St SE, Stages 1a and 1b — Add lanes (Snohomish)	Nickel	√	√	√	$22,840	$24,472	Over	
Project was completed on time but over budget. Additional funds were needed to complete the retaining wall and ramp widening work due to higher than anticipated costs associated with erosion control and water removal. The work on the project was suspended in Dec. 2007 and moved to February 2008 to avoid adverse impacts to wetlands adjacent to the project site during inclement weather.								
SR 9/228th St SE to 212th St SE (SR 524), Stage 2 — Add lanes (Snohomish)	Nickel	√	√	√	$31,181	$31,319	√	√
SR 9/108th Street NE (Lauck Road) — Add turn lanes (Snohomish)	Nickel	√	√	√	$1,846	$1,822	√	√
SR 531/Lakewood schools — Construct sidewalks (Snohomish)	TPA	Early	√	√	$705	$504	Under	√
I-90/Harvard Rd Pedestrian Bridge — Construct bridge (Spokane)	TPA	√	√	√	$1,333	$1,371	√	√
SR 25/Spokane River Bridge — Upgrade bridge rail (Stevens, Lincoln)	Nickel	√	√	√	$369	$316	Under	√
SR 25/Columbia River Bridge — Upgrade bridge rail (Stevens)	Nickel	√	√	√	$468	$468	√	√
US 12/Attalia vicinity — Add lanes (Walla Walla)	Nickel	√	Early	√	$16,201	$16,201	√	√
SR 543/I-5 to Canadian border — Add lanes (Whatcom)	Nickel	Late	Early	√	$49,013	$50,819	√	√
Advertisement date delay due to delays in acquiring right-of-way.								
SR 270/Pullman to Idaho state line — Add lanes (Whitman)	Nickel	Late	√	√	$31,188	$31,188	√	√
The advertisement of this project was delayed due to environmental permitting issues and Corps of Engineers mitigation negotiations. The project was completed within budget; however, WSDOT is currently negotiating with the contractor on a significant contractor claim.								
Current Quarter								
Adams, Franklin Co — Roadside safety improvements (Adams, Franklin)	TPA	Late	Late	√	$1,000	$999	√	
Advertisement date delay due to the delay in completing cultural resource survey and environmental permits. The operationally complete date was delayed until spring due to the delay and length of time required for contractor to purchase and receive steel components for the guardrail system.								

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Project description	Fund type	On-time advertised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
SR 500/I-205 Interchange — Extend merge lane (Clark)	TPA	Early	Early	√	$1,002	$690	Under	√
SR 502/10th Ave to 72nd Ave — Safety improvements (Clark)	TPA	Early	√	√	$736	$749	√	√
SR 503/Gabriel Rd Intersection (Clark)	TPA	√	Early	√	$501	$501	√	√
SR 260,263, and 278 — Upgrade guardrail (Franklin, Spokane, Whitman)	Nickel	Late	Late	√	$1,054	$1,054	√	
Advertisment date delay due to the delay in completing Cultural Resource survey and environmental permits. The Operationally Complete Date was delayed until spring due to the delay and length of time required for contractor to purchase and receive steel components for the guardrail system.								
US 12/Waitsburg to SR 127 — Roadside safety improvements (Garfield, Columbia, Walla Walla)	TPA	√	Early	√	$266	$114	Under	√
US 12/SR 127 to Clarkston — Roadside safety improvements (Garfield, Columbia)	TPA	√	Early	√	$307	$153	Under	√
US 12/Clemons Rd vicinity — Intersection improvements (Grays Harbor)	TPA	√	Early	√	$1,455	$1,159	Under	√
SR 20/Ducken Rd to Rosario Rd — Add turn lanes (Island, Skagit)	Nickel	Late	√	√	$8,505	$8,519	√	√
Advertisment date was delayed due to environmental permitting issues.								
SR 99/Alaska Way Viaduct, Yesler Way vicinity — Stabilize foundation (King)	TPA	√	√	√	$4,472	$4,050	√	√
SR 167 HOT Lanes Pilot Project — Managed lanes (King)	TPA	Early	Early	√	$17,877	$19,478	Over	
SR 7/Lewis Co — Roadside safety improvements (Lewis)	TPA	√	Early	√	$1,680	$871	Under	√
I-5/S 48th to Pacific Ave — Add HOV lanes (Pierce)	Nickel	√	√	√	$105,546	$105,546	√	√
I-5/SR 526 to Marine View Drive — Add HOV lanes (Snohomish)	Nickel	Early	√	√	$220,575	$222,204	√	√
I-5/41st St Interchange — Widening and rebuild ramps (Snohomish)	TPA	Early	√	√	$42,844	$42,844	√	√
SR 99/N of Lincoln Way — Construct sidewalks (Snohomish)	TPA	√	√	√	$1,557	$1,557	√	√
I-90/Latah Creek, Lindeke St Bridges — Upgrade bridge rail (Spokane)	Nickel	√	Early	√	$813	$810	√	√

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

Project description	Fund type	On-time advertised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
Whitman and S Spokane Co — Roadside safety improvements (Spokane, Whitman)	TPA	Late	Late	√	$1,000	$991	√	
Advertisment date delay due to the delay in completing cultural resource survey and environmental permits. The operationally complete date was delayed until spring due to the delay and length of time required for contractor to purchase and receive steel components of the guardrail system.								
SR 4/Svensen's Curve (Wahkiakum)	Nickel	√	√	√	$1,637	$1,637	√	√
SR 542/Boulder Creek Bridge — Replace bridge (Whatcom)	TPA	Late	Late	√	$7,258	$7,247	√	
Advertisment date delay due to time required to analyze alternative bridge footings, which delayed environmental review and permitting process.								
SR 823/Goodlander to Harrison Rd — Build sidewalk (Yakima)	TPA	√	Early	√	$993	$1,162	Over	
The project was awarded slightly over the engineers estimate. Cost increases will be covered by Pre-existing Funds.								
SR 241/Rattlesnake Hills vicinity — Roadside safety (Yakima, Benton)	TPA	Late	Early	√	$2,170	$1,868	Under	√
Advertisment date was delayed due to environmental permitting issues.								

	Percent on-time advertised	Percent on-time completed	Percent within scope	Current Legislative expectation baseline	Current estimated cost at completion	Percent of budgets on-time	Percent on-time, on-budget
Totals Current Quarter (June 30, 2008)	**73%**	**82%**	**100%**	**$423,413**	**$424,790**	**91%**	**73%**
6 Nickel projects	67%	83%	100%	$338,130	$339,770	100%	83%
16 TPA projects	75%	81%	100%	$85,283	$85,020	88%	69%
Totals biennium to date (2007-09)	73%	87%	100%	$999,302	$999,695	85%	75%
31 Nickel projects	68%	84%	100%	$840,292	$842,714	84%	74%
29 TPA projects	79%	90%	100%	$159,010	$156,981	86%	76%
Totals cumulative to date	86%	89%	100%	$1,768,124	$1,767,784	86%	77%
100 Nickel projects	87%	89%	100%	$1,594,195	$1,596,088	88%	80%
52 TPA projects	85%	90%	100%	$173,929	$171,696	81%	71%

Source: WSDOT Project Control and Reporting Office.

Definitions

On-Time Advertised
The project was advertised within the quarter as planned based on the original Legislative expectation (2003-05 Nickel, 2005-07 TPA).

On-Time Completed
The project was operationally complete within the quarter as planned in the original Legislative expectation (2003-05 Nickel, 2005-07 TPA). "Operationally complete" is 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.

Within Scope
The project was completed within the specific functional intent of a project as last approved by the Legislature.

On-Budget
The project was within +/- 5% of the current Legislative expectation (baseline).

Note: 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.

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Project description	Fund type	On-time advertised	Ad date	Contractor	Operationally complete date	Award amount
Cumulative to date						
SR 112/Hoko and Pysht Rivers — Erosion control (Clallam)	TPA	Early	Aug-06	(State Forces)	Mar-09	$200
Deficiencies are being corrected by state forces. First repair was completed in December 2006 and additional repair is being developed along SR 112.						
I-5/SR 502 Interchange — Build interchange (Clark)	Nickel	√	Dec-06	Kerr Contractors, Inc.	Jun-09	$28,394
SR 202/Jct SR 203 — Construct Roundabout (King)	Nickel	√	Dec-06	Tri-State Construction, Inc.	Aug-08	$1,391
I-90/Two Way Transit — Transit and HOV — Stage 1 (King)	TPA	Late	Oct-06	Max J. Kuney Co.	Aug-08	$28,532
Agreement of access with Mercer Island delayed the advertisement to 10/16/06.						
SR 509/SR 518 Interchange — Signalization and channelization (King)	TPA	Early	Apr-07	Tri-State Construction, Inc.	Nov-08	
SR 518/SeaTac Airport to I-5 — Eastbound widening (King)	TPA	√	Apr-07	Tri-State Construction, Inc.	Nov-08	$26,631
SR 509/I-5 to Sea-Tac – Freight and congestion relief (King)	TPA	Late	Jun-06	Tri-State Construction, Inc.	Jun-09	$344
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 ad date. The original schedule update to the project list was overlooked in the 2006 Legislative Budget, though the ad date was updated to June 2006 in the 2007 Legislative Budget.						
I-405/NE 10th St — Bridge crossing (King)	TPA	Early	Sep-06		Dec-09	
• I-405/NE 10th St Bridge crossing (King)			Sep-06	City of Bellevue	Apr-08	$9,772
• I-405/NE 10th St Bridge crossing Stage 2 (King)			Sep-07	Max J. Kuney Company	Dec-09	$13,866
I-405/112th Ave SE to I-90 — Northbound widening (King)	TPA	Early	Oct-06	Guy F. Atkinson Construction LLC	Dec-09	$124,000
I-405/I-90 to SE 8th St — Widening (King)	Nickel	Early	Oct-06	Guy F. Atkinson Construction LLC	Dec-09	
SR 167/S 180th St to I-405 — Southbound widening (King)	TPA	Early	Feb-07	Bilfinger/Tri-State Joint Venture	Jun-10	$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	Bilfinger/Tri-State Joint Venture	Jun-10	
• I-405/Springbrook Creek – Wetland and habitat mitigation bank (King)	TPA		Aug-06	Scarsella Bros., Inc.	Dec-08	$12,539
I-405/I-5 to SR 181 — Widening (King)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 520/W Lake Sammamish Parkway to SR 202, Stage 3 — Widening (King)	Nickel	Late	Jan-07	Tri-State Construction, Inc.	Dec-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 is scheduled for advertisement in October, 2008.						
SR 104/Hood Canal Bridge — Replace east half of bridge (Kitsap, Jefferson)	TPA	√	Feb-03	Kiewit-General, A Joint Venture	Jun-09	$204,000

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Project description	Fund type	On-time advertised	Ad date	Contractor	Operationally complete date	Award amount
I-5/Rush Rd to 13th St — Add lanes (Lewis)	Nickel	√	Mar-07	Scarsella Bros., Inc.	Dec-09	$33,750
US 101/Lynch Road — Safety improvements (Mason)	TPA		Dec-05	Mason County	Mar-10	$1,000
SR 20/Fredonia to I-5 — Add lanes (Skagit)	Nickel	√	Nov-06	Scarsella Bros. Inc.	Oct-09	$15,139
SR 20/Quiet Cove Rd Vicinity to SR 20 Spur — Widening (Skagit)	Nickel	√	May-07	Marshbank Construction, Inc.	Oct-09	$6,129
SR 9/Schloman Rd to 256th St NE — New alignment (Snohomish) Advertisment date was delayed due to environmental permitting issues.	Nickel	Late	Jan-07	Scarsella Bros. Inc.	Sep-08	$10,748
SR 9/252nd St NE Vicinity — Add turn lane (Snohomish)	Nickel	Late	*Combined with the project above for construction efficiencies.*			
SR 9/268th St Intersection — Add turn lane (Snohomish)	Nickel	Late	*Combined with the project above for construction efficiencies.*			
US 395/NSC-Francis Ave to Farwell Rd — New alignment (Spokane)	Nickel	Late	Jan-04		Aug-09	
• NSC-Farwell Rd – Road lowering (Spokane)	Nickel		Jan-04	Max J. Kuney Company	Jul-05	$4,976
• NSC-Gerlach to Wandermere — Grading — CN (Spokane)	Nickel		Nov-04	KLB Construction Inc.	Sep-06	$9,987
• NSC-Francis Avenue to US 2 – Structures — REBID (Spokane)	Nickel		May-06	Max J. Kuney Company	Jul-08	$17,236
• US 395/NSC-Freya to Fairview Vicinity — Grading and structures (Spokane)	Nickel		Jan-07	Steelman-Duff	Nov-08	$10,571
• US 395/NSC-Freya St to Farwell Rd — PCCP paving (Spokane)	Nickel		Feb-07	Acme Concrete Paving	Mar-09	$19,490
• US 395/NSC — BNSF RR Tunnel (Spokane) Right-of-way acquisition delay.	Nickel		Sep-07	Scarsella Bros. Inc.	Aug-09	$17,295
			Combined with the project above for construction efficiencies.			
Biennium to Date (2007-09)						
SR 26/Othello vicinity — Install lighting (Adams, Grant)	TPA	Early	Dec-07	Central Washington Asphalt	Dec-09	
SR 14/Benton Co — Roadside safety improvements (Benton)	TPA	√	Mar-08	Frank Gurney, Inc.	Jul-08	
SR 24/SR 241 to Cold Creek Rd — Add passing lanes (Benton, Yakima)	TPA	√	Dec-07	Granite Northwest, Inc. DBA	Oct-08	$2,721
US 2/Roadside safety improvements — Safety improvements (Chelan)	TPA	√	Mar-08	Frank Gurney, Inc.	Oct-08	$418
US 2/Wenatchee — Build trail connection (Chelan)	TPA	Early	Mar-08	Strider Construction Co., Inc.	Nov-08	$1,170
US 2/US 97 Peshastin E — New interchange (Chelan)	Nickel	√	Sep-07	KLB Construction, Inc.	Oct-09	$9,776

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E Olympic Peninsula — Roadway safety improvements (Clallam, Jefferson, Kitsap, Mason)	TPA	√	Mar-08	Petersen Brothers, Inc	Jul-08	$1,788
W Olympic Peninsula — Roadway safety improvements (Clallam, Grays Harbor, Jefferson)	TPA	√	Feb-08	Petersen Brothers, Inc	Sep-08	$780
SR 112/Seiku Vicinity to US 101 — Install guardrail (Clallam)	TPA	√	Feb-08	Petersen Brothers, Inc	Oct-08	$2,596
SR 112/Neah Bay to Seiku — Roadside safety improvements (Clallam)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 14/Lieser Rd Interchange — Add ramp signal (Clark)	TPA	Early	Dec-07	Mill Plain Electric, Inc.	Dec-08	$353
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.*			
SR 432/Roadside safety improvements (Cowlitz)	TPA	Early	Feb-08	Coral Construction Co. Wilsonville, OR	Jul-08	$229
US 101/W Fork Hoquiam River Bridge — Replace bridge (Grays Harbor)	TPA	√	Mar-08	Ross Bros. & Company, Inc.	Feb-09	$3,545
US 101/W Fork Hoquiam River Bridge — Replace bridge (Grays Harbor)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR104/Port Angeles graving dock – Settlement and remediation (Jefferson)	TPA	√	Feb-08		Jul-08	
SR 515/SE 182nd St to SE 176th St vicinity — Construct traffic island (King)	TPA	Late	Sep-07	CPM Corp.	Jul-08	
SR 410 and SR 164 — Roadside safety improvements (King)	TPA	√	Oct-07	Apply-A-Line	Dec-08	$719
I-405/Bridges — Seismic retrofit (King)	TPA	√	Feb-08	KLM CONSTRUCTION, INC.	Dec-08	$916
I-5/Boston St to E Shelby St — SB I-5, Westside — Noise wall (King)	TPA	√	Mar-08	C. A. Carey Corp.	Apr-10	$5,376
I-5/5th Ave NE to NE 92nd St — Noise wall (King)	TPA	√	Feb-08	Wilder Construction Co.	Sep-10	$3,315
SR 522/University of Washington Bothell — Build interchange (King)	TPA	Late	Oct-07	Mowat Construction Company	Oct-10	$36,651
Advertisement date delay due to environmental permit issues. The project was originally advertised in January, 2007, and then pulled from ad due to budget constrains. The project was re-advertised in October, 2007 and was awarded in January, 2008.						
SR 11, SR 525, and SR 900 — Roadside safety improvements (King, Snohomish, Skagit)	TPA	√	Feb-08	Coral Construction Company	Dec-10	$1,463
SR 9, SR 11, and SR 20 — Roadside safety improvements (Skagit)	TPA	√	Feb-08	*contract combined with the one above*	Oct-08	
SR 542 and SR 547 — Roadside safety improvements (Whatcom)	TPA	√	Feb-08	*contract combined with the one above*	Oct-08	

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SR 142/Roadside safety — Roadside safety improvements (Klickitat)	TPA	Early	Mar-08	Dirt and Aggregate Interchange	Oct-10	$300
US 101/SR 3 On Ramp to US 101 NB — Add new ramp (Mason)	TPA	Early	Feb-08	Tri-State Construction, Inc.	Dec-08	$2,373
Advancement was made to complete this work prior to the scheduled closing of Hood Canal Bridge.						
SR 161/SR 167 EB Ramp — Realign ramps (Pierce)	Nickel	√	Mar-08	Icon Materials	Oct-08	$2,192
SR 704/Cross Base Highway — New alignment (Pierce)	TPA	Early	Mar-08	Ceccanti, Inc	Dec-08	$7,350
Advancement was made to construct the first stage of the project at the east end of the corridor and to finish right-of-way efforts within the 07-09 biennium.						
US 2 and SR 92 — Roadside safety improvements (Snohomish)	TPA	√	Aug-07	Petersen Brothers	Jul-08	$502
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.*			
I-5/Grand Mound to Maytown, Stage One — 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	Oct-09	$33,733
SR 539/Tenmile Road to SR 546 — Widening (Whatcom)	Nickel	√	Dec-07	MAX J. KUNEY COMPANY	Oct-09	$53,987
SR 410/Rattlesnake Creek — Stabilize slopes (Yakima)	TPA	√	Dec-07	Granite Northwest, Inc. DBA	Oct-08	$206
US 12/Naches River N of Yakima — Stabilize slopes (Yakima)	TPA	√	Nov-07	Scarsella Bros., Inc	Dec-08	$1,516
Quarter Ending June 30, 2008						
US 101/Blyn Vicinity — Add passing lanes (Clallam)	Nickel	√	May-08	Bruch & Bruch Construction Inc.	Nov-08	$1,602
SR 900/SE 78th St Vic to I-90 Vic — Widening and HOV lanes (King)	Nickel	√	May-08	Icon Materials, A Division of CPM	Oct-09	$19,354
SR 519/ I-90 to SR 99 Intermodal Access Project — Interchange improvements (King)	Nickel	Early	Jun-08		Jul-10	
SR 16/Burley-Olalla Interchange — Build interchange (Kitsap)	Nickel	Late	Apr-08	Ceccenti, Inc.	Dec-09	$16,329
The delay is to allow time to address continuing design review issues including temporary erosion control and utility boring designs.						
US 97/Klickitat Co — Roadside safety improvements (Klickitat)	TPA	√	Apr-08	Dirt and Aggregate Interchange, Inc.	Jul-08	$499
SR 6/S Fork Chehalis River Bridge — Replace bridge (Lewis)	TPA	√	Apr-08		Dec-09	

WSDOT's Capital Project Delivery Programs

Advertisement Record

71 Projects in construction phase as of June 30, 2008

Nickel and Transportation Partnership Account (TPA) projects, dollars in thousands

Project description	Fund type	On-time advertised	Ad date	Contractor	Operationally complete date	Award amount
US 97/Brewster Vicinity — Install lighting (Okanogan)	TPA	Early	May-08	Hurst Construction, LLC	Oct-08	$807
SR 9/Lake Stevens Way to 20th St SE — Improve intersection (Snohomish)	TPA	√	Apr-08		Sep-09	
SR 902/Medical Lake Interchange — Improve intersection (Spokane)	TPA	Late	May-08	Half Moon Construction & Leasing, Inc.	Sep-08	$198
Advertisement delayed to May 27, 2008, with interim solution. The project remains on schedule to meet the operationally complete date.						

	On-time advertised	Award amount
Totals Current Quarter (June 30, 2008)	**78%**	**$38,789**
4 Nickel Projects	75%	$37,285
5 TPA Projects	80%	$1,504
Totals Biennium to Date (2007-09)	**92%**	**$308,012**
10 Nickel Projects	90%	$198,488
38 TPA Projects	92%	$109,524
Totals Cumulative to Date (Projects Underway)	**85%**	**$1,005,490**
21 Nickel Projects	71%	$383,582
50 TPA Projects	90%	$621,908

Source: WSDOT Project Control and Reporting Office

WSDOT's Capital Project Delivery Programs

Projects To Be Advertised

32 Projects in the delivery pipeline for July 1, 2008, through December 31, 2008

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*	Current estimated cost
US 395/Columbia Dr to SR 240 — Rebuild interchange (Benton)	TPA	Oct-08	Oct-08	√	$22,724	$24,700
SR 150/W of Chelan — Install lighting (Chelan)	TPA	Nov-08	Nov-08	√	$266	$286
SR 971/S Lakeshore Rd — Install lighting (Chelan)	TPA	Nov-08	Nov-08	√	$109	$116
SR 285/George Sellar Bridge — Additional eastbound lane (Chelan, Douglas)	TPA	Dec-08	Dec-08	√	$13,491	$14,966
US 2/S of Orondo — Add passing lane (Douglas)	TPA	Nov-08	Nov-08	√	$3,364	$3,712
SR 17/N of Moses Lake — Add passing lane (Grant)	TPA	Nov-08	Nov-08	√	$1,306	$1,433
SR 17/Moses Lake to Ephrata — Widening (Grant)	TPA	Nov-08	Nov-08	√	$5,000	$5,000
SR 532/Sunrise Blvd to Davis Slough — Improve safety (Island)	TPA	Apr-09	Oct-08	Advanced	$4,747	$4,747
Central King to South Snohomish bridges — Seismic retrofit (King, Snohomish)	TPA	Jul-08	Jul-08	√	$12,558	$12,949
I-405/SR 167 to SR 169 — Add new southbound lane (King)	Nickel	Oct-08	Jul-08	Advanced	$55,461	$57,281
I-405/SR 167 to SR 169 — Northbound widening (King)	TPA	Oct-08	Jul-08	Advanced	$6,769	$5,281
I-405/SR 515 — New interchange (King)	TPA	Oct-08	Oct-08	Advanced	$113,362	$115,685
I-5/Boeing Access Rd vicinity to King/Snohomish Co Line — Pavement repair (King)	Nickel	Oct-08	Oct-08	√	$21,000	$21,000
I-90/Eastside Bridges — Seismic retrofit (King)	TPA	Oct-08	Oct-08	√	$7,857	$11,153
I-90/I-5 to 12th Ave S — Seismic retrofit (King)	TPA	Oct-08	Oct-08	√	$10,360	$14,420
SR 307/SR 104 Safety Corridor Study — Spot improvements (Kitsap)	TPA	Nov-08	Nov-08	√	$5,000	$5,000
I-5 and SR 520 Guardrail retrofit — Safety (King)	Nickel	Dec-08	Dec-08	√	$3,269	$2,692
Lincoln Co — Roadside safety improvements (Lincoln)	TPA	Jul-08	Aug-08	√	$1,010	$988
US 101/Hoodsport vicinity — Stabilize slope (Mason)	TPA	Jun-08	Dec-08	Delayed	$544	$593
Additional time is needed for the lengthy Endangered Species Act (ESA) compliance and other state water quality permit acquisition, causing the project to miss the 2008 construction season.						
SR 20/W of Okanogan — Roadside safety improvements (Okanogan)	TPA	Oct-08	Oct-08	√	$1,200	$1,200
Spokane, Stevens, and Pend Oreille Co — Roadside safety improvements (Pend Oreille, Spokane, Stevens)	TPA	Aug-08	Dec-08	Delayed	$1,010	$1,010
Advertisement date was delayed due to environmental permit issues.						
I-5/SR 16 Interchange — Rebuild interchange (Pierce)	TPA	Jul-08	Jul-08	√	$307,030	$314,244
SR 532/General Mark W. Clark Memorial Bridge — Replace bridge (Snohomish)	TPA	Apr-09	Oct-08	Advanced	$19,450	$19,450
SR 532/Pilchuck Creek Tributary — Remove fish barrier (Snohomish)	TPA	Jul-09	Oct-08	Advanced	$481	$481

* Note: Baseline definition is 'last legislatively approved appropriation.'

WSDOT's Capital Project Delivery Programs

Projects To Be Advertised

32 Projects in the delivery pipeline for July 1, 2008, through December 31, 2008

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

Project description	Fund type	Original planned ad date	Current planned ad date	On schedule	Baseline estimated cost*	Current estimated cost
SR 532/270th St NW to 72nd Ave NW — Improve safety (Snohomish, Island)	TPA	May-08	Oct-08	Delayed	$19,552	$19,552
This is a design-build project. The request for proposals (RFP) advertising date has been delayed due to additional time needed to acquire environmental permits and right-of-way parcels..						
SR 532/General Mark W. Clark Memorial Bridge — Improve safety (Snohomish)	TPA	Apr-09	Oct-08	Advanced	$14,683	$14,683
SR 532/64th Ave NW to 12th Ave NW — Improve safety (Snohomish)	TPA	Jul-09	Oct-08	Advanced	$23,734	$23,734
I-5/172nd St NE (SR 531) Interchange — Rebuild interchange (Snohomish)	TPA	Oct-08	Oct-08	√	$44,612	$46,790
US 395/NSC-US 2 to Wandermere and US 2 Lowering — New alignment (Spokane)	Nickel	Aug-08	Aug-08	√	$134,295	$150,325
N Stevens and Ferry Co — Roadside safety improvements (Stevens, Ferry)	TPA	Aug-08	Dec-08	Delayed	$900	$900
Advertisement date was delayed due to environmental permit issues.						
SR 530/Sauk River (Site #2) — Stabilize river bank (Snohomish)	TPA	Jan-10	Aug-08	Advanced	$3,335	$4,518
I-5/Bakerview Rd to Nooksack River Bridge, Slater Rd intersection — Safety improvements (Whatcom)	Nickel	Oct-08	Oct-08	√	$120	$132

* Note: Baseline definition is 'last legislatively approved appropriation.'

	Percent on schedule	Baseline estimated cost at completion	Current estimated cost at completion
Total (July 1, 2008, through December 31, 2008)	**88%**	**$858,598**	**$899,021**
5 Nickel Projects	100%	$214,144	$231,430
27 TPA Projects	85%	$644,454	$667,591

Source: WSDOT Project Control and Reporting Office.

Note: 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.

Project Milestones: Nickel projects

Schedule milestone tracking for Nickel projects

Scheduled 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 milestone achievement rate**	Milestones achieved early
Project definition complete					
Biennium to date (2007-09)	1	3	0	300%	1
Cumulative to date	138	150	1	109%	13
Begin preliminary engineering					
Biennium to date (2007-09)	7	7	1	100%	1
Cumulative to date	147	152	1	103%	6
Environmental documentation complete					
Biennium to date (2007-09)	14	11	1	79%	0
Cumulative to date	125	122	3	98%	0
Right-of-way certification					
Biennium to date (2007-09)	11	10	1	91%	1
Cumulative to date	66	70	2	106%	6
Advertisement date*					
Biennium to date (2007-09)	13	12	0	92%	1
Cumulative to date	120	121	0	101%	1
Operationally complete					
Biennium to date (2007-09)	33	31	1	94%	3
Cumulative to date	95	100	1	105%	6

Source: WSDOT Project Control and Reporting Office
* Advertisement date includes projects that went to ad & 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.

Milestone Definitions:

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.

WSDOT's Capital Project Delivery Programs

Project Milestones: TPA projects

Schedule milestone tracking for TPA projects

Scheduled 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 milestone achievement rate**	Milestones achieved early
Project definition complete					
Biennium to date (2007-09)	29	40	3	138%	2
Cumulative to date	197	211	4	107%	18
Begin preliminary engineering					
Biennium to date (2007-09)	36	37	1	103%	1
Cumulative to date	203	215	4	106%	16
Environmental documentation complete					
Biennium to date (2007-09)	64	64	7	100%	5
Cumulative to date	135	136	9	101%	10
Right-of-way certification					
Biennium to date (2007-09)	35	34	7	97%	7
Cumulative to date	63	71	7	113%	15
Advertisement date*					
Biennium to date (2007-09)	53	49	5	92%	3
Cumulative to date	103	102	5	99%	4
Operationally complete					
Biennium to date (2007-09)	25	29	1	116%	13
Cumulative to date	39	52	1	133%	14

Source: WSDOT Project Control and Reporting Office
* Advertisement date includes projects that went to ad & 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.

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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 June 2008 transportation revenue forecast. 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 June 2008 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 7.7%. This reduction is due to projected higher gasoline prices that result in lower gasoline consumption.

2003 Transportation Funding Package highlights

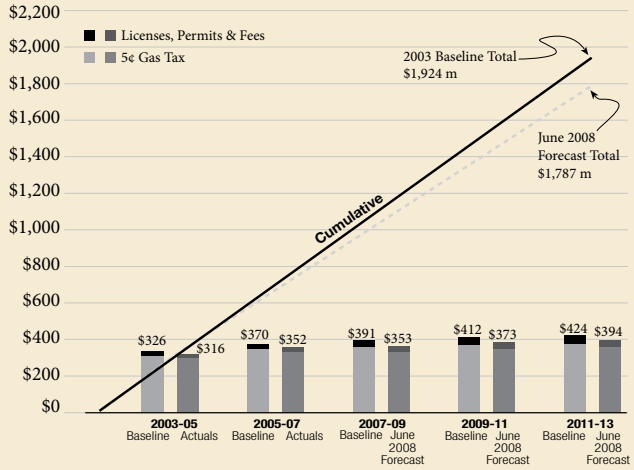
Deposited into the Transportation 2003 (Nickel) Account (established in 2003)

- 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

Because Washington State's gas tax is based on gallonage rather than price, reduced consumption results in reduced revenues.

Transportation 2003 (Nickel) account revenue forecast

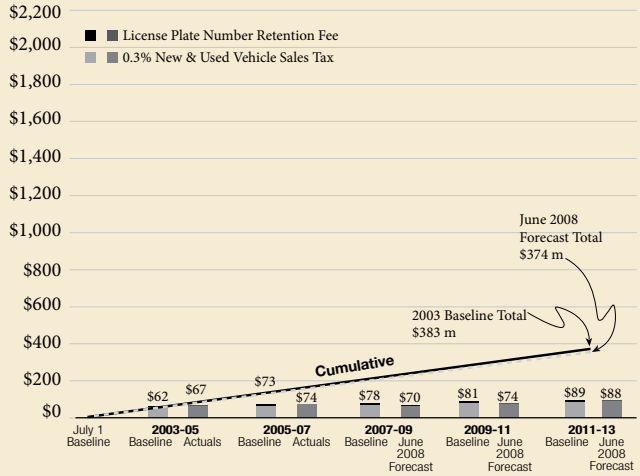
March 2003 Legislative baseline compared to June 2008
Transportation Revenue Forecast Council
Dollars in millions



Baseline numbers may not add due to rounding.

Multimodal Account (2003 Package) revenue forecast

March 2003 Legislative baseline compared to June 2008
Transportation Revenue Forecast Council
Dollars in millions



Numbers may not add due to rounding.

Paying for the Projects: Transportation Partnership Account financial information

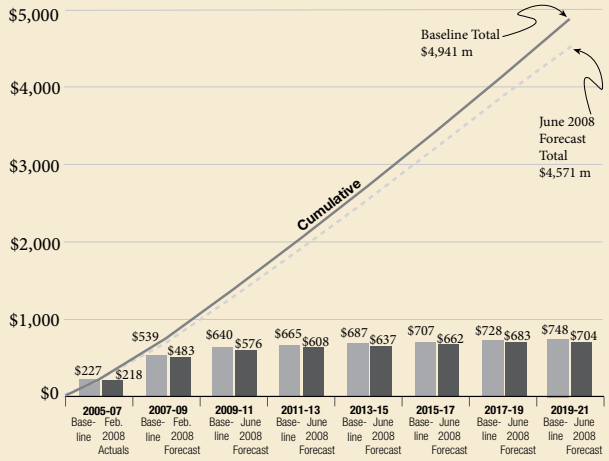
Revenue forecast update

The accompanying chart compares the current June 2008 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 June 2008 forecast for gas tax receipts over the 16 year period decreased by 8.1% from the baseline forecast. This reduction is due to projected higher gasoline prices that result in lower gasoline consumption. Because Washington State's gas tax is based on gallonage rather than price, reduced consumption results in reduced revenues.

Transportation Partnership Account (TPA) gas tax revenue forecast

March 2005 Legislative baseline compared to June 2008 Transportation Revenue Forecast Council
Dollars in millions



Forecast figures may not add due to rounding.

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
  - $30 for cars between 6,000 and 8,000
- 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 pound
- 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).

Project Highlights

SR 202/SR 520 to Sahalee Way – Widening (King)

This project was budgeted for $82.7 million and widened three miles of SR 202 from SR 520 in Redmond to Sahalee Way in Redmond. The first stage of this project added an additional lane in each direction between SR 520 and East Lake Sammamish Parkway, and improved the intersection of SR 202 and East Lake Sammamish Parkway. Other work included bicycle lanes, sidewalks, drainage, landscaped median, signing upgrades, and signal revisions at the SR 520 off-ramp and at NE 70th Street. The second stage included two new lanes, retaining walls, noise walls, bicycle lanes, sidewalks, and replacement of the bridges at 196th Avenue NE and at Evans Creek. From 196th Avenue NE to Sahalee Way, the roadway was raised to accommodate an ancient landslide.

The new lanes on SR 202 between East Lake Sammamish Parkway and Sahalee Way were opened to the public on February 15, 2008, ten months ahead of schedule and $1.3 million under budget. A new flyover ramp was opened from westbound SR 202 to westbound SR 520 in early March. Together, these improvements have resulted in significant travel time savings for westbound morning commuters.

I-5/Columbia River Crossing at Vancouver (Clark)

A cooperative bi-state effort by eight public agencies resulted in the publication of a massive Draft Environmental Impact Statement (DEIS) on this mega-project. The project would ease traffic congestion on a five-mile stretch of Interstate 5 connecting Washington and Oregon and replace or retrofit an existing 90-year-old bridge. This section contains the last movable lift-span bridge on I-5 that regularly stops traffic.

The total project, estimated to cost between $3.1 billion and $4.2 billion, will be the largest public works project the region will see in this generation. The 850-page, 2-inch thick, DEIS is supported by an additional 5,000 pages of technical reports. The DEIS is a significant milestone in the multi-year effort to analyze alternatives and solutions for reducing congestion, and for reconstructing or replacing the existing bridge. Both Washington and Oregon and their respective regional planning and transit agencies collaborated on the document released May 2, 2008.

The DEIS discloses potential environmental and community impacts and possible mitigation measures for five alternatives. The aim is to provide a new Columbia River crossing and associated connection improvements on this north-south corridor so vital to the economic system of the west coast.

The 60-day DEIS public comment period runs through July 1, 2008. Copies of the report are available for free electronic downloading or for $50 for printed copies. Next steps will include identification of the preferred alternative and publication of the Final EIS.

Another good news item this quarter is that WSDOT received the $15 million federal "Corridors of the Future" earmark anticipated in the $88.5 million appropriated by the 2008 Legislature.

I-205/Mill Plain vicinity (Clark)

These two projects are budgeted for a total of $23.7 million and will be combined for construction. A new ramp will be built to connect I-205 northbound traffic directly with NE 112th Avenue at the Mill Plain interchange. Additionally, a bridge will be built on the northbound on-ramp to I-205 for crossing over the new 112th Ave off-ramp and future off-ramps. When finished, the work will reduce congestion on city streets, shortening back-ups onto I-205 and improving traffic flow.

This project was advertised five weeks ahead of schedule and awarded on May 1, 2008, at $2.7 million under the engineer's estimate. A groundbreaking ceremony was held on May 28th and construction activities began on June 9th.

SR 241/Rattlesnake Hills vicinity – Roadside safety (Benton, Yakima)

This project is budgeted for $2.2 million and improved 14 miles of SR 241 from just north of Sunnyside to near the junction with SR 24. WSDOT increased corridor safety by re-aligning two curves just south of the SR 241/SR 24 junction, and also updated guardrail and signing.

The contractor started work in February 2008. WSDOT successfully reduced the effect on local traffic by coordinating each week's construction activities with the Commute Director at the Department of Energy's Hanford facility. GPS-guided grading equipment was one of the factors that allowed the improved roadway alignment to open to traffic three months early in May. The project was completed under budget due to aggressive bids.

Watch List: Projects with schedule and 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 pages 63-64 lists projects currently facing schedule or budget concerns with a reference to these overarching 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.

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.

Most common causes of schedule delays or cost increases

Environmental

Archeological: 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 Memorandums of Understanding (MOUs) or Memorandums 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.

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.

Watch List: Projects with schedule and budget concerns

Watch List Summary

Projects with budget and/or schedule concerns

Added to Watch List	Project type	Watch List issue
U.S. 101 Dawley Road vicinity to Blyn Highway - Add climbing lane (Clallam)	Highway	Environmental: permitting; Right-of-way: land acquisition, waiting for Congressional approval.
SR 14, Camas Washougal - Add lanes and build interchange (Clark)	Highway	Environment: geological, permitting.
I-5/SR 432 Talley Way Interchanges - Rebuild Interchanges (Cowlitz)	Highway	Design: design element changes; Environmental: review and Approval
SR 104/Hood Canal Bridge- Replace east half (Jefferson, Kitsap) (see page 79 for Watch List write up)	Highway	Construction: cost increase of materials, Design: design element changes
SR 410 White River - Stabilize Slopes (King)	Highway	Design: alternatives
I-405 SR 520 to SR 527 - Widening Stage 2 (King)	Highway	Design: alternatives
SR 305/Hostmark to Bond (Kitsap)	Highway	Environment
I-5, Mellen to Grand Mound - Widening; interchange reconstruction (Lewis, Thurston)	Highway	Design: alternatives
SR 522 Snohomish River Bridge to U.S. 2 - Add Lanes (Snohomish)	Highway	Design: alternatives
SR 539 Horton Road to Tenmile Road - Widen to Five Lanes (Whatcom)	Highway	Utilities: utility relocation; Construction: weather.

Updates to Watch List	Project type	Watch List issue
SR 285/George Sellar Bridge – Additional eastbound lane (Douglas)	Highway	Construction
SR 99/Aurora Avenue George Washington Memorial Bridge – Seismic retrofit (Island & Snohomish)	Highway	Environmental: geological; Construction
SR 532/Corridor Improvements – Design-build contracts (Island, Snohomish) Individual projects under this umbrella project name: • SR 532/270th Street NW to 72nd Avenue NW-Improve Safety; • SR 532/Sunrise Boulevard to Davis Slough-Improve Safety; • SR 532/General Mark W. Clark Memorial Bridge-Improve Safety; • SR 532 64th Avenue NW to 12th Avenue NE-Improve Safety; • SR 532 Pilchuck Creek Tributary-Fish Barrier; • SR 532/General Mark W. Clark Memorial Bridge - Replace Bridge (Snohomish)	Highway	Environmental: permitting; Right-of-way: land acquisition
SR 167/8th Street East vicinity to South 277th Street vicinity – Construct southbound HOV lane (King)	Highway	Design: design element changes
I-405, I-5 to SR 169 Stage 1 – Widening (King)	Highway	Right-of-way: land acquisition
I-405, I-5 to SR 169 Stage 2 - Widening and SR 515 Interchange (King)	Highway	Design: design element changes
SR 9/Schloman Road to 256th Street NE – Add new alignment (Pierce) SR 9/252 Street NE vicinity – Add turn lane SR9/268th Street Intersection – Add turn lane (Snohomish)	Highway	Construction: materials procurement; Environmental
I-5/172nd Street NE (SR 531) Interchange – Rebuild interchange (Snohomish)	Highway	Right-of-way: land acquisition
SR 529/Ebey Slough Bridge – Replace bridge (Snohomish)	Highway	Environmental: geological, mitigation
U.S. 12/ SR 124 Intersection – Build interchange (Walla Walla)	Highway	Environmental: mitigation

Watch List: Projects with schedule and budget concerns

Watch List Summary

Projects with budget and/or schedule concerns

Updates to Watch List	Project type	Watch List issue
SR 542/Nooksack River – Redirect river and realign roadway (Whatcom)	Highway	Environmental: geological; Right-of-way: land acquisition
U.S. 12/Tieton River East and West Bridges – Replace bridges (Yakima)	Highway	Design
Port Townsend-Keystone Special Ferry Project (Island)	Ferries	Design: alternatives
New 144-Auto Ferry (King, Kitsap, San Juan)	Ferries	Design
Eagle Harbor Maintenance Facililty (Kitsap)	Ferries	Design: alternatives (legal issue)
Mukilteo Multimodel Ferry Terminal (Snohomish)	Ferries	Design
Vancouver - Rail Bypass and West 39th Street Bridge (Clark)	Rail	Right-of-way: land acquisition
Tacoma - Bypass of Pt Defiance (Pierce)	Rail	Design
Mount Vernon - Siding Improvements (Skagit)	Rail	Design: alternatives
Everett - Curve Realignment and Storage Tracks (Snohomish)	Rail	Environmental: mitigation
Stanwood - New Station, Stanwood - Siding Upgrade (Snohomish)	Rail	Environmental: permitting
Bellingham - Waterfront Restoration, Bellingham - GP Area Upgrades (Whatcom)	Rail	Environmental: archeological

Removed from Watch List	Project type	Watch List issue/Resolution
SR 433/Lewis and Clark Bridge - Painting (Cowlitz)	Highway	Construction: contractor issues
SR 20/Ducken Road to Rosario Road - Add Turn Lanes (Island & Skagit)	Highway	Construction: cost increase of materials
I-90 Two Way Transit and HOV Operations – Stage 1 Mercer Island (King)	Highway	Construction
I-5/SR 161/SR 18 - Interchange Improvements (The Triangle Project) (King)	Highway	Environmental: fish passage barrier
SR 3/SR 303 Interchange (Wagga Way) - Construct Ramp (Kitsap)	Highway	Environmental: mitigation
SR 16/Burley-Olalla Interchange - Build Interchange (Kitsap)	Highway	Environmental: mitigation
Lincoln County - Roadside Safety Improvements (Lincoln)	Highway	Environmental: permitting
U.S. 101/Hoodsport Vicinity - Stabilize Slope (Mason)	Highway	Environmental: mitigation
U.S. 101/Purdy Creek Bridge Replacement (Mason)	Highway	Design: design element changes
SR 16/Olympic Drive to Union Pacific (Pierce)	Highway	Construction: contractor issues
SR 410/214th Ave E to 234th - Add Lanes (Pierce)	Highway	Environmental: mitigation
I-5/SR 16 Interchange – Rebuild interchange (Pierce)	Highway	Design: design element changes
SR 902/Medical Lake Interchange - Intersection Improvements (Spokane)	Highway	Design: alternative
Geiger Spur/Airway Heights - New Rail Connection (Spokane)	Rail	Right-of-way: land acquisition

Watch List: Projects with schedule and budget concerns

Added to watchlist

U.S. 101/Dawley Road vicinity to Blyn Highway – Add climbing lane (Clallam)

This project, budgeted at $3.5 million, will construct a northbound truck climbing lane to reduce congestion and improve motorist safety. This section of U.S. 101 experiences back-ups due to high truck volumes and steep grades.

Originally designed in 1997 and shelved in 2002, this project is now active again. It is experiencing an estimated $3.52 million increase in the total project cost from the approved budget. Significant design compliance changes required upgrades in hydraulic analysis, and upgrades to the roadway and drainage designs for cross culverts, ponds, pipes and ditches. In addition, it is necessary to upgrade environmental permit compliance due to federal permitting requirements, including federal endangered species regulations, wetland resources, and historical and cultural resources.

The advertisement date is delayed from September 2008 to April 2009 to provide time for the redesign efforts. Additionally, the advertisement delay may allow sufficient time for U.S. Congressional approval for the purchase of property from the USFW for right-of-way acquisition. The project is expected to remain on schedule for completion in November 2009.

SR 14/Camas Washougal – Add lanes and build interchange (Clark)

This project, budgeted for $57 million, will improve safety and congestion on SR 14 from 6th Avenue to east of Union Road. It will widen SR 14 to four lanes from 6th Avenue to east of Union Road, build new bridges over the East and West Camas Sloughs, a new interchange at Union Road, and frontage roads.

The project schedule and budget are at risk. WSDOT has conducted a cost-risk assessment workshop to evaluate its progress as more facts about the project's requirements are gathered. Risks identified are seismic retrofit and soil liquefaction at the existing bridges. The project design team is working to address these issues.

There is additional risk in completing the required environmental documentation. Originally scheduled to be complete in December 2007, issues that will need to be addressed during consultation include the potential for the project to influence local development as a result of increased highway capacity, and the potential for disturbance of contaminated sediments during bridge work. The environmental documentation was re-submitted in April 2008 to include the design changes. The re-submittal extends the timeline for completing the process and may delay the ad date and will delay permitting.

I-5/SR 432 Talley Way Interchanges – Rebuild interchanges (Cowlitz)

This safety project is budgeted for $45 million and will reconstruct two interchanges: the I-5 interchange at SR 432 and the adjacent SR 432 interchange at Talley Way. These two interchanges are close together and can cause traffic congestion. The project will improve safety, create better connections between existing roads, increase capacity, and decrease congestion.

There are significant cost increases associated with meeting new bridge design requirements for seismic and soils. A recent geotechnical report indicates the existing bridge over I-5 will need to be replaced. Poor soil conditions will have to be addressed for all structures in the project. The additional costs are still being evaluated, but are expected to range between $10 million and $20 million.

Additionally, the National Marine Fisheries Service (NMFS) has requested formal consultation on the effects of the project on endangered and threatened species. This process could add six months to the project's delivery timeline, and the outcome could have significant budget implications. NMFS is concerned that local development could be stimulated by the project, which may cause additional stormwater impacts. Currently, WSDOT and NMFS are in negotiations. WSDOT is evaluating alternatives to minimize costs while trying to keep to the original intent.

Hood Canal Bridge – See page 79 for full write-up.

SR 410/White River - Stabilize slopes (King)

This project, budgeted for $16.8 million, will correct erosion problems that allow the White River to flood SR 410, damage the roadbed, and reduce the risk of wash-outs.

WSDOT's proposed design would raise a section of SR 410 in its current location and place engineered log jams in the river. Due to concerns about impacts to fish habitat, the Muckleshoot Tribe asked WSDOT to look at a second design option that realigns SR 410 outside the river's floodplain and into the Federation Forest State Park.

After discussing with project stakeholders including the Muckleshoot Tribe, the Washington State Parks Department, and the Federation of Women's Clubs, WSDOT decided to proceed with the original design proposal to remain on schedule for advertisement in April 2009. WSDOT will continue to work with the Muckleshoot Tribe to address their concerns.

Watch List: Projects with schedule and budget concerns

The additional work required to evaluate the different options and an independent review by a consultant of WSDOT's river modeling analysis increased the design cost $600,000 in the 2007-2008 biennium. Schedule recovery and cost reduction strategies are being evaluated to see if the project can still meet its advertisement date and remain within the budget.

I-405/SR 520 to SR 527 - Widening Stage 2 (King)

This project, budgeted for $344.8 million, will add a lane on I-405 in both directions from SR 520 to SR 522 with the exception of NE 85th Street to NE 124th Street and northbound from NE 195th Street to SR 527. As part of this project, the bridges at NE 132nd Street require extensive improvement to accommodate new future ramps. When complete, the work will reduce congestion.

This project is currently estimated at $2.8 million over its 2007-09 design budget and $24 million over its total budget. This increase is due to the need to meet new retaining wall and bridge requirements.

WSDOT will ask the Office of Financial Management (OFM) for approval to proceed with a request to increase the 2007-09 design budget. The request for approval for the overall cost increase will go to the 2009 Legislature. The project is on schedule to be advertised in September 2009.

SR305/ Hostmark Street vicinity to Bond Rd – Paving (Kitsap)

This combined project, budgeted at $32.2 million, adds two HOV lanes, intersection improvements, bike lanes and sidewalks. Construction will reduce congestion and enhance pedestrian and bicyclist safety.

This project has experienced several setbacks which have increased costs. In the winter of 2007-08, significant cost increases were incurred due to asphalt cost increases, additional signing, and traffic safety needs in construction. The project cost increased by $2.98 million due to erosion and drainage issues from both on-site and off-site water runoff, caused by several severe storms that delayed the project into a third construction season. That delay added an extra $4.63 million to the cost. Cost increases are due to a pending contract delay claim with the contractor; increased material quantities for earthwork and surfacing; wetland planting and stream realignment; and erosion control and seeding.

The third construction season also required additional construction engineering to deliver the project. Challenges include a redesign to Dogfish Creek, and the containment and treatment of contaminated water from sites adjacent to the project limits.

All cost increase requests are awaiting approval within the WSDOT budget process.

The project's operationally complete milestone will be delayed from October 2008 to November 2008. The construction-end phase will be delayed from December 2008 to June 2009.

I-5 Mellen Street to Grand Mound – Widening and interchange reconstruction (Lewis, Thurston)

This project is budgeted for $197 million and will improve safety and traffic flow by adding lanes and reconstructing interchanges on I-5. The project will be delivered in three stages:

- I-5/ Blakeslee Junction to Grand Mound (Thurston)
- I-5/Mellen Street to Blakeslee Junction (Lewis)
- I-5/Mellen Street Interchange (Lewis)

The design is almost 60% complete on the I-5/Blakeslee Junction to Grand Mound stage. This section of the project will widen four miles of I-5 from two to three general purpose lanes in each direction. It is on schedule to begin construction during the spring of 2009.

A change in design approach may delay the I-5/Mellen Street to Blakeslee Junction stage. This stage is also planned to widen I-5 from two to three general purpose lanes in each direction. WSDOT, working in partnership with local stakeholders, is considering leaving the two existing lanes and adding a separate lane (collector-distributor) between the Mellen Street and Harris Avenue interchanges rather than adding an additional general purpose lane in each direction. The analysis is anticipated to take several months and be completed later this year. If this alternative is selected, the change in design approach may need to be approved by the Legislature.

The ***I-5/Mellen Street Interchange stage*** is dependent on the outcome of collector-distributor lane analysis on the I-5/ Mellen Street to Blakeslee Junction stage. Overall, the ***I-5/ Mellen Street to Grand Mound*** project remains on budget and on schedule.

SR 522/Snohomish River Bridge to U.S. 2 – Add lanes (Snohomish)

This project is budgeted for $176.5 million and will construct two new traffic lanes, including five new bridges, to form a four-lane divided highway. It will also include safety features such as new guardrail and illumination, the installation of Intelligent Transportation System features, and provide fish passage and wildlife crossings. The project will improve motorist safety and reduce congestion by doubling capacity from the existing two-lane roadway.

Watch List: Projects with schedule and budget concerns

The project is roughly half-way through the design and preliminary engineering phase. WSDOT's cost-risk assessment workshop identified risks related to soil liquefaction due to earthquakes, impact on wetlands, and schedule delays due to fish spawning season, any of which might also incur cost increases.

The workshop recommended that the construction budget be increased from $100 million to $150 million. As a result of the assessment, the design budget should increase by $8.6 million, from $9.5 million to $18.1 million, which would bring it to 12% of the total construction budget, an amount more typical of the design budget for highway improvement projects of this magnitude. However, through an oversight, the design portion of the budget was not increased.

Additionally, the original project plans were based on a design-build project but had to be changed later to a design-bid-build project due to cash flow issues. This change resulted in additional unplanned design expenditures.

To resolve these cost issues, WSDOT anticipates saving $2.6 million on the planned right-of-way acquisition cost, reducing the overall project cost increase to $6.0 million. The October cost-risk assessment workshop will evaluate recommendations from a Value Engineering study in May 2008 to see if construction costs can be reduced by $6.0 million to keep the overall project within budget. An update will be provided next quarter.

SR 539/Horton Road to Ten mile Road – Widen to five lanes (Whatcom)

This project, now budgeted for $66.3 million and widens SR 539 to four lanes with a continuous two-way left-turn lane between Horton Road and Tenmile Road. Other improvements include replacing two bridges and a culvert at Deer Creek, drainage construction, reconstructing traffic signals at three intersections, and illumination. The work will relieve congestion and increase traffic capacity.

Construction costs have increased by $3.2 million as a result of added utility relocations, the need for imported fill materials due to unsuitable on-site soils, culvert retaining walls, and paving materials. Winter work schedules and wet weather have resulted in higher erosion control, traffic control, and associated contract administration costs. Additionally, recent escalations in fuel and asphalt prices have contributed to the construction cost increase.

Construction savings of $1.9 million on a companion wetland mitigation contract and anticipated right-of-way savings will partially offset this increase. The balance of the cost increase will be offset by a $1.3 million savings from another completed project. The project remains on schedule to be operationally complete by October 2008.

Updates

SR 285/George Sellar Bridge-Additional Eastbound Lane (Douglas, Chelan)

This project, budgeted at $13.5 million, will provide an additional eastbound lane to ease heavy congestion at both ends of the George Sellar Bridge.

This project is the first of three contiguous major contracts, with the schedules of the other two dependent on this one. Acquiring easements from the railroad is critical to meeting the advertisement date in December. The railroad is committed to meeting WSDOT schedules, but if the acquisition is delayed, this project's delay may affect the other two projects' construction seasons.

The estimated project and construction budget is increasing due to additional structural design work and right-of-way costs. The increase is currently being determined, and will be proposed and addressed in the upcoming 2009-11 biennial budget process.

SR 99/Aurora Avenue-George Washington Memorial Bridge-Seismic (King)

This project is budgeted for $5.6 million, completes the remaining seismic retrofit work on the George Washington Memorial Bridge to reduce the probability of catastrophic damage from an earthquake.

As reported in the December 2007 *Gray Notebook*, the advertisement date was delayed to October 2009 from April 2008 for conducting seismic analysis, which has now been completed, and a preliminary construction cost estimate was determined.

This bridge is a registered historic landmark: the steel jacketing (a seismic retrofit method) would alter the appearance of the bridge. An alternative to wrap the piers with a polymer fiber to provide structural stabilization without affecting the appearance of the bridge is a new technology. Additional testing is proposed which will last four months, with results expected in October 2008. Costs will be updated once testing is complete, and progress will be reported next quarter.

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

This design-build corridor project consists of six combined projects, including constructing a climbing lane, replace the General Mark W. Clark Memorial Bridge, widen highway

Watch List: Projects with schedule and budget concerns

connections to the new bridge, and removing fish barriers. When completed, it will improve traffic flow and motorist safety on the SR 532 corridor from Camano Island to I-5. As reported in the March 2008 *Gray Notebook*, WSDOT has prioritized planned corridor improvements to keep the overall corridor project within its $82.6 million budget.

The difficulty in finding a suitable mitigation site reported in the March 2008 *Gray Notebook* appears to have been resolved. WSDOT is finalizing an agreement with the Stillaguamish Tribe to use a site on tribal land for freshwater mitigation, and estuarine impacts have been reduced. However, the project's contract award may be delayed to mid-2009 from October 2008, due to unanticipated delays in acquiring right-of-way parcels and environmental permitting; the proposed design to remove the fish barrier on the Pilchuck Creek tributary may be challenged. WSDOT will advertise this $481,000 project separately to avoid delaying other SR 532 improvements (see below).

SR 532/270th St NW to 72nd Ave NW – Improve Safety (Island)
SR 532/Sunrise Blvd to Davis Slough – Improve Safety (Island)
SR 532/General Mark W. Clark Memorial Bridge – Improve Safety (Snohomish)
SR 532/64th Ave NW to 12th Ave NW – Improve Safety (Snohomish)
SR 532/General Mark W. Clark Memorial Bridge - Replace Bridge (Snohomish)
SR 532/Pilchuck Creek Tributary - Fish Barrier Removal (Snohomish)

SR 167/8th Street East vicinity to South 277th Street vicinity - Southbound HOV lane (King, Pierce)

This project, budgeted for $80 million, will construct a southbound High Occupancy Vehicle (HOV) lane from where it currently ends in the Auburn vicinity to Pierce County.

WSDOT conducted an in-depth design and risk assessment evaluation of the project in May 2008, based on available funding and the current schedule in the 2008 Supplemental Budget. The preliminary results indicate the project can be constructed for $85 million, if construction funding is available in 2011. However, if funding is advanced to 2009 or 2010, the total estimated cost could be reduced to $81.8 million due to inflation savings. If funding is not advanced, then scope reduction options such as reducing the project's milepost limits will need to be evaluated to keep the project within budget

WSDOT will consider recommending to advance funding for this project in the 2009-11 budget request.

I-405/SR 181 to SR 167 – Widening (Stage 1 of the I-405, I-5 to SR 169 Widening) (King)

This project, budgeted at $180 million, includes construction elements from several different projects, which, when completed, will help relieve congestion and increase safety by reducing traffic weaves.

WSDOT has had problems acquiring right-of-way, and spent significantly more to do so. Other expenses included work reviewing the design-build contract. The estimated budget overrun was $11.4 million, an amount which was approved in the 2008 Supplemental Budget. However, negotiations with property owners continued to be difficult. Two parcels were settled through condemnation for $2.6 million more than budgeted, while a third parcel is still in the condemnation process, with the legal outcome expected in the fall of 2008. The resulting costs are $4.6 million more than the approved Supplemental Budget amount. WSDOT has asked the OFM for approval to proceed with a request to increase the right-of way budget.

I-405/SR 515-New Interchange (also known as I-405, I-5 to SR 169 Stage 2-Widening and SR 515 Interchange)
I-405/SR 167 to SR 169 - NB Widening
I-405/SR 167 to SR 169 - Add new SB Lane (King)

This project, budgeted at $175.6 million, will add a lane in each direction on I-405 between SR 167 and SR 169. It will also build a half-diamond interchange with new ramp connections between I-405 and SR 515. Construction will reduce congestion and improve traffic flow.

The budget concern reported in the March 2008 *Gray Notebook* has been resolved. Right-of-way costs are lower than originally budgeted thus reducing the construction shortfall. (In early July, based on lower revenue projections and significant cash flow issues on other projects statewide, WSDOT set the advertisement date back from July 2008 to the legislative commitment-advertisement date of October 2008.)

The three month delay in advertisement from July to October 2008 will increase the length of construction from a two-season to a three-season project and is estimated to increase the overall construction costs by $5 and $10 million.

SR 9/Schloman Road to 256th St NE - New alignment
SR 9/252nd St NE vicinity - Add turn lane
SR 9/268th St intersection - Add turn lane (Snohomish)

These three projects are budgeted for a total of $20.7 million. They will widen SR 9 to provide 12-foot lanes and 4-foot shoulders, and realign two curves on this section of road. Northbound left-turn lanes will be added at the intersections. The 268th Street project will require wetland mitigation, illumination improvements, and hazardous waste removal.

A $329,000 budget increase on the ***SR 9 Schloman Road*** project, as approved by OFM, will cover underestimated gravel quantities and increased erosion control costs. The project is still on schedule to be operationally complete in November 2008.

Watch List: Projects with schedule and budget concerns

I-5/172nd Street NE (SR 531 Smokey Point) Interchange - rebuild interchange (Snohomish)

This project at the I-5 and SR 531 interchange is budgeted for $44.6 million and will construct a new two-lane on-ramp, realign and widen the existing ramps, and connect them to the recently completed six-lane bridge over I-5. In January 2008, WSDOT tied a section of a federally funded paving project along I-5 to this project to coordinate construction at the interchange and to increase cost efficiencies.

The project schedule is at risk because WSDOT may not be able to complete all property negotiations in time to receive federal funding approval for advertisement in October 2008.

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

This project, budgeted for $44 million, will replace the old Ebey Slough Bridge with a new fixed-span structure designed to meet current standards.

The geotechnical analysis reported in the March 2008 *Gray Notebook* is now complete and is being peer-reviewed by experts from the University of Washington. Preliminary bridge design plans are being developed based on the geotechnical recommendations. Additionally, an in depth design and project risk analysis workshop (Value Engineering and Cost Risk Assessment) was held in July 2008 to reevaluate the project's budget and schedule.

To keep the project on schedule for advertisement in January 2010, WSDOT continues to pursue mitigation for estuarine wetland impacts in partnership with Snohomish County. An update will be provided next quarter.

U.S. 12/SR 124 Intersection - Building interchange (Walla Walla)

This project, budgeted for $26.8 million, will build a new interchange and bridge to replace two existing intersections. Removing the signal-controlled intersection will improve safety, reduce congestion and enhance the area's economic vitality.

The primary risk to the project's schedule and budget is the difficulty in finding suitable property to exchange with McNary National Wildlife Refuge. WSDOT continues to negotiate on a potential parcel for the land exchange. The project office has completed preliminary right-of-way documentation and can proceed with negotiations for other needed parcels.

Design is 60% complete and the project is now scheduled for advertisement in winter 2009.

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

This project, budgeted for $16.6 million in the 2008 Supplemental budget, will reduce seasonal flooding damage and road closures along the Nooksack River. The work to be advertised as four separate contracts, will either realign SR 542 further from the Nooksack River or divert the river further away from SR 542.

In the March 2008 *Gray Notebook*, WSDOT reported that the advertisement for the first contract, would be delayed to address poor soil infiltration at the site. Two nearby fish passage barriers on Bruce and Baptist Creeks, identified for culvert replacement and barrier removal, would be delayed by two months, from March to May 2008, in an effort to allow time to purchase a parcel of land needed for project work financed with federal funds.

The contract was advertised in May 2008, but was later cancelled because final settlement on one parcel could not be reached in time for work to take place between July 1 and September 30, 2008, when construction is not restricted for spawning fish. The advertisement date has been rescheduled to January 2009. This contract's delay will not affect the planned May 2011 operationally complete date.

US 12/Tieton River East Crossing - Replace bridge
US 12/Tieton River West Crossing - Replace bridge (Yakima)

This project, budgeted for $14.3 million, will replace the two structurally deficient bridges across the Tieton River with two bridges that will be wider and meet current standards.

By delaying the October 2008 advertisement date to April 2009, WSDOT can adjust the alignment and profile design to satisfy the requirements of the Yakima County Critical Areas Ordinance; an alternative alignment assessment has been presented to Yakima County and other supporting natural resource agencies.

Further delay in getting agreement on a satisfactory alignment will affect the project schedule and increase costs beyond the $14.3 million budget.

Ferries updates to the Watch List

Port Townsend - Keystone vessel replacement project (Jefferson, Island)

This project, budgeted for $84.5 million, will build two 'Island Home'-class ferries. The Elliot Bay Design Group, the original designer, is working on modifications to the original 'Island

Watch List: Projects with schedule and budget concerns

Home'-class ferries design to adapt the vessel to Washington State Ferries system needs Construction is planned to be advertised in August 2008.

New 144-Auto Ferries (King, Kitsap, San Juan)

This project was originally budgeted for $283 million, to build up to three new 144-auto ferries. WSDOT now estimates the cost to complete three vessels at approximately $313 million and is exploring opportunities to address the funding shortage.

A two-part contract was signed in December 2007 with Todd's Pacific Shipyard. The first part authorizes development of a preliminary design technical proposal, due October 14, 2008. The second part of the contract, covering detailed design and construction, and price and schedule, will be negotiated after the first proposal is approved.

The proposed schedule begins construction in November 2008, with completion of the first vessel expected in September 2010. The schedule may be delayed if the companies in the construction-consortium are also selected to build the smaller, 'Island Home'-class vessels.

Eagle Harbor Maintenance Facility (Kitsap)

This project, budgeted for $46.3 million, will renovate the maintenance building, dock, and a slip bridge structure at Eagle Harbor. The reconstruction of the slip bridge was completed in 2006. The project was delayed in litigation until February 2008; with the appeal period expiring in April 2008. A public disclosure request filed by the City of Bainbridge Island was closed on May 15, 2008, with WSDOT's submission of the ***Eagle Harbor*** project documentation.

WSDOT intended to advertise in June 2008. WSDOT has now obtained all permits with the exception of the City of Bainbridge Island building permit. The permit has been filed and is scheduled to be issued in July 2008.

Mukilteo Multimodal Ferry Terminal (Snohomish)

This project, budgeted for $152 million, will relocate and build a new terminal building, improve connections to other modes of transportation, and alleviate local traffic congestion.

The Legislature has included funding in the 2008 Supplemental Budget to improve a site adjacent to the existing terminal holding area for additional vehicle holding. WSDOT is negotiating with the Buzz Inn for an initial four-year lease with a possible two-year extension clause. Pavement and drainage design are under way so that the Buzz Inn's permit consultant can apply for permits in July 2008.

WSDOT has analyzed and identified several different plans for a new terminal project within the current budget, but an option cannot be finalized until WSDOT finishes the processes mandated by the Legislature and applies the results to the proposed terminal design.

Rail updates to the Watch List

Vancouver - Rail bypass and West 39th Street Bridge (Clark)

This project, budgeted for $115 million, will allow passenger trains to bypass freight trains, reducing congestion and improving schedule reliability. A bridge over the railroad tracks at West 39th Street will enhance vehicle and pedestrian safety.

BNSF Railway is scheduled to provide a 100% design estimate in August 2008. The 50% design estimate was $27.1 million higher than current funding, and WSDOT is still exploring ways to address the increase. The advertisement date for the bridge has been delayed further to October 2008 to obtain the necessary right-of-way, which will delay the project's completion date. The bridge is scheduled to be completed in October 2010. The rail work, which must be completed after the bridge is constructed, will not be completed until July 2012, a one-year delay.

Tacoma-Bypass of Pt. Defiance (Pierce)

This project, budgeted for $59.6 million, will construct a 20-mile bypass route through Lakewood, in coordination with Sound Transit. This bypass will reduce the Amtrak *Cascades* trip between Seattle and Portland by six minutes.

For the bypass to be functional, 1.2 mile segment of new track must be constructed, which will include a crossing over Pacific Avenue in Tacoma. The crossing is part of the Sound Transit's plan to provide Sounder service to Lakewood and requires about $70 million in additional funding. Sound Transit is proposing to add $25 million to its 2009 budget, leaving a proposed shortfall of $45 million. WSDOT and Sound Transit are coordinating on efforts to identify additional funds for the Pacific Avenue crossing.

Since this segment cannot be used without the Pacific Avenue crossing, WSDOT is limiting the WSDOT-funded construction to about $9.2 million, applied in areas where the WSDOT improvements and the Sound Transit improvements overlap. This is to minimize reconstruction in the future should the crossing be funded.

WSDOT is deferring the remainder of the project until the Pacific Avenue crossing is funded. This delay increases the WSDOT funding shortfall from $8.5 million (reported in the March 2008 *Gray Notebook*) to $14.9 million. The increase is due

Watch List: Projects with schedule and budget concerns

to inflation, higher cost estimates for work on the mainline in the Nisqually area, and higher costs associated with constructing the project separately from the Sound Transit project. The new estimated cost of the project is now $74.5 million.

Mount Vernon - Siding upgrade (Skagit)

This project, budgeted for $3.8 million, upgrades existing rail siding to prevent delays to southbound trains from Bellingham.

Hearings by the Washington Utilities Transportation Commission (WUTC) on the proposed closing of the Hickox Road crossing were completed in February 2008; the final decision was released on June 25, 2008. The review period for appeals ended July 24, 2008. The WUTC ruling outlined several safety measures that must be implemented before the Hickox Road railroad grade crossing can be closed, details of which are included on the project's webpage.

BNSF and the City of Mount Vernon have 75 days to work out an agreement, according to the WUTC order. BNSF also has twenty days to appeal the decision to the WUTC. It appears that any available option chosen to keep the project moving forward will likely result in further schedule delays.

Everett - Curve realignment and storage tracks (Snohomish)

This project, budgeted for $14 million, will realign curves to improve speeds for passenger trains between Seattle and Vancouver, B.C.

As reported in the March 2008 *Gray Notebook*, Burlington Northern Santa Fe Railway (BNSF) will need permits from the Washington State Department of Ecology and the US Army Corps of Engineers to fill wetlands on their property in order to complete the project. WSDOT estimated the permits would be obtained by June 2008, but the applications have not yet been approved. The advertisement date has been delayed to August 2008, which puts the project completion date of June 2009 at risk.

Stanwood - New station, siding upgrades (Snohomish)

These two projects are now budgeted for $21 million, to construct a new train platform serving Amtrak *Cascades* passengers, and upgrade and extend the siding in Stanwood. As reported in the March 2008 *Gray Notebook*, BNSF had notified WSDOT that an extension to the siding track at Stanwood would be required before passenger trains could use the station. The 2008 Legislature increased funding for the siding project by about $12.9 million based on a BNSF cost estimate.

However, to extend the sidings requires closing a local road. As in the Mount Vernon siding project, the closure process is governed by the WUTC, it may take up to 19 months. BNSF cannot commit to allowing construction of the new station platform until the road closing and siding problems are resolved.

Furhter, BNSF plans to file for their environmental permits by August 1, 2008. Petitions may take up to 180 days. The construction start on the new station and both projects' operationally complete dates are at risk due to the closure process and the environmental permitting process.

Bellingham - Waterfront restoration, Georgia Pacific - area upgrades (Whatcom)

These two projects, budgeted at $5.7 million, would relocate the BNSF mainline near Bellingham's central waterfront to allow redevelopment of the former Georgia Pacific site for commercial and residential uses. The City and Port of Bellingham's Master Plan includes two new roadway bridges over the new track.

Estimated cost for just the rail project, which doesn't include the roadway bridges, is about $11 million, almost twice the $5.7 million available funding. The lack of funds for both the rail and road projects, plus archeological discoveries, have prompted the 2008 Legislature to move the state funding out of the 2007-2009 biennium.

As discussed in the March 31, 2008 Gray Notebook, WSDOT has made proposals for using $320,000 in available funds for other projects. BNSF's accepted the proposals in August 2008.

Removed

SR 433/Lewis and Clark Bridge - Painting (Cowlitz)

This project was budgeted for $19.1 million (previously reported as $14.6 million in error) to paint more than 14,800 tons of steel on this historic, mile-long bridge. The Oregon Department of Transportation contributes 50% of the project's funding.

As reported in the March 2008 *Gray Notebook*, WSDOT and the painting contractor terminated the contract after about 25% of the work was completed. The remainder of the work will be completed. A contract to paint bridge piers and approaches will be awarded next winter and cost about $8 million - within the current available budget. The remaining portion of the bridge will be painted as funding becomes available.

The lessons learned from this dispute are being applied to future contracts. Existing paint conditions will be more thoroughly inspected and specified in contract documents. A long-term study by WSDOT is under way to investigate protective coating systems for bridges. Results are due next year.

Watch List: Projects with schedule and budget concerns

SR 20/Ducken Road to Rosario Road - Add turn lanes (Island, Skagit)

This project was funded for $8.2 million to build two turn lanes to SR 20 at Ducken Road. The wood-and-stone guardrail along SR 20 through Deception Pass State Park, originally installed by the Civilian Conservation Corps in the 1940s, was replaced with a replica guardrail.

OFM approved proceeding with the project with the $140,000 increase in the Nickel portion of the project budget. This increase covered the additional materials needed to complete the guardrail and cover erosion control costs. The project was completed on time.

I-90 Two Way Transit & HOV operations Mercer Island
I-90/Two Way Transit - Transit and HOV improvements - Stage 2 and 3
I-90/Two Way Transit - Transit and HOV - Stage 1 (King)

This project, budgeted at $50.8 million, adds new HOV lanes in the westbound outer roadway, a new 80th Avenue SE HOV direct access ramp, modifications to the Bellevue Way HOV direct access ramp, and a variable speed limit system westbound from I-405 to I-5. Stage 1 of this project is currently under construction and will be open to traffic in August 2008. When completed, the work will provide better mobility for buses using the transit center.

WSDOT may recommend advancing the funding for Stages 2 and 3 of this project in the 2009-2011 Budget submittal. In the interim, WSDOT will complete the design for Stage 2 and bring the design of Stage 3 to 30%.

I-5/SR 161/SR 18-Triangle interchange improvements
I-5/SR 161 and SR 18 Interchanges-Rebuild interchange (King)

This project, budgeted for $112.3 million, will rebuild the I-5 and SR 18 interchange by replacing a cloverleaf ramp with a flyover ramp and construct a new westbound SR 18 connection to SR 161. When complete, it will reduce congestion and improve safety.

As reported in the March 2008 *Gray Notebook*, WSDOT will be considering in its 2009-2011 Budget submittal whether to recommend advancing funds into 2009-2011 to keep the project on schedule, or delay the October 2009 advertisement date. In the interim, WSDOT will complete the design, including addressing the culvert replacement.

SR 3/SR 303 Interchange (Waaga Way)-Construct ramp (Kitsap)

This project, budgeted at $24.8 million, provides an interchange to better accommodate current and future traffic needs. The main highway of SR 303 is now open to traffic, and the new signal system at the Waaga Way over-crossing is in operation. Minor work continues on noise walls and signing revisions.

In March of 2008, the project needed an additional $1.4 million to properly dispose of runoff stormwater, due to two severe storms, and address additional construction staging problems and traffic control to improve traffic flow. The project cost increase request is being reviewed at OFM. Construction will be completed on time and within the revised budget.

SR 16/Burley-Olalla Interchange - Build interchange (Kitsap)

This project, budgeted at $27.2 million, constructs a new interchange on SR 16 to improve safety at this high accident location. WSDOT completed negotiations with resource agencies for minor design revisions to successfully address project- related wetland mitigation needs. This delayed the project advertisement date one month, from March 2008 to April 2008.

The project was advertised and received favorable bids 14.22 % under the Engineer's Estimate. The project is expected to be delivered on time and under budget.

Lincoln County - Roadside Safety Improvements (Lincoln)

This project is currently budgeted for $1 million and will install guardrails, remove fixed objects, and improve roadsides to enhance motorist safety by reducing the severity of collisions on State Routes 21, 25, 28, and 174.

The advertisement date was delayed another month to August 2008 to allow for the completion of environmental documentation and necessary permits. The August 2008 advertisement date will be met.

U.S. 101/Hoodsport Vicinity-Stabilize slope (Mason)

This project is budgeted at $543,700 after an approved increase in the 2008 Supplemental Budget. The work will protect the roadway shoulder of northbound U.S. 101 from erosion by Hood Canal wave and tidal action. It will install a rock barrier to stabilize and protect the slope from the road to the beach, reducing erosion in the future.

The project has the potential to adversely affect listed endangered fisheries species. WSDOT worked extensively with NOAA – Fisheries to mitigate erosion and reduce the impact on endangered species habitat. With that need resolved, the

Watch List: Projects with schedule and budget concerns

project is pursuing the remaining water quality permits and the final slope easement needed to complete the project.

The project is expected to be delivered in the 2009 construction season. The current estimate at completion is $73,000 over the 2008 Supplemental budget due to increased design and right-of-way costs. WSDOT will request approval through the 2009-20011 legislative budget process.

U.S. 101/Purdy Creek - Replace bridge (Mason)

This project, budgeted at $15 million, will replace the existing timber-trestle bridge with a three-span, concrete girder bridge. It will eliminate future road closures due to seasonal flooding.

As reported in December 2007 *Gray Notebook*, this project was managed by an outside consultant firm. The design work required significant revisions to meet WSDOT standards and the advertisement date was moved from January 2008 to May 2008. The project was advertised May 27, 2008 and the bids came in at 14.35% below the Engineer's Estimate.

SR 16 Olympic Drive to Union Avenue (also known as SR 16/I-5 to Tacoma Narrows Bridge Add HOV lanes) (Pierce)

This project is budgeted at $118.2 million after an increase approved in the 2008 Supplemental Budget and was operationally complete in March 2007. When completed, it will widen SR 16 from the Olympic Drive interchange in Gig Harbor to the Nalley Valley Viaduct in Tacoma. The project was divided into three separate construction contracts. Contract One, from Sixth Avenue to Jackson Avenue, was completed in May 2005. Contract Two, from 36th to Olympic Drive, was completed in December 2004. Contract Three, which stretches from Union Avenue to Jackson Avenue was operationally completed in March 2007.

Although the project has been reported operationally complete and on budget, WSDOT is aware of a potential increase in costs due to a dispute involving final costs with the contractor. WSDOT is currently negotiating all contractor issues and will report the final settlement when complete.

SR 410/214th Ave E to 234th-Add Lanes (Pierce)

This project, budgeted at $29.3 million, constructs two additional general purpose lanes, a median barrier, and a traffic signal to improve traffic operations and mobility.

As reported in the March 2008 *Gray Notebook*, the project schedule has been delayed to allow for additional design efforts to minimize impacts to wetlands. The advertisement date has been delayed from March 2008 to February 2009. An update will be provided if the project fails to meet the new advertisement date. WSDOT is still evaluating the impact to the budget.

I-5/SR 16 Interchange - Rebuild Interchang (Pierce)

This project, budgeted at $307 million, is part of the Pierce County Core HOV program. It will reconstruct interchanges, replace the bridges over Nalley Valley, construct freeway connections, ramp roadways and structures, and prepare for HOV lanes on I-5 and SR 16. When completed, the project will reduce congestion and enhance motorist safety.

The advertisement date on this project was delayed five months, from March 2008 to July 2008. As reported in the March 2008 *Gray Notebook*, the delay allowed time for the revision of the design in order to meet new bridge seismic design requirements and current roadway design standards.

This project was advertised on July 7, 2008. The operationally complete date is expected to remain the same. WSDOT is still evaluating the impact to the budget.

WSDOT is still evaluating the impact to the budget.

SR 902/Medical Lake Interchange – Intersection Improvements (Spokane)

This project, budgeted at $743,000, will make improvements to reduce the number of collisions at an increasingly busy interchange in an area of rapid population growth.

As reported in the March 2008 *Gray Notebook*, the advertisement date was delayed until May 2008. The delay allowed time to complete the design analysis to determine the most cost-effective solution from a number of alternatives. This analysis led WSDOT to pursue immediate construction on an interim solution, while continuing design of a better long-term solution.

The interim solution, advertised May 27, 2008, will lengthen the right-turn lane and upgrade the lighting at the intersection to improve safety. The project remains on schedule to meet the operationally complete date planned for September 2008.

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

This project is budgeted for $7 million and will build a new rail connection to Spokane County's Airway Heights Industrial Park to replace the connection that currently passes through Fairchild Air Force Base, which the USAF plans to close.

All right-of-way has been acquired and the project went to advertisement in April, with the contract awarded in May. The contract amount is within the approved budget. This project began construction in June 2008 and is on schedule to be completed by October 2009.

Pre-Existing Funds (PEF) Projects: Reporting by program

PEF program milestone reporting

The table below shows the six Pre-Existing Funds (PEF) program categories and the number of projects associated with each phase for this biennium. The table on page 75 reports on PEF projects selected for size and visibility on a quarterly basis.

Why is the PEF program reported differently than the Nickel and TPA programs?

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 project, PEF projects are funded at the program level. Funding is dedicated to addressing set priorities, such as number of miles paved per biennium. Each biennium, new PEF projects are programmed based on reprioritized needs and available funds so the list of PEF projects changes each biennium.

Because Nickel and TPA projects were defined and budgeted at the project level from the beginning, milestones and other benchmark data to monitor individual project delivery were established and are available. However, since PEF projects have been historically funded by program category, this type of data has not been collected and is not currently available. Future programs will collect benchmark project data such as for the milestones reporting.

Milestone tracking for Pre-Existing Funds (PEF) projects

Number of projects with milestones, 2007-2009 biennium to date, milestone and expenditure achievement to date

Dollars in millions

	Begin engineering		Advertised for bids		Operationally complete		Expenditures	
Programmatic categories	**Planned**	**Actual**	**Planned**	**Actual**	**Planned**	**Actual**	**Planned**	**Actual**
Pavement preservation	61	63	58	55	83	83	$120	$126
Bridges (preservation/replacement)	19	23	21	20	10	12	$65	$52
Slope stabilization	10	12	12	13	9	11	$19	$15
Safety (roadside, rumble strips, median cross-over, etc.)	27	27	30	28	24	29	$46	$52
Environmental retrofit (fish passage improvement, stormwater runoff)	10	10	5	2	4	5	$7	$5
Other facilities (rest area, weigh stations, etc.)	8	10	15	13	24	23	$112	$89
Totals	135	145	141	131	154	163	$369	$338

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.

Pre-existing Funds (PEF) Projects: Reporting by program

Six individually tracked PEF projects: results through June 30, 2008

Dollars in millions

Project description	First legislative budget	Baseline: current legislative approved	Scheduled date to begin preliminary engineering	On time	Scheduled date for advertise-ment	On time	Scheduled date to be operationally complete
US 2/Ebey Island Viaduct and Ebey Slough Bridge (Snohomish)	$32.1 (2002)	$6.2 (2007)	Dec-98	√	Nov-00	√	Dec-03
• US 2/50th Avenue SE Vic to SR 204 vicinity - Bridge rehabilitation		$10.8 (2007)	Jul-06		Feb-07		Sep-07
This is stage one of the original US 2/Ebey Viaduct and Ebey Slough Bridge project.							
• US 2/43rd Ave SE vicinity to 50th Ave SE vicinity - Bridge rehabilitation		$22.6 (2007)	Jan-09		Aug-10		Dec-11
SR 202/SR 520 to Sahalee Way - Widening (King)	$36.9 (2001-03)	$82.7 (2007)	May-98	√	Aug-05	√	Feb-08
SR 539/Horton Road to Tenmile Road - Widen to five lanes (Whatcom)	$32.0 (2001-03)	$66.3 (2007)	Oct-90	√	Jan-07	√	Oct-08
SR 28/East end of the George Sellar Bridge - Construct bypass (Douglas)	$9.4 (2004)	$22.9 (2007)	May-04	√	Oct-09	√	Sep-11
The construction phase has been delayed to balance the financial plan 07-09 biennium Legislative book.							
US 101/Purdy Creek Bridge - Replace bridge (Mason)	$6.0 (2004)	$15.1 (2007)"	Aug-04	√	May-08	Late	Jan-10
SR 303/Manette Bridge Bremerton vicinity - Replace bridge (Kitsap)	$25.5 (2002)	$69.0 (2007)	Sep-96	√	Mar-10	√	Jun-13
The construction phase has been delayed to balance the financial plan 07-09 biennium Legislative book.							

Source: WSDOT Project Control and Reporting Office.

WSDOT's Capital Project Delivery Programs

Pre-existing Funds Projects: Reporting by program

PEF data was not available in time for this quarter. This report reflects the quarter ending March 31, 2008 - the latest quarter for which complete numbers are available. Data for the quarter ending June 30, 2008 will be reported in the next edition of the Gray Notebook.

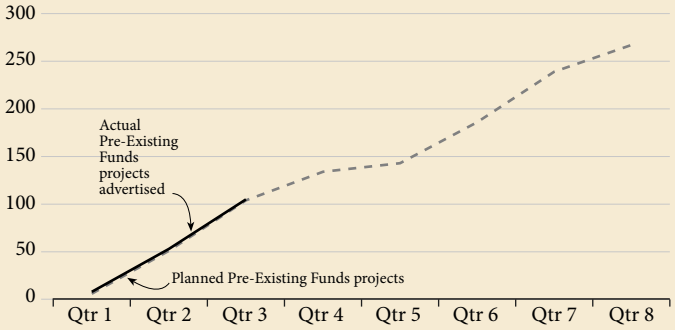
Advertisement Record: 105 projects advertised for construction as of March 31, 2008

The 2007-09 Highway Construction Program includes a commitment to advertise 267 PEF projects. There were 105 PEF advertisements planned through the quarter ending March 31, 2008, and 105 advertisements were achieved in those three quarters. Of the 105 scheduled, 22 were delayed to future quarters of this biennium, three were deferred to future biennia, and zero projects were deleted.

January 1 - March 31, 2008 advertisement planning

For the quarter ending March 31, 53 PEF advertisements were planned. Thirty-nine of these projects were advertised as scheduled. Eleven of the planned advertisements were delayed to later in this biennium, one has been deferred to a future biennium, and zero were deleted. There were five advanced, one emergent, and seven delayed projects advertised

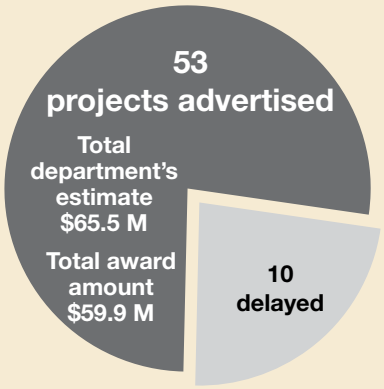
Highway construction program advertisements
Pre-Existing Funds projects
Planned vs. actual number of projects advertised
2007-2009 biennium, quarter 3 ending March 31, 2008
Number of projects



Data Source: WSDOT Project Control and Reporting Office.

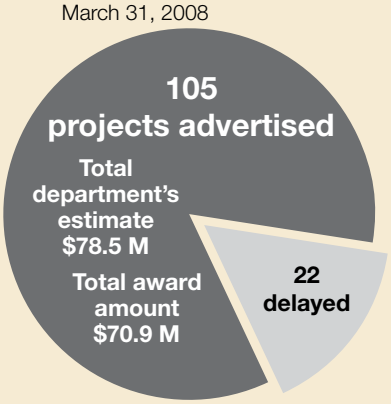
Pre-Existing Funds projects: A snapshot of quarterly progress and total biennial progress to date

End of last quarter
December 31, 2007



	Projects through last quarter	This quarter's progress	Biennium to date total
Projects advertised			
As scheduled	38	39	77
Project ads early	6	5	11
Project ads late	5	7	12
Emergent projects	4	1	5
Total advertised	**53**	**52**	**105**
Projects delayed			
Within the biennium (delayed)	8	11	19
Out of the biennium (deferred)	2	1	3
Total delayed	**10**	**12**	**22**
Projects deleted			
Projects deleted	0	0	0
Total deleted	**0**	**0**	**0**

End of this quarter
March 31, 2008



Note: Due to WSDOT's ongoing effort to analyze and correct project data, the number of advertised projects will be updated to reflect small changes from quarter to quarter. Data has been updated and revised since PEF project data was last reported.

Pre-existing Funds Projects: Advertisement record

Projects scheduled for advertisement or advertised earlier this quarter

April 1, 2008 - June 30, 2008

Project description	On-time advertised	Project description	On-time advertised
US 2/Corridor rumble strips	Early	US 2/ Sultan vicinity: westbound bus pullout and sidewalk- safety	√
US 2/ US Forest Service road vicinity to Money Creek vicinity - paving	Early	US 2/ West side of Stevens Pass - electronic signage	√
US 2/US 97 North of East Wenatchee - paving Emergent need project added to address substantially deteriorated pavement.	Emergent	US 2/ Deep Creek bridge, Spokane vicinity - repair Advertisement delay due to redesign of the installation method for thrie-beam guardrail across the bridge.	Late
SR 4/ East of County Line Park - rockfall work	√	I-5/ Castle Rock vicinity to SR 505 vicinity - paving	√
I-5/ Interstate bridge southbound - stringer crack repair Oregon Department of Transportation is lead on this project.	Early	I-5/ Castle Rock vicinity to SR 505 vicinity - safety	√
US 12/ WSDOT Southwest region - centerline rumble strip installation	√	US 12/ East Waitsburg - sidewalk installation	√
SR 20/ Republic west city limits - slope erosion	Delayed	SR 26/ East of Vantage - chronic environmental deficiency Project schedule was delayed three months to accommodate workforce issues within the region and is scheduled to be operationally complete fall 2008, on-time.	Delayed
SR 28/ East Wenatchee area - paving	√	I-90/ Homer M. Hadley Bridge - special bridge repair	√
I-90/ Mt. Baker Tunnel & Mercer Island lid - PLC replacement Advertisement date was delayed to insure 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 servers interface to the latest standards.	Delayed	I-90/ Slide curve vicinity to Cabin Creek eastbound - pavement restoration	√
I-90/ Cle Elum vicinity - install barrier	Early	I-90/ 2.0 miles west of SR 906 interchange - stabalize slope	√
I-90/ Asahel Curtis to Easton - delineation upgrade	√	I-90/ West of Snoqualmie Summit eastbound - emergency slope stabalization Emergent need project added to address a rockfall event that occured on May 26, 2008 and improve safety and minimize the risk of falling rock reach the roadway.	Emergent
US 97/ Intersection - safety improvements	Advanced	US 97/ Brewster are - pedestrian improvement	Advanced
US 97 A/ North of Wenatchee - wildlife fence Project has been delayed pending final design solution.	Delayed	US 101 Humptulips River Bridge - bridge scour	√
US 101/ Purdy Creek Bridge - replace bridge	Late	SR 105/ Johns River Bridge - bridge painting	√
SR 107/ Chehalis River Bridge - bridge scour Extent and cost for this scour project allowed work to be assigned to state forces to accomplish.	√	SR 161 - install noise walls Project schedule was delayed to accommodate local agency's major utility project in the project location.	√
SR 166/ SR 16 to Blackjack Creek - paving	Late	SR 221/ Prosser hill to SR 22 - paving	√
SR 305/ Bjorgen Cree - remove fish barrier	Delayed	US 395/ Martin Creek area animal crossing - replace culvert	Delayed
SR 500/ Northeast 42nd avenue and 54th avenue - build interchange	√	SR 508/ Onalaska - pedestrian safety improvements	√
SR 525/ Burlington Northern RR overcrossing - painting	√	WSDOT Southwest region chip seal - roadway preservation	Delayed

Data Source: WSDOT Project Control and Reporting Office.

Pre-Existing Funds Projects: Financial Information

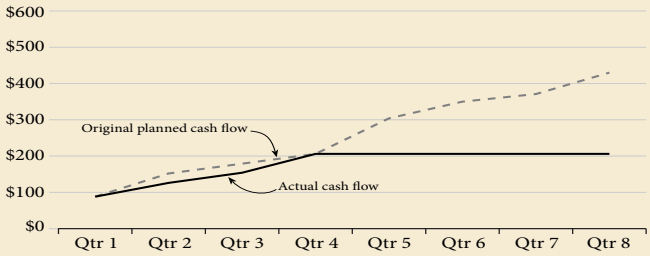
Paying for the projects: financial information

WSDOT submitted an expenditure plan to the Legislature for the fouth quarter of the biennium totaling approximately $369 million. As of June 30, 2008, actual expenditures totaled $338 million, a variance of approximately $31 million, or 8%, from the biennium plan. The variance as of the end of the fouth quarter for the Highway Construction Program was divided between the Improvement and Preservation programs.

The Preservation Program planned cash flow was $217 million, and actual expenditures were $206 million. This was $11 million under plan, or 5%.

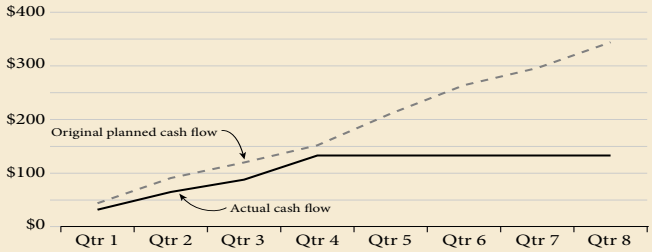
The Improvement Program planned cash flow was $152 million, and actual expenditures were $133 million. This was approximately $19 million under plan, or 13%.

Pre-Existing Funds preservation program cash flow
Planned vs. actual expenditures
2007-2009 biennium, quarter 4 ending June 30,2008
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
2007-2009 biennium, quarter 4 ending June 30, 2008
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.

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

Overall project completion reaches 76%

As of June 30, 2008, the SR 104 Hood Canal Bridge Project is 76% complete. Important milestones accomplished this quarter include:

- April: Completed new west transition truss and retractable draw span
- May: Conducted community survey and selected Lofall-South Point water shuttle route
- June: Delivered three draw span lift spans and finished final pontoon concrete pour

Other milestones completed

Material fabrication is now 93% complete with the west truss having been built in April, and three lift spans being towed to Seattle in June. The east truss is currently being built. In June, pontoon construction was 94% complete with the last two pontoons, U and W, scheduled to be towed to Todd Pacific Shipyards in Seattle for outfitting on August 1.

Assembly, outfitting and testing is 51% complete. Crews from Kiewit-General, the contractor, joined the retractable draw span pontoons together; built the control tower, the electrical building and storage buildings; constructed columns and crossbeams; installed the lower guide rollers and box girders that will guide the draw span in and out of the u-shaped assembly when the bridge opens and closes; and installed electrical, hydraulic, and mechanical systems inside the pontoons. Draw span testing is scheduled to begin in October.

Crews continue to install the electrical components that will alert crews if water leaks inside each of the 19 west-half pontoons. This work was scheduled for last May but had to be pushed into October as weather prohibited WSDOT from working on the system during the winter months. The scheduled May-June 2009 bridge closure date will not be affected by this delay.

Upcoming work and milestones

The float out of the final two pontoons will mark the completion of new pontoon construction for the entire Hood Canal Bridge Project. It will also allow WSDOT to shift much of its focus from pontoon construction to pontoon outfitting. Once towed to Todd Pacific Shipyards, the pontoons which make up the easternmost floating section will be connected and outfitted with columns and roadway before they are towed to the site in May-June 2009.

Project Highlights:

- The SR 104 Hood Canal Bridge project was 76% complete as of June 30.
- 93% of the material fabrications has been completed.
- The last two pontoons are scheduled to float to Seattle for outfitting August 1, making pontoon construction complete.
- Despite inclement weather, the west-half leak detection system will be completed in October and will not affect the May-June 2009 bridge closure.

Watch List issues (see also page 62)

This project, budgeted at $470 million, will replace the east half, floating, portion of the Hood Canal Bridge, and the east and west approach spans. There is a $29 million cost increase on the total project estimate, in addition to an acceleration of $36 million in expenditures in the current biennium.

Factors that raised the estimate include higher priced materials, fuel, extended materials storage, and problems associated with constructing bridge components at confined and congested sites. To attain the 2009 operationally complete date, WSDOT and the contractor agreed to a fixed fee-target cost format. Cost and schedule data was estimated in 2005 in cooperation with the contractor, based on an ambitious schedule that would realize cost efficiencies from an accelerated delivery plan.

However, costs for materials rose well beyond all available forecasting models, with a 60% increase during the 2005-2006 construction season, while the cost of working in smaller, more congested construction sites rather than Port Angeles was underestimated.

WSDOT is evaluating federal funding options to cover both the total cost increase and the acceleration from 2009-11. Remedies will be presented in WSDOT's Supplemental Budget request for the 2009 Legislative session.

Special Report: Tacoma/Pierce County HOV Program, Quarterly Update

The Tacoma/Pierce County HOV Program (T/PC HOV) is enhancing the mobility of people, goods and services within the I-5 and SR 16 corridors by building HOV lanes and auxiliary lanes, reconstructing interchanges, and building numerous safety and environmental improvements along the corridors.

The overall size and complexity of the T/PC HOV program developed over several years, as various Legislative sessions identified new portions of highway to improve and applied new sources of funding to construct them. Over the last year, the T/PC HOV design team has identified and implemented efficiencies in the delivery of the T/PC HOV program by realigning, or reconfiguring, construction packages to maximize program delivery both in design and construction. This update discusses the benefits of realigning the construction packages.

Contract package size

The size of the realigned construction packages balance the efficiencies of scale. The projects are sized to allow concurrent work on what previously were two or more projects, allowing contractors to better balance work loads, resources and equipment. The realigned contract packages also take into consideration impacts on I-5 mainline traffic, local traffic, and the businesses, residences, and municipal facilities adjacent to the projects.

Efficiency

Increasing the size of the work areas by bundling smaller projects into larger projects allows contractors to increase production, minimize mobilization costs and startup times, and help optimize critical path construction activities. Bundling projects also helps the traveling public by giving contractors more flexibility within their construction schedules, allowing for innovative ways to provide adequate traffic capacity and maintaining more freeway access to lanes and ramps.

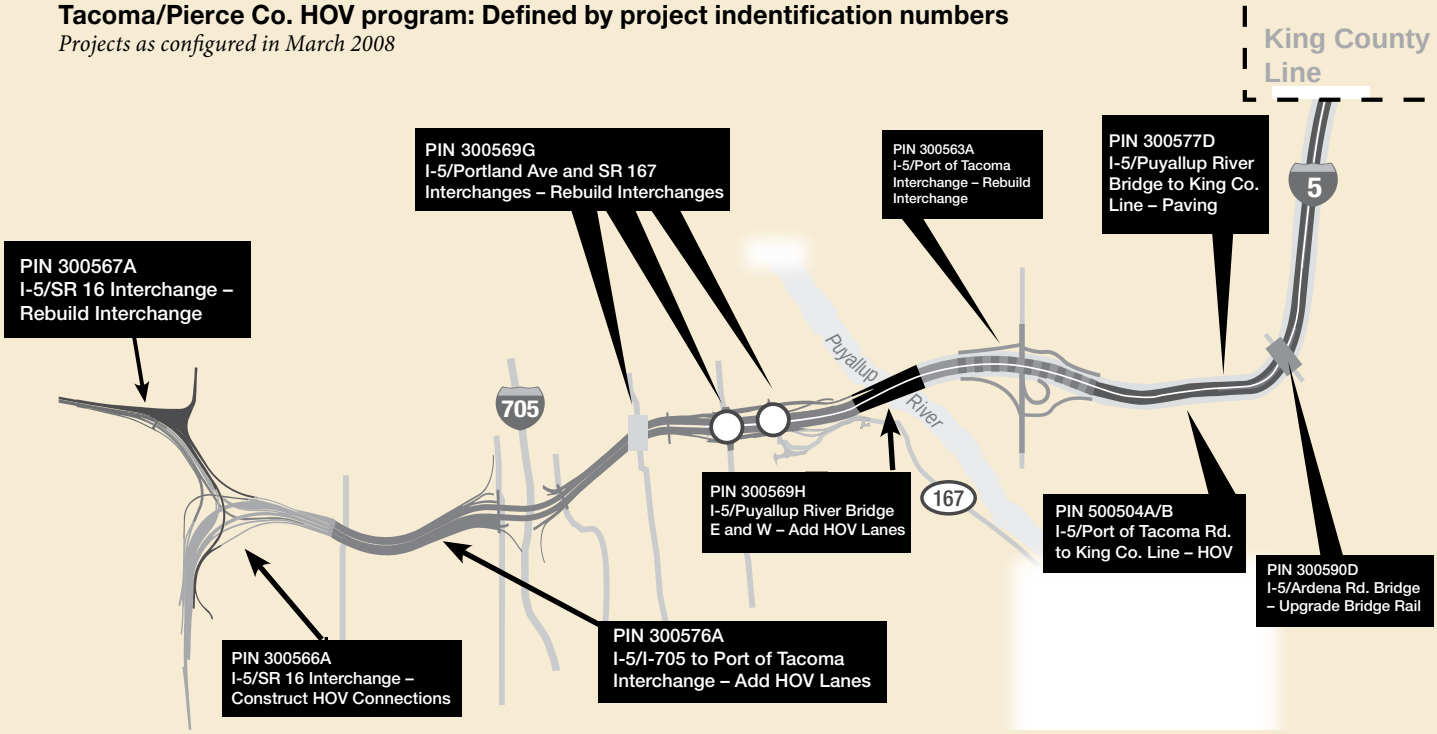
Environmental and Third-Party Concerns

Larger work packages can have a positive effect on project costs and schedules by allowing contractors to tailor their schedules to comply with various environmental and third-party constraints such as fish windows and seasonal railroad and utility restrictions. Combining smaller projects into larger projects also provides more continuity, allowing WSDOT and contractor personnel to maintain more productive working relationships with third parties and respond better to concerns or questions.

Safety

Traffic safety is a paramount concern for the T/PC HOV program. Larger work packages allow contractors to better provide clear, consistent, and timely messages to the traveling public along larger project boundaries. Larger projects also

Tacoma/Pierce Co. HOV program: Defined by project indentification numbers
Projects as configured in March 2008



Special Report: Tacoma/Pierce County HOV Program, Quarterly Update

allow drivers to receive that information at a rate they can better comprehend and respond to.

Does the realigned program reflect the Legislature's intent?

All realignment work has moved forward with one overriding guideline in mind: Despite any benefits or efficiencies that could be realized by repackaging construction delivery, the HOV team knows that the program will be successful only if the end results meets Legislative intent. The illustrations show that the repackaged program delivers what the Legislature has directed WSDOT to deliver.

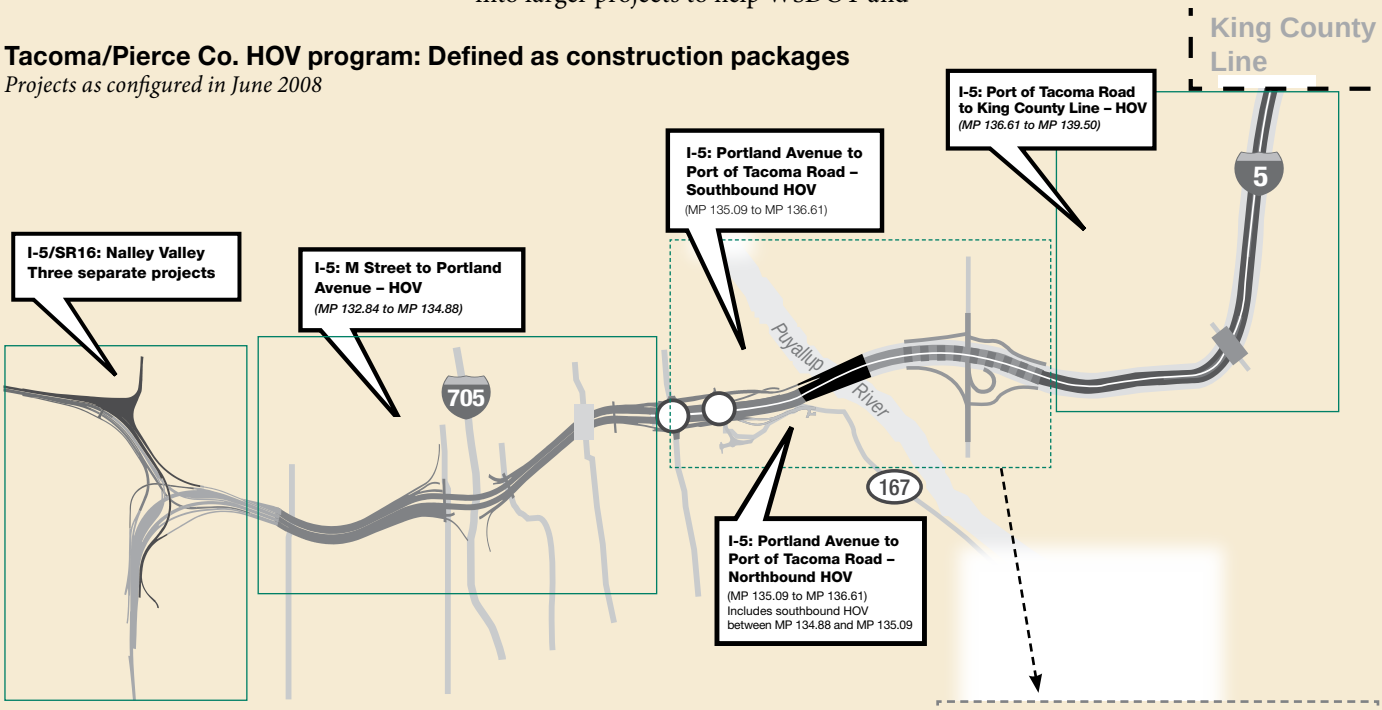
The map on page 80 shows the T/PC HOV projects along the I-5 corridor as identified by the Legislature using separate Project Identification Numbers.

The large map below shows the same geographic area with realigned construction packages. The same work is covered in both maps; the difference is that several smaller projects are combined into larger projects to help WSDOT and the construction community deliver a more efficient program.

A sample breakdown of one construction package – *I-5: Portland Avenue to Port of Tacoma Road Northbound HOV* (small inset, at bottom) – illustrates this point. Project Identification Numbers, located to the left of the graphic, are broken down by percentages in that particular construction package, demonstrating the correlation between Legislative intent and the realigned construction packages.

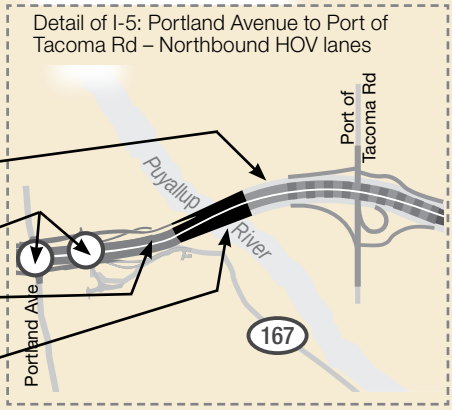
Tacoma/Pierce Co. HOV program: Defined as construction packages

Projects as configured in June 2008



Sample PIN/Construction package breakdown

PIN	Title	Milepost to – from	% of PIN work in construction package
300563A	I-5/Port of Tacoma interchange–Rebuild interchange	135.53–136.61	11%
300569G	I-5/Portland Ave and SR 167 interchanges – Rebuild interchanges	134.63–135.28	66%
300576A	I-5/I-705 to Port of Tacoma interchange – Add HOV lanes	133.55–135.25	15%
300569H	I-5 Puyallup River Bridge E&W – Add HOV lanes	135.30–135.60	57%



I-5 Everett HOV Lane Project

Project delivery

On June 5th, 2008, WSDOT and local communities celebrated one of the final milestones of the I-5 Everett HOV freeway expansion project. The ribbon-cutting marked the opening of two new I-5 HOV ramps at Broadway Avenue, the last major piece of the project. WSDOT will successfully complete this $263 million project on-time and on-budget.

Construction began September 2005, and all lanes opened by June 2008. The completion date is August 2008 as crews wrap up some final tasks, including: installing new traffic cameras and ramp meters, laying down permanent striping, and repairing aging expansion joints.

I-5 through Everett now has widened north and southbound lanes and an extra merging lane between 41st Street and U.S. 2. It also extends HOV access from the Boeing Freeway (SR 526) to U.S. 2 (Hewitt Avenue Trestle), adding six miles of northbound commuter lanes and 4.6 miles of southbound commuter lanes. In addition, noise walls were added, stormwater treatment facilities were built, and on-ramps and exits were improved.

Project benefits

The freeway expansion began in efforts to improve a major traffic chokepoint on I-5 through Everett, and eliminate sudden lane changes to reduce rear-end and sideswipe collisions. Preliminary data shows significant improvements in commute times through Everett. Northbound commuters have seen an eight minute decrease and southbound has seen free flowing travel. More data will be available in the September 30, 2008 edition of the *Gray Notebook*.

The environment also held an important role in this project. Ten noise walls were built to improve traffic noise levels in the surrounding neighborhoods, and crews installed six stormwater detention ponds and wetlands along I-5, which will filter an estimated 153 million gallons of stormwater each year.

Not only will the new lanes and interchange serve Washington commuters daily, but it will also aid in the flow of traffic during the Vancouver Olympics in 2010.

Congestion relief during the project

Crews used different methods to keep traffic flowing during construction:

- phasing the project to open new lanes throughout the duration;
- doing much of the work late at night to keep lanes and ramps open during rush hours;
- providing roving trucks to quickly clear incidents;
- installing traffic cameras to increase traveler information about traffic flow;
- making detour routes convenient and easy-to-follow; and
- maintaining a construction hotline as well as the 5-1-1 information line.

Design-build method saves time and money

WSDOT built this project using the design-build process, allowing the contractor, Atkinson-CH2M Hill, to simultaneously design the project while construction was already underway. Not only did this speed the process up, but it also cut down on costs, which would have been much higher due to current inflationary pressures on fuel and construction materials. This innovative approach proved successful as it helped crews overcome several challenges, such as adding the $41 million 41st Street Interchange into the project after construction had begun.

Everett HOV Project Highlights

- Project will finish on-time and within budget.
- New HOV lanes between Marine View Drive and SR 526 opened spring 2008: 6 northbound miles and 4.6 southbound miles.
- The last major piece, I-5 HOV ramps at Broadway Avenue, opened on June 6th.
- New stormwater facilities will be able to filter 153 million gallons of stormwater each year.

Map of I-5 Everett HOV project.

41st Street Interchange: The single point urban interchange design (SPUI) will keep traffic moving while making the best use of limited available space.

Cross-Cutting Management Issues

Capital Project Budget Review

Despite construction cost increases of 60%, WSDOT has delivered 129 projects, 18% above original appropriated amounts

The 2008 Supplemental Transportation budget directed WSDOT to provide an update on Nickel and TPA projects, including the original project estimates funded in the 2003 and 2005 budgets. Beginning in this *Gray Notebook*, WSDOT will provide the original appropriated amount for completed Nickel and TPA projects each quarter, making this information available on an ongoing basis. Data for this edition includes all Nickel and TPA projects completed through March 31, 2008[1].

Budget variance for Nickel and TPA projects
Dollars in millions

	Original Appropriation	Cost at Completion	Variance
56 Nickel Projects	$936.02	$1,128.90	21%
37 Nickel Bucket Projects	$80.65[2]	$80.91	0%
36 TPA Projects	$79.71	$86.85	9%

Data Source: WSDOT Project Control and Reporting Office.
[2] Dollars from the Nickel bucket projects were leveraged with PEF funds. Because WSDOT measures project performance against all funds used in a project, funds exceed the Nickel-only appropriated amount for the two "buckets" ($30 million).

The original appropriated amount for the 129 completed Nickel and TPA projects was $1,096 million. The cost at completion was $1,297 million, which is 18% above the original appropriations. Of note, 85 projects (66%) were within 10% of original appropriations.

Counting the Nickel "Bucket" projects

In the 2003 transportation budget, WSDOT was appropriated $20 million for Nickel Guardrail Retrofit projects and $10 million for Nickel Bridge Rail Retrofit projects. WSDOT uses these funds to address safety deficiencies through site specific guardrail and bridge rail retrofit projects to improve safety. As projects funded through these buckets move into construction, the overall number of Nickel and TPA projects will also increase.

Project delivery performance is measured and reported against last legislative expectations

The measure for "on budget" compares the cost at completion with the most recent Legislative baseline. This was agreed upon with the Legislature in 2003, and is based on the cost of a project coming within + or – 5% of the budget estimate the project had when it appeared on the last budget list. The Transportation Performance Audit Board – whose members included members of the House and Senate, as well as representatives from JLARC, and the State Auditor's Office – reaffirmed this measure in 2005.[3]

At the time this baseline was agreed upon, no one foresaw the tremendous growth in construction material costs. Although WSDOT uses Global Insights, a nationally recognized economic forecasting firm, to forecast material costs, the extent of the escalation was not predicted by the private sector or other state transportation departments. As we have reported in the *Gray Notebook*, the cost of key construction materials increased by nearly 60 percent between 2003 and the end of 2007. In comparison, the cumulative increase in material costs from 1990 to 2003 was 26 percent – less than half of the escalation experienced in the past five years.

Results in other states

Ultimately, the unprecedented cost increases of recent years have affected the ability of nearly every state department of transportation to deliver projects. A 2006 survey conducted by the Federal Highway Administration and American Association of State Highway and Transportation Officials found that as compared to bids for similar projects delivered in the past, these states saw cost increases of the following magnitude between 2004 and 2005:

- Texas: 68% increase
- California: 24% increase
- Utah: 70% increase
- Colorado: 52% increase

WSDOT employs nationally recognized best practices to balance impacts of construction cost inflation

WSDOT uses a series of nationally identified best practices and innovative management techniques to mitigate some of the impacts of steep construction cost increases. These include:

- Reducing contractor's risk: WSDOT introduced fuel and asphalt escalation clauses in September 2007, which transfer some of the risk from the contractor to the state to reduce the effect of cost uncertainty in bids.
- Rejecting non-competitive bids and re-advertising: WSDOT determines whether additional bidders may be available if the project is re-advertised. In the past year, WSDOT rejected bids for three projects that exceeded available funding.
- Bundling smaller projects or splitting large projects

[1] Dollars as of July 2008. Figures may not match totals in Gray Notebook June 30,2008, edition due to project close-out costs.

[3] http://www.wstc.wa.gov/TPAB/default.htm. The agreed definition was "Within + or – 5% of the budget estimate the project had when it appeared on the last budget list." See http://www.wstc.wa.gov/ TPAB/TWGReport.pdf, p. 11

into smaller projects (based on market analysis) to draw additional bidders

- Proactively contact firms to encourage additional bidding: If a project has fewer than three proposal holders, WSDOT directly contacts eligible firms from a list of pre-qualified contractors roughly a week ahead of bid time to inform those firms of available projects. In 29 instances, WSDOT was able to add an average of two proposal holders per project through this approach.
- Identifying and managing risk: For projects greater than $25 million, WSDOT brings together experts to better identify, quantify, and manage project risk –similar to value engineering. But in this case, the focus is on risks, which are prioritized so potential response strategies can be developed.

Putting the data into perspective

Looking at the percentage increases over the Nickel and TPA funding package appropriation level alone does not provide insight on WSDOT's project delivery performance. Many of the projects were based on planning level or early pre-engineering estimates that lacked sufficient detail to produce a firm baseline to which WSDOT could be held accountable.

An example illustrates these challenges:

Example: SR 3/SR 303 Interchange (Waaga Way):

- In the original 2003 appropriations, this project was funded at $15.2 million for the construction phase.
- The 2008 Supplemental Budget is $24.8 million. A cursory review would suggest a $9.6 escalation in cost.
- The 2003 appropriations did not include necessary funding for preliminary engineering ($2.1 million).
- The budgeted total represented in the 2008 Supplemental Budget includes $4.1 million contributed by Kitsap County and the Transportation Improvement Board for additional work beyond WSDOT's contract.

What would appear to be a 63% increase is in fact a 17% increase in cost. This increase reflects rising material costs, three severe storms over two construction seasons, as well as increased environmental mitigation requirements – none of which could have reasonably been forecast in 2003.

Original appropriation compared to cost at completion

In addition to construction cost inflation, completed cost may reflect other factors not foreseen in the original project estimates such as Legislatively approved scope changes, contributions of local funds, and enhanced regulatory requirements.

Project title	Fund type	Original	Completed cost	Percent change
Nickel projects				
US 2/Pickle Farm Road and Gunn Road - Add Turn Lanes	Nickel	$973,000	$1,287,731	32%
I-5/NE 175th St to NE 205th St - Add NB Lane	Nickel	$8,842,000	$8,781,987	-1%
I-5/52nd Ave W to SR 526 - Roadside Safety and Ramp Improvements	Nickel	$2,922,000	$2,781,797	-5%
I-5/SR 532 NB Interchange Ramps - Add Turn Lanes	Nickel	$8,115,179	$7,022,347	-13%
I-5/2nd Street Bridge-Replace Bridge	Nickel	$13,667,000	$14,156,570	4%
I-5/SB Ramps at SR 11/Old Fairhaven Parkway - Add Ramp Lane	Nickel	$1,574,538	$2,262,218	44%
SR 9/SR 522 to 228th St SE, Stages 1a and 1b - Add Lanes	Nickel	$22,250,000	$24,162,739	9%
SR 9/228th St SE to 212th St SE (SR 524), Stage 2 - Add Lanes	Nickel	$22,283,000	$31,073,341	39%
"SR 9/SR 528 Intersection - Signal"	Nickel	$842,000	$752,558	-11%
SR 9/108th Street NE (Lauck Road) - Add Turn Lanes	Nickel	$1,353,000	$1,822,267	35%
SR 9/Nooksack Rd Vicinity to Cherry St - New Alignment	Nickel	$16,883,000	$17,906,640	6%
SR 18/Maple Valley to Issaquah/Hobart Rd - Add Lanes	Nickel	$98,189,000	$129,231,591	32%
I-90/EB Ramps to SR 18 - Add Signal and Turn Lanes	Nickel	$3,354,000	$5,011,978	49%
I-90/EB Ramps to SR 202 - Construct Roundabout	Nickel	$932,000	$1,842,631	98%
SR 99/S 284th to S 272nd St - Add HOV Lanes	Nickel	$13,304,000	$15,051,954	13%
SR 161/Jovita Blvd to S 360th St, Stage 2 - Widen to Five Lanes	Nickel	$29,639,000	$26,089,046	-12%

Cross-Cutting Management Issues

Original appropriation compared to cost at completion

In addition to construction cost inflation, completed cost may reflect other factors not foreseen in the original project estimates such as Legislatively approved scope changes, contributions of local funds, and enhanced regulatory requirements.

Project title	Fund type	Original	Completed cost	Percent change
SR 167/Ellingson Rd Interchange NB Off Ramp - Add Signal and Turn Lane	Nickel	$918,000	$738,265	-20%
SR 202/244th Ave NE Intersection - Add Signal and Turn Lane	Nickel	$1,025,640	$1,209,727	18%
SR 202/Jct 292nd Ave SE - Add Signal and Turn Lane	Nickel	$1,305,250	$605,304	-54%
SR 203/NE 124th/Novelty Rd Vicinity - Construct Roundabout	Nickel	$2,831,000	$3,642,720	29%
SR 527/132nd St SE to 112th St SE - Add Lanes	Nickel	$25,818,000	$20,761,896	-20%
SR 543/I-5 to Canadian Border - Add Lanes	Nickel	$33,897,000	$50,678,834	50%
US 2/Dryden- Signal	Nickel	$320,000	$498,406	56%
I-90/Moses Lake Area - Bridge Clearance	Nickel	$7,930,000	$7,245,401	-9%
US 97A/Entiat Park Entrance-Turn Lanes	Nickel	$240,000	$137,388	-43%
SR 3/SR 303 I/C (Waaga Way) - New Ramp	Nickel	$15,179,000	$26,288,525	73%
SR7/SR 507 To SR 512 - Safety	Nickel	$11,429,000	$21,165,202	85%
SR 16/36th St to Olympic Dr NW - Add HOV Lanes (Old Title: SR 16 HOV Improvements)	Nickel	$2,330,000	$7,859,515	237%
SR 16/I-5 to Tacoma Narrows Bridge - Add HOV Lanes (Old Title: Olympic Dr and Union Ave)	Nickel	$35,219,000	$120,726,035	243%
SR 106/Skobob Creek - Fish Passage	Nickel	$1,280,000	$1,780,441	39%
SR 161/204TH Street to 176th Street	Nickel	$16,135,000	$15,264,761	-5%
SR 161/234TH Street To 204th Street E	Nickel	$16,460,000	$15,634,712	-5%
I-5/Lexington Access	Nickel	$5,000,000	$5,000,000	0%
I-5/Salmon Creek To I-205 - Widening	Nickel	$34,000,000	$43,945,947	29%
SR 500/NE 112the Ave - Interchange	Nickel	$26,712,000	$26,082,715	-2%
US 12/SR 124 To McNary Pool - Add lanes	Nickel	$11,800,000	$12,091,649	2%
US 12/Attalia Vic. - Add Lanes	Nickel	$10,333,000	$16,200,564	57%
SR 24/I-82 To Keyes Road	Nickel	$38,963,000	$50,233,817	29%
I-90/Cle Elum River Br. 90/134 N-S	Nickel	$712,310	$788,640	11%
I-90/Highline Canal to Elk Heights	Nickel	$4,200,000	$4,961,080	18%
I-90/Ryegrass Summit to Vantage	Nickel	$9,200,000	$9,615,182	5%
SR 124/East Jct. SR 12 - Reconstruction	Nickel	$348,361	$307,666	-12%
I-182/US 395 I/C - Roadside Safety	Nickel	$118,000	$68,593	-42%
SR 240/I-182 To Richland Y - Add Lanes	Nickel	$30,521,000	$22,616,831	-26%
SR 240/Richland Y to Columbia Center I/C	Nickel	$36,698,000	$43,159,417	18%
US 395/Kennewick Variable Message Sign	Nickel	$400,000	$377,621	-6%
SR 31/Metaline Falls to Intl Border	Nickel	$17,150,000	$17,205,624	0%
I-90/Pines Road To Sullivan Road - Widen	Nickel	$17,889,000	$15,821,463	-12%
I-90/Argonne Road To Pines Road - Widen	Nickel	$18,318,000	$17,844,642	-3%
I-90/Geiger Road to US 2 Median Barrier	Nickel	$780,000	$760,301	-3%
I-90/Sullivan - State Line Median Barrier	Nickel	$1,042,000	$771,535	-26%
SR 270/Pullman To Idaho State Line	Nickel	$30,619,000	$31,188,078	2%
I-5/Pierce Co. Line To Tukwila - HOV	Nickel	$55,100,000	$139,855,835	154%
I-405/SR 520 to SR 522	Nickel	$163,734,800	$80,362,675	-51%
SR 516/208TH and 209TH Ave. SE	Nickel	$1,443,000	$2,397,928	66%
Noise Wall in Seattle	Nickel	$3,500,000	$3,763,403	8%

Original appropriation compared to cost at completion

In addition to construction cost inflation, completed cost may reflect other factors not foreseen in the original project estimates such as Legislatively approved scope changes, contributions of local funds, and enhanced regulatory requirements.

Project title	Fund type	Original	Completed cost	Percent change
Nickel Bucket Projects				
I-90/Bridge Rail Retrofit, Elk Heights Rd Br 90/147 (Kittitas)	Nickel	$203,000	$101,695	-50%
SR 25/N of Davenport - Upgrade Guardrail (Stevens, Lincoln)	Nickel	$930,000	$1,019,993	10%
NC Regionwide - Upgrade Guardrail (Chelan, Douglas, Grant, Okanogan)	Nickel	$687,114	$801,058	17%
I-5/Puyallup River to Fife Interchange - Bridge Rail (Pierce)	Nickel	$337,515	$262,463	-22%
SR 21, 23, 27, and 272 - Upgrade Guardrail (Lincoln, Adams, Franklin, Whitman)	Nickel	$337,515	$262,463	-22%
SR 231/Spokane River Bridge - Upgrade Bridge Rail (Lincoln)	Nickel	$210,728	$147,866	-30%
I-90/Bridge Rail Retrofit,Thorp Prairie Rd (Kittitas)	Nickel	$90,000	$55,015	-39%
SR 397/Columbia River Bridge - Upgrade Bridge Rail (Franklin)	Nickel	$85,000	$891,011	948%
I-90/Columbia River Bridge - Upgrade Bridge Rail (Kittitas, Grant)	Nickel	$55,000	$550,554	901%
US 395/Nordhein Road Vicinity Guardrail (Franklin)	Nickel	$51,000	$44,101	-14%
SR 194/SW of Colfax - Upgrade Guardrail (Whitman)	Nickel	$1,078,735	$1,023,580	-5%
SR 14/Columbia River Gorge - Upgrade Guardrail (Skamania)	Nickel	$764,640	$516,406	-32%
SR 260/Connell to Kahlotus - Upgrade Guardrail (Franklin)	Nickel	$642,399	$467,666	-27%
SR 105/Smith Creek Bridges - Bridge Rail Retrofit (Pacific)	Nickel	$528,370	$514,136	-3%
SR 124/E of Pasco - Upgrade Guardrail (Walla Walla)	Nickel	$494,055	$383,008	-22%
SR 165/Carbonado Vicinity - Upgrade Guardrail (Pierce)	Nickel	$480,480	$814,075	69%
SR 25/Columbia River Bridge - Upgrade Bridge Rail (Stevens)	Nickel	$447,800	$464,540	4%
SR 24/Vernita Bridge - Upgrade Bridge Rail (Grant, Benton)	Nickel	$402,123	$242,558	-40%
SR 25/Spokane River Bridge - Upgrade Bridge Rail (Stevens, Lincoln)	Nickel	$353,924	$312,900	-12%
SR 14/Riverside Dr and E Camas Slough Bridge - Upgrade Bridge Rail (Clark)	Nickel	$340,000	$322,505	-5%
SR 105/Smith Creek Bridge to Alexson Rd - Guardrail Upgrade (Pacific)	Nickel	$332,559	$313,727	-6%
SR 410/Cliffdell Vicinity - Upgrade Guardrail (Yakima)	Nickel	$331,235	$217,234	-34%
SR 14/W of Paterson - Upgrade Guardrail (Benton)	Nickel	$320,015	$267,842	-16%
US 12/Columbia, Garfield, and Whitman Co - Upgrade Guardrail (Garfield, Columbia)	Nickel	$302,480	$175,635	-42%
SR 127/N of Dodge - Upgrade Guardrail (Garfield)	Nickel	$280,772	$190,954	-32%
SR 261/Lyon's Ferry Vicinity - Upgrade Guardrail (Garfield, Columbia)	Nickel	$272,670	$181,137	-34%
SR 122/Cinebar Rd to Jerrells Rd - Guardrail Upgrade (Lewis)	Nickel	$180,000	$207,622	15%
SR 116/SR 19 to Indian Island - Upgrade Bridge Rail (Jefferson)	Nickel	$153,786	$585,208	281%
SR 401/US 101 to E of Megler Rest Area Vic - Upgrade Guardrail (Pacific)	Nickel	$130,000	$152,097	17%
SR 17/N of Mesa - Upgrade Guardrail (Franklin)	Nickel	$113,979	$74,164	-35%
US 730/S of Wallula - Upgrade Guardrail (Walla Walla)	Nickel	$90,834	$65,324	-28%
SR 128/Clarkston Vicinity - Upgrade Guardrail (Whitman)	Nickel	$67,722	$47,009	-31%
SR 105/Johns River Bridge - Upgrade Bridge Rail (Grays Harbor)	Nickel	$67,707	$262,954	288%
US 101/Quinault River Bridge - Upgrade Bridge Rail (Grays Harbor)	Nickel	$51,057	$228,943	348%
US 12/Wynoochee River Bridge - Upgrade Bridge Rail (Grays Harbor)	Nickel	$43,425	$201,910	365%
SR 18/Covington Way to Maple Valley - Add Lanes (King)	Nickel	$69,372,157	$68,507,787	-1%
SR 823/Selah Vicinity - Upgrade Guardrail (Yakima)	Nickel	$24,645	$32,503	32%

Cross-Cutting Management Issues

Original appropriation compared to cost at completion

In addition to construction cost inflation, completed cost may reflect other factors not foreseen in the original project estimates such as Legislatively approved scope changes, contributions of local funds, and enhanced regulatory requirements.

Project title	Fund type	Original	Completed cost	Percent change
TPA Projects				
SR 522/I-5 to I-405 - Multimodal Improvements	TPA/ Nickel	$20,859,324	$22,486,767	8%
I-5/Blaine Vicinity - Median Cross Over Protection (Whatcom)	TPA	$242,592	$242,592	0%
I-5/SR 11 to 36th St - Install Cable Barrier	TPA	$370,000	$103,622	-72%
I-5/Main St to SR 548 - Install Cable Barrier	TPA	$890,000	$407,220	-54%
SR 99/SR 599 to Holden St - Install Cable Barrier	TPA	$380,000	$435,126	15%
SR 169/SE 291st St Vicinity (Formerly SE 288th Street) - Add Turn Lanes	TPA	$1,600,000	$2,544,690	59%
US 2/Fern Bluff to Sultan Startup - Stormwater Drainage Improvements	TPA	$798,544	$501,991	-37%
US 2/10th St Intersection Vic - Stormwater Drainage Improvements	TPA	$441,320	$258,762	-41%
I-5/S Seattle NB Viaduct - Bridge Paving	TPA	$11,388,535	$16,071,916	41%
I-5/300th St NW Vic to Anderson Rd Vic - Install Cable Barrier	TPA	$1,176,000	$1,226,211	4%
I-5/SR 11 Vic to Weigh Station Vic - Install Cable Barrier	TPA	$496,606	$375,259	-24%
I-5/SB Viaduct, S. Seattle Vicinity - Bridge Repair	TPA	$3,910,331	$1,265,576	-68%
I-5/SR 542 Vicinity to Bakerview Rd - Install Cable Barrier	TPA	$379,100	$254,187	-33%
SR 20/Thompson Road - Add Signal	TPA	$775,001	$950,935	23%
SR 522/N Creek Vic to Bear Creek Vic - Install Cable Barrier	TPA	$323,000	$270,789	-16%
SR 531/Lakewood Schools - Construct Sidewalks	TPA	$460,000	$503,919	10%
SR 18/SE 304th to SR 516 - Install Cable Barrier	TPA	$415,000	$242,121	-42%
I-90/SR 17 to Grant/Adams County Line-Median Cross Over Protection	TPA	$1,200,000	$749,370	-38%
I-90 /Silicia Road to East Of Adams Road-Median Cross Over Protection	TPA	$1,200,000	$293,914	-76%
I-90/Potato Hill Bridge - Add Pedestrian Access	TPA	$750,000	$750,000	0%
US 97 Kittitas, Chelan and Okanogan Counties Roadside Safety Improvement	TPA	$1,000,000	$977,505	-2%
SR 17/Pioneer Way to Stratford Road-Widen to Four Lane	TPA	$15,214,824	$20,996,084	38%
State Highways in Pierce and Thurston Counties Roadside Safety Improvements	TPA	$1,000,000	$935,651	-6%
US 101/Mt Walker NB and SB Passing/Truck Lane	TPA	$2,500,000	$2,397,195	-4%
SR 16 /NW of Tacoma Narrows to SE of Burley/Olalla-Median Cross Over Protection	TPA	$900,000	$937,650	4%
SR 167/SR 410 to Pierce/King County Line-Median Cross Over Protection	TPA	$500,000	$457,173	-9%
SR 410 / Traffic Ave to 166TH Ave E - Median Cross Over Protection	TPA	$300,000	$241,203	-20%
SR 3/Imperial Way to Sunnyslope - Safety	TPA	$2,544,397	$1,608,647	-37%
SR 3/SR 106 South Belfair Signal - Safety	TPA	$1,022,500	$821,448	-20%
US12/Vicinity Montesano to Elma - Median Cross Over	TPA	$1,218,541	$1,923,353	58%
I-205/Mill Plain SB Off-Ramp Improvement	TPA	$542,091	$769,738	42%
US 12/Wildcat Creek to I-82 - Roadside Safety Improvements (Old Title: State Highways in West Yakima County Roadside Safety Improvements)	TPA	$507,700	$542,599	7%
SR 410/Morse Creek to US 12 - Roadside Safety Improvements Old Title State Highways in West Yakima County Roadside Safety Improvements)	TPA	$1,900,000	$710,064	-63%
SR 821/Selah to Ellensburg - Roadside Safety Improvements (Old Title: State Highways in West Yakima County Roadside Safety Improvements)	TPA	$175,000	$81,529	-53%
US 12/Yakima - 40th. Avenue Interchange Improvements	TPA	$2,000,000	$2,146,241	7%
I-90/Harvard Road Pedestrian Overcrossing	TPA	$331,500	$1,370,560	313%

Cross-Cutting Management Issues

Right-of-way

Right-of-way Highlights

98% of right-of-way certifications between January and June 2008 were completed on-time.[1]

98% of certifications completed on-time

WSDOT's real estate acquisition practices are strictly guided by state and federal regulations. Before a project can be advertised for bidding, WSDOT must certify that all rights necessary to construct, operate and maintain the project have been acquired. WSDOT's goal is to deliver 100% on-time certification for all projects. For projects with right-of-way issues on the Watch List see pages 62-73.

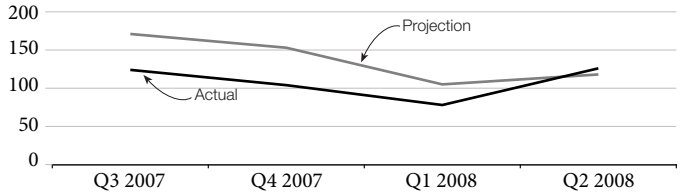
Certification is considered on-time if it occurs within the scheduled quarter. Forty-nine projects with a right-of-way phase were scheduled to be certified between January and June 2008. On-time certification was missed for three of these projects, however only one was missed due to factors under WSDOT control.[1] (Note: Certification is measured on a project basis. Projects usually include acquisition of multiple parcels of land.)

On-time right-of-way certification results

	Jan-Jun 2007	Jul-Dec 2007	Jan-Jun 2008
Projects with a right-of-way phase	6	45	49
Projects with certification delays	0	0	3
Projects with certification delays under WSDOT control	0	0	1
Percent of projects with on-time certification	100%	100%	98%[1]

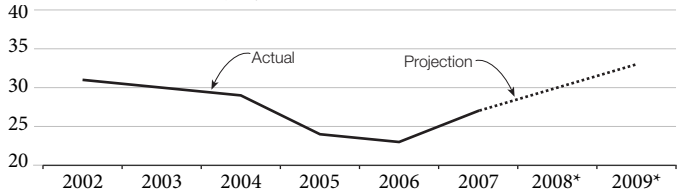
Data Source: WSDOT Real Estate Services.
[1]Projects are considered to be certified on-time unless the delay was within WSDOT control.

Acquisitions for all PEF, TPA and Nickel projects
July 1, 2007 - June 30, 2008, actuals and projections



Data Source: WSDOT Real Estate Services.

Condemnations for all PEF, TPA and Nickel projects
2002 - 2009, actuals and projections



Data Source: WSDOT Real Estate Services.
* Projected condemnations.

The three projects with late certification include:

SR 6 / South Fork Chehalis River Bridge

Right-of-way plans did not allow sufficient time to acquire property owned by Port of Chehalis, which requires commission authority to dispose of property.

Wildlife Fence on U.S. 97A / North of Wenatchee

WSDOT is acquiring this property for the Washington Department of Fish and Wildlife. Plans, agreements, and task assignments between agencies were not completed in time.

Redirect River and Realign Roadway on SR 542 / Nooksack River

Certification documentation was not completed to the satisfaction of WSDOT headquarters.

Actual number of land parcels acquired slightly lower than projected

Individual construction projects often include multiple parcel acquisitions. Overall, the number of parcel acquisitions is trending downward compared to the average from the past five years. Of the 223 parcels of land that were projected to be acquired between January and June 2008, 204 were actually acquired.

Condemnations continue to increase

Condemnation is a legal process to acquire land when acquisition is in dispute. The number of condemnations WSDOT has been involved in increased from 23 in 2006 to 27 in 2007. Condemnations are projected to continue to increase in 2008 and 2009. There are currently 46 open condemnation cases. Of these, 15 are new cases opened in the first six months of 2008, and 31 are pending, pre-2008 cases. Twenty-one cases were concluded in the first six months of 2008.

[1]Projects are considered to be certified on-time unless the delay was within WSDOT control.

Cross-Cutting Management Issues

Utilities

Some WSDOT projects present challenges in coordinating construction with existing utilities. Utilities such as water, electricity, sewer, storm drains, telephones, cable, and internet locations often need to be accommodated, and sometimes even relocated. WSDOT's goal is to use active planning to avoid such conflicts and potential delays before and during construction.

When existing utilities are in the way of highway construction projects, affected utility companies are given reasonable time to design and relocate facilities. In order to deliver construction projects on-time, risk levels related to utilities are assigned to individual projects to better prioritize WSDOT's coordination between engineers, contractors and utilities groups.

Utilities Highlights

From January 1, 2008 to June 30, 2008, 40 Nickel and TPA projects were advertised. Seven were given a Level 3 risk assessment for potential delays to utilities work.

WSDOT tracks utility risks for all Nickel, TPA and PEF projects. Forty Nickel and TPA projects were advertised between January 1, 2008 and June 30, 2008. Of these projects, 29 were assigned the lowest utilities risk, Risk Level 1, compared to 11 the previous six months. The remaining projects include four assigned Risk Level 2 and seven assigned Risk Level 3. The three risk levels are described in the table to the right.

Utilities risk levels for advertised Nickel and TPA projects

Level	Description	Jul-Dec 2007	Jan-Jun 2008
Level 1	Utilities have been relocated, and/or are clear of construction	11	29
Level 2	Utility companies are actively pursuing relocation and the department has assurances the utilities will be clear by the date bids are opened.	2	4
Level 3	Utilities have not been relocated, and will not be relocated by the bid opening date that has been cited in the contract provisions. The department has assurance that the utility company will be able to meet the date stipulated on the contract.	6	7
	Total	**19**	**40**

Data Source: WSDOT Utilities Office.

Projects advertised at Risk Level 2 and 3 for utilities

(January 1, 2008 to June 30, 2008)

Nickel & TPA funded projects

I-205/Mill Plain interchange to NE 18th Street - Stage 1 and 112th Connector (Risk Level 2)

This project is a joint effort between the City of Vancouver and WSDOT and includes work on the Interstate and city streets. Due to inadequate utility records on some of the city streets, utility issues will be addressed during construction, which has just begun.

SR 9/ 176th Street SE vicinity to Marsh Road intersection (Risk Level 3)

The utilities affected on this project will be relocated during construction. Contract special provisions have been included in the plans to address utility co-location and joint use of poles and trenches.

SR 704 / Cross-Base Highway - Spanaway Loop to SR 7 (Risk Level 2)

The Spanaway Water Company has completed most of its work on the water line along Spanaway Loop and at the intersection of Spanaway Loop and SR 704. Completion of the water line relocation was completed prior to the April 30th date agreed to between the WSDOT and the water Company.

TPA

SR 7/Lewis county - Roadside safety improvements (Risk Level 3)

Many utility conflicts were identified during project design. A design change occurred that increased the length of the guardrail posts, which created additional utility conflicts and delayed the contractor's work. Instead of relocating their facilities, the utility owner has opted

Utilities

to pothole several hundred feet of line. Future guardrail work will involve more in-depth review of the design for possible changes prior to going to construction.

SR 6/South fork - Chehalis River Bridge replacement (Risk Level 2)

Construction of this project has been under consideration over a 10 year period. This has created a lack of credibility with utility companies as to whether utility relocation would move forward. The project requires relocations for public utility district and telephone lines. The utilities have committed to completing their relocations prior to the project start.

SR 432 Roadside safety improvements (Risk Level 3)

Incomplete and/or inaccurate utility locates by the utility location company did not identify some communication line conflicts. Construction was delayed when the utilities were discovered by the contractor. Future projects will require potholing to verify the location of utilities because locator markings have the possibility of being inaccurate.

SR 112/ Makah Reservation to US 101 – Safety (Risk Level 3)

The existing utility facilities may conflict with guardrail and drainage work at nineteen locations throughout the project. Utility companies have agreed to locate their cable by hand digging or potholing at each post location prior to the contractor placing guardrail posts. The utility will be responsible for any delay costs.

Nickel projects

SR 20 - Quiet Cove Road vicinity to SR 20 Spur - Stage 2 (Risk Level 2)

The construction contract for this project provides for suspension of work for a minimum of 120 calendar days for utility relocation work to be completed by PSE, Verizon, Comcast, and Wave Broadband. WSDOT has received assurances from these utility companies that they will be able to complete the relocations within the allotted time.

SR 20 - Fredonia to I-5 - widening - Stage 2 (Risk Level 3)

Multiple utilities will be relocated during construction of this project. Joint pole and trench use has been coordinated among affected utilities. Contract special provisions have been included to cover these occurrences.

SR 900/ SE 78th Street vicinity to Newport Way – widening (Risk Level 3)

Multiple utility relocations will occur on this project prior to and during construction. Contract special provisions have been included for coordination of the utility relocation work. The project includes the construction of Cascade Water Alliance's 42" waterline by WSDOT's contractor. Coordination with the City of Issaquah will also be required for additional waterline work.

SR 16/Burley Olalla interchange (Risk Level 3)

Relocation of Qwest and Puget Sound Energy utility lines was completed approximately two weeks before the first anticipated contract working day. In the event that utility companies had failed to relocate prior to construction, a contract addendum to perform remaining utility work would have been required.

Pre-Existing Funds projects

U.S. 2 – West side of Stevens Pass - Electronic Signage (Risk Level 2)

No utility relocation or WSDOT work is allowed by the U.S. Department of Fish & Wildlife prior to July 15th, due to possible endangered species disturbances. Utility relocation work will start on July 16 and should be completed prior to the start of construction, scheduled for July 28.

I-5/ James Street, Spring Street and NE 50th Street – Signals (Risk Level 2)

Utility relocation agreements were not executed by the project ad date, requiring that relocation work be performed during construction. The utility service agreements will be executed prior to bid opening.

SR 528, I-5 to SR 529 – Paving (Risk Level 2)

The utility relocations for this project will be done both in advance of and during construction. Contact special provisions for coordination of this work were included in the project plans.

U.S. 101- Purdy Creek Bridge - Replacement (Risk Level 3)

The utility relocation is underway but will not be complete by the ad date. Completion is anticipated by June 20, 2009. Any delays in completing relocation will be evaluated prior to bid opening since delay will impact construction.

State highways in Clallam, east Jefferson, Kitsap, Thurston, and Mason counties. – Safety (Risk Level 3)

There are 11 locations where facilities will not be relocated by the bid opening date. Those not relocated have been addressed in construction contract provisions. Conflicts include guardrail placement at ten locations and tree removal at one location. Relocation will entail hand digging or potholing.

Construction Cost Trends

Trends relating to rising costs are affecting state transportation departments across the country, including WSDOT. Since 2004, the construction industry has seen prices spike for materials such as steel, asphalt, and concrete. Highway construction has been hit particularly hard, because it depends on a very limited set of materials and is vulnerable to oil price increases. Highway construction contractors use large quantities of fuel to transport materials and equipment to the worksite and to power construction equipment. These market conditions have caused transportation agencies to scale back or delay projects, or seek additional funding to deliver already planned projects.

Calculating the Construction Cost Index

WSDOT prepares construction cost estimates using historical information about market conditions drawn from recent bids. Like other state DOTs, WSDOT must extrapolate for the future based on past records. WSDOT accumulates construction cost information and calculates a Construction Cost Index (CCI), which is a composite of unit price information from low bids on seven of the most commonly used construction materials. These items reflect a composite cost for a completed item of work and include the costs of labor, equipment, and materials. Once calculated, the CCI is compared to those of five other Western states. The components in the table below (are weighted as shown) are used to compute the CCI.

Construction Cost Index increases by 21.3% in the first half of 2008

The graph above illustrates the past 18 years of CCI data for Washington state. This is plotted against the CCI of the Federal Highway Administration, and a line representing the combined CCIs of five other western states; California, Colorado, Oregon, South Dakota and Utah.

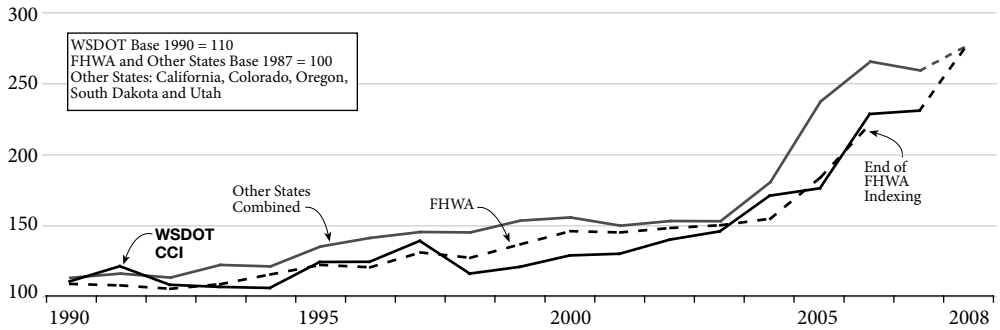
The average annual growth rate of the CCI held steady at about 1.5% per year from 1990 through 2001. Beginning in 2002 and continuing through 2005, the growth rate increased to 8% per

Components that make up WSDOT's CCI
By material and corresponding percentage

Hot mix asphalt	48.5%	Structural concrete	17.4%
Roadway excavation	10.7%	Crushed surfacing	7.9%
Structural steel	6.9%	Steel reinforcing bar	5.4%
Concrete pavement	3.2%		

Data Source: WSDOT Construction Office.

Construction Cost Indices for Washington State, FHWA, and selected western states
1990 - 2008 (through June 2008)



Data Source: WSDOT Construction Office.
Note: WSDOT 2008 index is for quarters 1 and 2, The FHWA Index was discontinued in 2007, Other states 2008 data includes California, Colorado, Oregon, South Dakota and Utah annual indices.
Note: 2003 and 2004 WSDOT CCI data points adjusted to correct for spiking bid prices on structural steel.

Construction Cost Trends Performance Highlights

WSDOT's Construction Cost Index (CCI) has risen 21.3% in the first two quarters of 2008.

From 2002-2007, WSDOT's CCI grew 65.5%, slightly less than five comparable western state's CCIs, which averaged 69.3% in the same period.

The average number of bidders for WSDOT projects is increasing: 72.3% of projects in the first two quarters received three or more bids.

Crude oil prices are up 91% over last year's reported prices. Asphalt binder prices are up 60% in western Washington and 79% in eastern Washington.

WSDOT continues to use materials escalation clauses in contracts to increase competitive bidding: $1.5 million has been paid out for 25 contracts where prices escalated beyond 10% of the original bid prices.

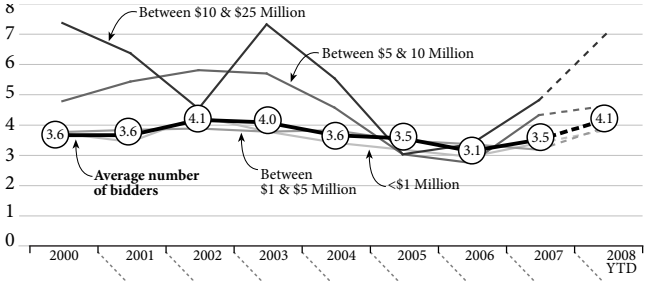
Construction Cost Trends

year. In 2006 and 2007, WSDOT's CCI increased by 31%. The rapid growth of the CCI has continued into 2008. The CCI has experienced a 21.3% increase in the first two quarters of 2008 over the annual average for 2007, from 230 to 279.

WSDOT's CCI mirrors the experiences of the other five Western states' The CCI average for the five other states increased 69.3%. Between 2002 and 2007, while WSDOT's CCI increased 65.5%.

Average number of bidders

By size of contract



	2000	2001	2002	2003	2004	2005	2006	2007	2008 YTD
1 Bidder	7.7%	12.3%	12.6%	8.5%	13.4%	9.2%	10.3%	8.1%	4.3%
2 Bidders	26.1%	23.2%	22.2%	17.6%	20.4%	22.0%	37.6%	34.5%	23.4%
3 Bidders	23.9%	23.2%	15.6%	24.2%	22.5%	33.3%	19.7%	23.7%	22.3%
More than 3 Bidders	42.3%	41.2%	49.6%	49.7%	43.7%	35.5%	32.5%	33.8%	50.0%

Data Source: WSDOT Construction Office.

More contractors bid on projects in 2008

WSDOT's goal is to have three or more bidders for each highway construction project. From 2003 to 2006, fewer contractors submitted bids for WSDOT projects, as large public and private construction programs in Washington State, as well as at the national level, keept contractors busy with a full workload.

During the last half of 2007, the average number of contractors bidding on each WSDOT project began improving. WSDOT's average number of bidders increased from 3.10 in 2006, to 3.48 in 2007, increasing to 4.15 in the first half of 2008 . The number of contracts with three or more bidders also increased during the first half of 2008 to 72.3% of all contracts. In 2007, 57.4% of contracts had three or more bidders.

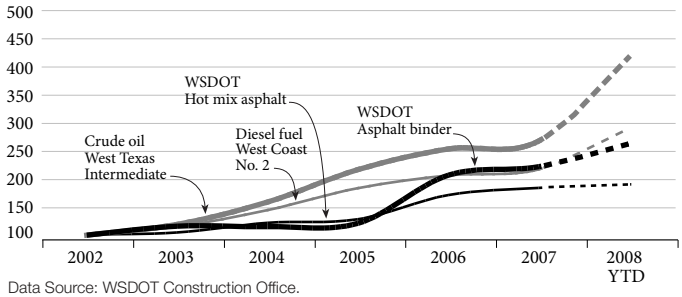
The size of WSDOT's construction program has increased as both the 2003 Nickel and 2005 Transportation Partnership Account construction programs have matured and developed. In 2005 and 2006, it was difficult to find enough contractors to work on WSDOT projects during a time when other building programs were competing for the same workforce. The recent increase in competition may produce more favorable bids for WSDOT projects, which is fortunate from a fiscal standpoint. Although material costs have increased significantly during the first half of 2008, contractors needing to secure work were not able to pass along the full increase in their bids.

Oil prices increases cause further construction cost inflation

Crude oil prices have a large impact on the cost of WSDOT projects. Crude oil prices tracked by WSDOT have increased 91% in past year, from an average of $65 a barrel in the second quarter of 2007 to an average of $124 a barrel during the second quarter of 2008. Considering that essential materials such as fuel and asphalt are obtained from crude oil are required to complete many activities on a construction project, a 91% increase in the cost of this input can translate to a substantial increase in the cost to construct a WSDOT project.

WSDOT asphalt, crude oil, & diesel fuel indices

2002-2008 (year-to-date)



Data Source: WSDOT Construction Office.
Note: Base in 2002 = 100. Diesel and crude indices compiled by the U.S. Dept. of Energy, Energy Information Administration.

From the fuel that runs equipment and transports materials to the job site, to its use as a asphalt binder in pavement, the prices of crude oil (and ultimately the price of these refined products) account for a significant portion of the final project costs.

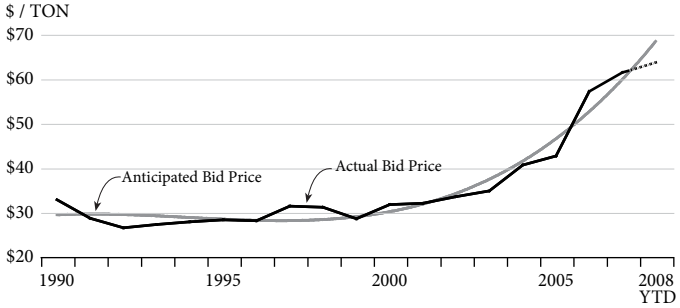
The relationship between Hot Mix Asphalt (HMA) and crude oil prices is especially significant, as virtually every activity necessary to produce and place a ton of HMA is highly dependant on petroleum products. Mining, crushing, hauling, stockpiling, and drying the aggregates all require fuel. Liquid asphalt used as a binder for HMA is derived from crude oil. Finally, the hauling of the mix to the site, and the equipment needed to place and compact the asphalt, requires petroleum products as well.

Construction Cost Trends

Hot Mix Asphalt prices typically follow a similar pattern to the price of crude oil and diesel fuel. The cost of asphalt binder, the sticky substance in asphalt that is a residual of crude oil has skyrocketed during 2008. Fortunately, WSDOT solicited bids for most of this year's paving projects before this price increase occurred. Due to good bid timing, the average price bid by contractors for HMA increased just 3.4% during the first half of 2008 over the annual average for 2007. WSDOT expects the full increase to be realized in the CCI a year from now.

WSDOT tracks the cost of the asphalt binder used to produce HMA and calculates a monthly index of asphalt binder prices, for both the east side and the west side of the state. According to WSDOT's index, the price of asphalt binder has increased 60% on the west side of the state and 76% on the east side of the state during 2008. Asphalt binder accounts for roughly half the cost of a ton of HMA, so when prices for asphalt binder go up as they have so far this year, the price of HMA follows.

Hot mix asphalt unit bid price
1990-2008 (through June 2008)



Data Source: WSDOT Construction Office.

Asphalt supply issues affect Washington state marketplace

In addition to recent cost increases for liquid asphalt, WSDOT has also been hit by a shortage of liquid asphalt. Due to price increases for crude oil, refiners that do not extract their own crude oil are finding it increasingly difficult to make a profit. In an attempt to make refining more profitable, many of these companies are switching to refining lighter types of crude oil. These lighter crude oils produce more high-end products like gasoline and diesel fuel, but less residuals like asphalt.

HMA and fuel escalation clauses

On each construction contract, WSDOT pays an amount for each ton of HMA that the contractor specified when they originally bid the work. This unit bid price includes labor, equipment and the material. Because contractors must bid the unit price months and sometimes years before they will place HMA on a WSDOT project, contractors are at risk of underbidding the cost of HMA during times when price increases significant, as they are now. In the past, contractors would build the risk of future price increases into their unit bid, but the extent of recent price increases means it is no longer cost effective for contractors to do so for all construction materials. This is why WSDOT has introduced escalation clauses for HMA and fuel and is considering expanding the use of such clauses.

WSDOT escalation payments increase

WSDOT is using fuel and asphalt escalation clauses on select multi-year contracts. The clauses allow for a correction in price on applicable items when fuel or asphalt binder experience significant increases or decreases in cost. This protects contractors from volatile fuel and asphalt prices. It also encourages them to submit bids for projects that are based on current market conditions, rather than potential future conditions, resulting in a cost savings for WSDOT when those increases do not occur.

At the end of July, 24 contracts contain the fuel cost escalation clause. WSDOT has paid a total of $1 million on 15 of those contracts. No payments have been made to date on the remaining nine contracts. During the same time, WSDOT paid a total of $500,000 on 10 contracts containing the asphalt cost adjustment. An additional 22 contracts containing the asphalt adjustment have made no payments to date.

New escalation clauses now under development

Due to current price volatility, WSDOT has been asked by the construction industry to considering expanding the use of cost adjustment clauses. In July, WSDOT developed a clause similar to the asphalt and fuel cost adjustments that would address steel prices. WSDOT is also studying the effects of expanding the use of the asphalt clause to shorter duration construction contracts or lowering the threshold that would make the clause take effect (currently prices must change more than 10% for an adjustment to be made). Further evaluation of the expanded use of this clause is needed before the agency takes action.

Construction Contracts Annual Update

Construction Contracts Highlights:

- For FY 2008, 99 of 149 contracts (66.4%) were awarded below the engineer's estimate.
- The total final cost of contracts completed in FY 2008 exceeded the total award amount by 5%.
- WSDOT completed 131 highway construction contracts in FY2008, representing a 2.9% decrease from FY2007 (136).
- Final contract costs for FY 2008 were above the engineer's estimates by 4.0%; for FY 2007 final costs were 1.3% above.

WSDOT engineers prepare cost estimates for construction projects that the agency plans to advertise for competitive bidding. After bids are received, WSDOT then reviews each bid. WSDOT's goal is to have the lowest bid received on each project be no greater than the engineer's estimate. WSDOT tracks project information and compares the engineer's estimate to the award amount as an indicator of the agency's estimating accuracy. When projects are completed, WSDOT compares the final cost of the project to the awarded amount and the engineer's estimate.

Overview of the construction contracts process

WSDOT prepares estimates for construction contracts prior to soliciting bids for the contracts. For budgeting purposes, this estimate is updated during the design phase of the project to keep pace with inflation and to reflect any changes that have been made to the scope of the work. The Engineer's Estimate is the last estimate for a project and is completed just prior to advertising the contract. It is compared to the bids received by contractors to validate their bids.

When contractors bid on WSDOT projects, they submit unit bid prices for each item of work in the contract. These unit prices for each item are then multiplied by the number of units that WSDOT estimates it will take to complete the work. The total represents the cost of the contractor's bid. WSDOT reviews each bid received and awards the contract to the lowest responsive bidder.

The final cost WSDOT pays for a project is affected by the amount of each item that was actually required to construct the project. This is because WSDOT pays the contractor the unit price they submitted for each item based on the amount of the item that was actually used, rather than the amount that WSDOT expected to use when the estimate was originally prepared. The final project cost is also affected by changes WSDOT made to the contract during construction that increased or decreased the cost to complete the project. This includes any unforeseen conditions or other items that could not be estimated in advance. A good example of this is the *SR 20, Falls Creek Vicinity Unstable Slope* project as described on p. 97.

Whether the cost difference is due to changes in quantities or unforeseen conditions, it is more cost effective for WSDOT to take responsibility for these risks than to reduce the amount of risk in contracts. This is because of the cost associated with completing more design work to reduce risk, as illustrated by the *I-5, Spokane Street to I-90 Bridge Repairs* example on p. 96. Also, by fairly allocating risk between the agency and contractors constructing projects, WSDOT receives more and better overall bids for its construction contracts.

Construction Contracts
Annual Update

Award Amount to Engineer's Estimate

149 Construction contracts awarded in FY 2008

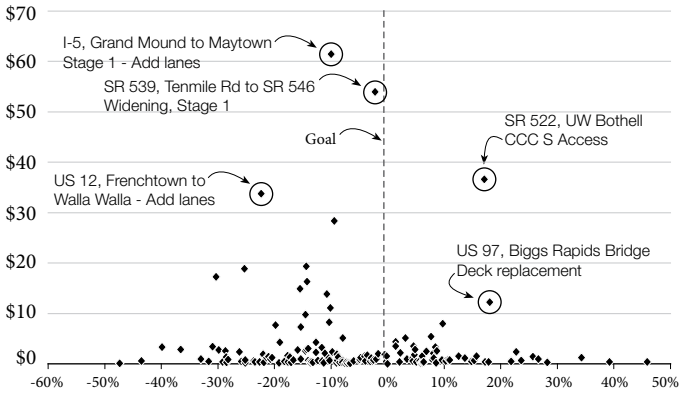
WSDOT awarded 149 highway construction and ferry terminal contracts between July 1, 2007 and June 30, 2008 (Fiscal Year 2008). The 149 contracts awarded in FY 2008 represent a 6.9% decrease from the number of contracts awarded (160) in FY 2007.

For every contract awarded, WSDOT tracks the difference between the contract award amounts and the engineer's estimate. The total award amount of all contracts for FY 2008 totaled $544,410,969, which was 10.1% below the total engineers' estimates of $605,432,380. The awarded total represents a 1.0% increase from FY 2007 (total value: $538,967,389) in the value of contract awards.

The scatter plot below shows the award value for each contract and the total percent above or below the engineer's estimate. Ninety-nine contracts (66.4%) were awarded below the engineer's estimate. The additional 50 construction contracts were awarded above the engineer's estimate. This is a significant change from FY 2007, when 48.1% of contracts (77 contracts) were awarded below the engineer's estimate and the remaining 51.9% (83 contracts) were awarded above the engineer's estimate.

Individual contracts: award amount to engineer's estimate

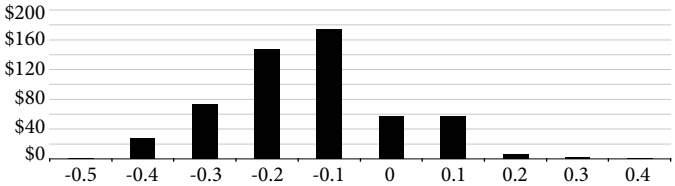
Percent award amount above or below engineer's estimate, FY 2008
Dollars in millions



Data Source: WSDOT Construction Office.

Distribution of contract value over/under: award amount to engineer's estimate

Percent award amount above or below engineer's estimate, FY 2008
Dollars in millions



Data Source: WSDOT Construction Office.

Significant cost overruns: award to engineer's estimate

SR 522, University of Washington Bothell Cascadia Community College South Access (King Co.)

The contract award totaled $36.7 million, 17% above the engineer's estimate. The estimate for this contract was prepared when the contract was originally advertised in January 2007, but it was pulled from advertisement due to funding concerns. When the contract was re-advertised in October 2007, the estimate had not been adequately adjusted for inflation.

US 97, Biggs Rapids Sam Hill— Bridge deck replacement (Klickitat Co.)

The awarded contract totaled $12.2 million, 18% above the engineer's estimate due to the large number of uncommon items on this contract without adequate bid histories needed to compile an accurate estimate; also, a second construction season was added to the contract to minimize impacts on the traveling public causing the cost of the contract to increase.

Highway construction contracts awarded: year-to year comparison [1]

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Number of contracts awarded	139	155	135	160	149
Total award amount for these contracts	$402,251,246	$506,250,783	$385,955,115	$538,967,389	$544,410,969
Total engineer's estimate for these contracts	$411,243,124	$518,134,245	$370,262,021	$533,108,953	$605,432,380
Avg. % total awards were above/below the total estimate value	-0.8%	1.9%	1.7%	0.4%	-5.9%
% Total award is above/below the engineer's estimate	-2.2%	2.3%	4.2%	1.1%	-10.1%
Combined contract value awarded below the estimate	51.8%	74.4%	32.6%	35.5%	77.8%%
Number of contracts awarded below the estimate	90	86	64	77	99
% of contracts awarded below the estimate	64.7%	55.5%	47.4%	48.1%	66.4%

Data Source: WSDOT Construction Office

[1] Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or Washington State Ferries vessel contracts. Washington State Ferries terminal contracts have been added.

Construction Contracts
Annual Update

Contract Final Costs to Award Amount

FY 2008: 131 construction contracts completed

WSDOT completed 131 highway construction contracts in FY 2008, representing a 2.9% decrease from the number of contracts completed in FY 2007 (136 contracts). For every completed contract, WSDOT tracks final construction costs compared to the original engineer's estimate and the award amount. WSDOT's goal is for the final construction costs to be less than 10% above the award amount.

The total final cost of contracts completed in FY 2008 was $310,216,164. This exceeds the total award amount of $295,354,892 by 5.0%, a 22% decrease from FY 2007. Contract final costs exceeded the awarded amount by 6.4% in FY 2007 (final costs were $290,728,546 while total awards were $273,249,357).

The scatter plot below shows the final cost of each contract and the percent above or below the award amount. The final cost for 112 contracts (85.5%) was less than 10% above the award amount. The remaining 19 contracts (14.5%) had a final cost that was greater than 10% above the award amount. On average, the final contract costs were 2.7% above the award amount.

Significant cost overruns: final cost to award amount

I-5, Spokane St. to I-90 Bridge Repairs (King Co.)

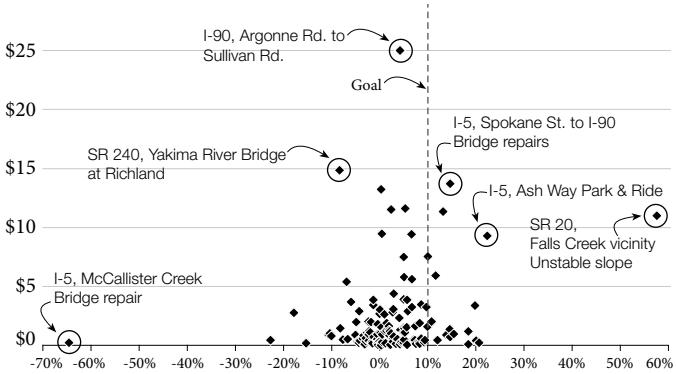
The final cost totaled $13.7 million, 15% above the awarded amount due to a significant increase in the quantity of polyester concrete needed to complete the work. It was not cost effective to shut down I-5 during contract design to develop a more accurate estimate of the quantity of concrete needed for the project.

I-5, Ash Way Park & Ride (Snohomish Co.)

The final cost totaled $9.3 million, 23% above the awarded amount due the cost of a settlement that resulted from deleting the construction of a bridge from the contract. The bridge was deleted because it was designed to require overheight vehicles to exit the freeway during construction. The risk of a truck striking the bridge was too great to safely proceed with construction.

Individual contracts: final costs to award amount

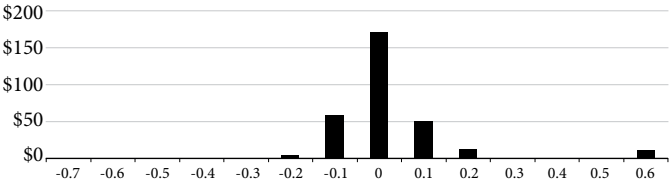
Percent final cost above or below award amount, FY 2008
Dollars in millions



Data Source: WSDOT Construction Office.

Distribution of contract value over/under: final costs to award amount

Percent final cost above or below engineer's estimate, FY 2008
Dollars in millions



Data Source: WSDOT Construction Office.

Completed contract: Final costs to award amount[1]

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Number of highway contracts completed	159	165	125	136	131
Total final cost for highway contracts[2]	$320,356,211	$305,253,750	$231,324,283	$290,728,546	$310,216,164
Total award amount for highway contracts	$300,078,423	$290,737,232	$207,014,987	$273,249,357	$295,354,892
Average % final costs exceeded award	2.5%	4.1%	3.6%	3.2%	2.7%
% final cost exceeded award amount	6.8%	5.0%	11.7%	6.4%	5.0%
% of contract values less than 10% above award	49.5%	76.7%	54.7%	66.7%	75.8%
Number of contracts less than 10% above award	127	128	100	109	112
% of contracts less than 10% above the award	79.9%	77.6%	80.0%	80.1%	85.5%

Data Source: WSDOT Construction Office
[1] Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or Washington State Ferries vessel contracts. Washington State Ferries terminal contracts have been added.
[2] Without sales tax.

Construction Contracts
Annual Update

Contract Final Costs to Engineer's Estimate

Final contract costs for FY 2008 above engineer's esti mate by 4%

The final contract costs in FY 2008 totaled $310,216,164. This was above the total engineer's estimate of $298,200,264 by 4.0%. By comparison, in FY 2007, contract final costs exceeded the engineer's estimate by 1.3% ($290,728,546 final, $286,993,516 estimate).

The scatter graph above-right shows the final cost of each contract and the percent it was above or below the engineer's estimate. The final cost for 89 contracts (67.9%) was less than 10% above the engineer's estimate. The remaining 42 contracts (32.1%) had a final cost that was greater than 10% above the engineer's estimate.

Significant cost over runs: final cost to estimate

US 395, Gerlach to Wandermere (Spokane Co.)

The final cost totaled $11.3 million, 39.6% above the engineer's estimate. The project was excavation work and the low bidder came in 23% over the estimate. Additional fill material was added at an increased cost.

I-5, 172nd St NW-Bridge replacement (Snohomish Co.)

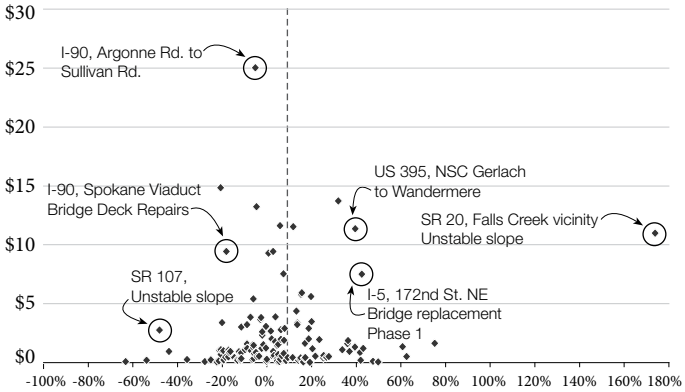
The final cost totaled $7.5 million, 42.5% above the engineer's estimate due to the fact that the builder's shoring plan needed to be changed after the contract was awarded. The builder was compensated for this change and this increased the cost to complete the work.

SR 20, Falls Creek Vicinity Unstable Slope (Whatcom Co.)

The final cost totaled $11 million, 174% above the engineer's estimate due to unexpected rock formations that were discovered after clearing the project area and removing brush. The rock formations significantly changed the way the project could be constructed, adding a second construction season to the contract.

Individual contracts: final costs to engineer's estimate

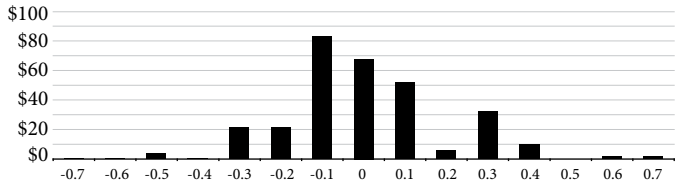
Percent final cost above or below engineer's estimate, FY 2008
Dollars in millions



Data Source: WSDOT Construction Office.

Distribution of contract value over/under: final costs to engineer's estimate

Percent final cost above or below engineer's estimate, FY 2008
Dollars in millions



Data Source: WSDOT Construction Office.

Completed contracts: Final cost to engineer's estimate [1]

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Total number of completed construction contracts	159	165	125	136	131
Total of construction contract estimates completed	$307,276,645	$303,266,277	$228,945,165	$286,993,516	$298,200,264
Total final cost for construction contracts[2]	$320,356,211	$305,253,750	$231,324,283	$290,728,546	$310,216,164
% total contract values cost above/below estimate	4.3%	0.7%	1.0%	1.3%	4.0%
% of contract value less than 10% above award	47.7%	72.6%	64.5%	63.5%	63.8%
Number of contracts less than 10% above estimate	120	125	93	96	89
% of contracts less than 10% above the estimate	75.5%	75.8%	74.4%	70.6%	67.9%

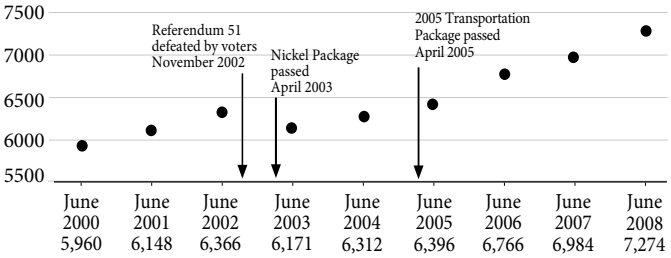
Data Source: WSDOT Construction Office
[1] Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or Washington State Ferries vessel contracts. Washington State Ferries terminal contracts have been added.
[2] Without sales tax.

Workforce Level and Training: Quarterly Update

Number of permanent full-time employees

This quarter, WSDOT employed 7,274 permanent full-time employees, an increase of 108 employees from the previous quarter. This total does not account for permanent part-time, seasonal, or on-call workers. The chart below shows the total number of full-time employees at various points since the end of fiscal year (FY) 2000, with significant mandates identified. The total number of full-time equivalencies (FTE's) will generally exceed the number of permanent full-time employees due to seasonal and part-time workers being funded from "FTE" allotments. For information on WSDOT's use of consultants, see the March 31, 2008 *Gray Notebook*, page 45.

Number of permanent full-time employees at WSDOT



Data Source: Dept. of Personnel Data Warehouse, HRMS, WSDOT and the ferry system payroll

New program seeks to improve workforce training compliance

Diversity training compliance increased in several areas during the fourth quarter of FY 2008 as compared to the last quarter. Courses included Disability Awareness with a 7% increase, Valuing Diversity with a 5% increase, and Violence that Affects the Workplace with a 2% increase. However, Ethical Standards training saw a 22% decrease since the last quarter, and Sexual Harassment/Discrimination saw a 13% decrease.

To maximize compliance for mandatory and statutorily required training and fill scheduled classes to capacity, optimizing our budget, a No-Show and Late Cancellation Notice was initiated within the department's Automated Training Management System in May 2008.

This enhancement generates notices to employees and their supervisors through email when registered employees fail to show for scheduled training classes or cancel their registration within fifteen days prior to the class start date. The system also maintains the data and provides a No-Show/Late Cancellation report on demand. An additional benefit to the new system is the opportunity for feedback that assists in maintaining accurate training records.

Workforce Training Highlights

During the fourth quarter of FY 2008, 108 new employees were hired.

Three of six mandatory, diversity training courses saw compliance increases over last quarter, including Disability Awareness with a 7% increase.

Eastern and Southwest regions continue to exceed the 90% training goal for maintenance employees this quarter.

Worker compliance with mandatory training for all WSDOT workers

Fourth quarter, FY 2008

Training course	Employees requiring training	Basic training completed to date	Employees needing basic training	Employees needing refresher training	Completed training reported quarter	Total in compliance	% in compliance	% change from previous quarter
Disability awareness	8,313	6,861	1,452	435	607	6,626	80%	7%
Ethical standards	8,313	7,964	349	1,953	430	6,011	72%	-22%
Security awareness	8,313	6,608	1,705	N/A	176	6,608	79%	-1%
Sexual harassment/ discrimination	8,313	7,128	1,185	1,486	800	5,642	68%	-13%
Valuing Diversity	8,313	6,875	1,438	502	737	6,373	77%	5%
Violence that affects the workplace	8,313	6,983	1,330	N/A	393	6,983	84%	2%

Data Source: WSDOT Office of Human Resources, Staff Development.

Workforce Level and Training: Quarterly Update

Statutorily Required Training for Maintenance Workers Statewide

WSDOT's goal is to achieve 90% compliance for statutorily required training for maintenance employees. Regional maintenance and safety trainers use a variety of approaches to increase compliance rates and deliver training. These methods augment traditional instructor-led training, and include computer-based and online training, other distance learning approaches, and safety training days. These approaches allow maintenance employees to gain required WSDOT workplace training with minimized travel or work schedule disruption. Additional efforts are under way to convert several statutorily required courses into an e-learning format to augment instructor-led training.

Statutorily required training

Training program	Total people needing training	Total people complying	% complying current quarter	% change from last quarter	Past (2005-07) biennium average	Current (2007-09) biennium average
Aerial Lift	175	159	91%	-1%	87%	92%
Bucket Truck	379	299	79%	-1%	82%	80%
Confined Space Entry	506	411	81%	-1%	79%	83%
Drug & Alcohol Certification	1,212	1,079	89%	1%	90%	89%
Drug-free Workplace	340	307	90%	-1%	87%	90%
Electrical Safety Awareness	311	195	63%	2%	57%	61%
Excavation, Trenching & Shoring	399	328	82%	-1%	81%	84%
Fall Protection	732	627	86%	2%	84%	83%
Forklift	1,110	951	86%	-1%	89%	87%
Hazard Communications	1,423	1,244	87%	0%	84%	88%
Lockout/Tag out	576	474	82%	-1%	72%	83%
Personal Protective Equipment	1,416	1,198	85%	1%	83%	85%
Proper Lifting	1,471	1,174	80%	2%	71%	78%
Supervisor Return to Work	202	160	79%	2%	73%	77%
Blood-borne Pathogens[1]	593	323	54%	-14%	56%	65%
Fire Extinguisher[1]	1,396	890	64%	-2%	57%	69%
Hazardous Materials Awareness[1]	847	612	72%	-6%	73%	78%
Hearing Conservation[1]	1,366	1,143	84%	14%	76%	77%
Lead Exposure Control[1]	95	23	24%	11%	35%	35%
Railway Work Certification[1]	29	18	62%	-21%	69%	79%
Respirator Protection[1]	207	61	29%	6%	17%	29%
First Aid[2]	1,482	1,145	77%	1%	83%	78%
Flagging & Traffic Control[2]	1,123	1,000	89%	-1%	92%	90%
Emissions Certification[3]	72	55	76%	3%	57%	76%
Total	**17,462**	**13,876**	**79%**	**0%**	**78%**	**81%**

Data Source: WSDOT Office of Human Resources, Staff Development.

[1] Refresher training required annually; [2] Refresher training required every three years; [3] Refresher training required every five years.

Two regions achieve WSDOT's 90% training goal this quarter

WSDOT tracks compliance for statutorily required training programs for its maintenance workers by region. The chart to the right documents each region's compliance with all the training courses in the chart above as a single percentage. WSDOT saw slight increases in a few regions during the second quarter of 2008, and Eastern and Southwest regions continue to exceed the 90% compliance goal.

Required training for maintenance workers by WSDOT region*

Region	Current quarter percent in compliance	Percent change from last quarter	Past (2005-07) biennium average	Current (2007-09) biennium average	Goal met
Northwest	74%	-1%	70%	74%	
North Central	79%	-1%	79%	80%	
Olympic	79%	3%	71%	75%	
Southwest	91%	-1%	91%	93%	√
South Central	79%	1%	79%	81%	
Eastern	87%	5%	91%	90%	√

Data Source: WSDOT Office of Human Resources, Staff Development.

*Note: Headquarters (Olympia) previously reported on this table has been removed because this division does not carry maintenance workers on its current staff list.

Highlights of Program Activities

Project starts, updates and completions

Project starts

U.S. 2 Peshastin (Chelan)

On April 7, construction got underway for a new interchange where the Stevens and Blewett Pass highways intersect in Chelan County. This $21.6 million project addresses safety and mobility challenges identified in the 2002 U.S. 2/97 Safety Corridor Study. The "Big Y intersection" between Cashmere and Leavenworth has been the scene of seven fatalities since 1995. Crews began work by building a temporary roadway. Once this roadway is completed crews can build the new overpass bridges. When the bridges are done and U.S. 97 is relocated under U.S. 2, the temporary roadway will become the on- and off-ramps for the north side of the interchange. Drivers will be using the new interchange by October, but the project won't be complete until summer 2009.

U.S. 2/97 Big Y junction (Chelan)

A safety project to address two areas with higher than average collision rates got underway on US 2/97 in Chelan County on May 5. Crews building the $750,000 project will install a signal and advanced warning beacons at the intersection of US 2/97 and Goodwin/Hay Canyon Road at the west end of Cashmere. The intersection serves the Chelan County Fairgrounds and Exposition Center. The signal work should be complete by late July along with a second project that was combined with this one to save money. It installs six miles of concrete median barrier from Cashmere, west to the Big Y. This $2 million project is designed to eliminate head-on/crossover collisions.

SR 526 Mukilteo (Snohomish)

On June 16, WSDOT and contractor Granite Northwest, Inc. began work to repave three miles of highway and complete safety improvements to SR 526 in Mukilteo. This is the first time that SR 526 has been permanently resurfaced since its original construction in 1968. As part of this project, crews will pave both directions of SR 526 from 40th Avenue West to 5th Avenue West, and the eastbound lanes from 5th Avenue West to Casino Road. Crews will also replace median guardrail with concrete barrier, update signing and pavement markings, replace traffic signals, upgrade lighting, and replace a sign bridge. This $10 million project is scheduled for completion summer 2009.

Project updates

U.S. 12 Frenchtown (Walla Walla)

On June 3, more than 100 local residents, dignitaries, and elected officials joined WSDOT's Secretary Paula Hammond to celebrate the construction progress for the U.S. 12 – Frenchtown to Walla Walla project. Crews are constructing a four-lane divided highway for eight miles on new alignment. Other safety measures include new intersections with turn lanes at Vintage Loop Road, Frenchtown Road, Spaulding Road, and Sudbury Road, and an overpass with ramps at Pine Street. Crews will build roundabouts for the intersections of U.S. 12 ramps and the crossroad at the Pine Street overpass. When completed, drivers will benefit from a new four-lane divided highway from Frenchtown to Walla Walla. WSDOT and the contractor, Apollo Inc., first turned dirt on the $56.6 million project in March and hope to have it complete by fall 2008.

Crews continue working on the beginning phases of the U.S. 12 Frenchtown project.

Project completions

SR 99 Seattle (King)

In fall 2007, crews began work on the Alaskan Way Viaduct to stabilize four sinking viaduct footings between Columbia Street and Yesler Way. In April, crews placed concrete around the fourth and final column foundation. This project is the first of six "Moving Forward" projects to repair or replace about half of Seattle's Alaskan Way Viaduct. The repairs involved drilling a series of new

View of the new concrete surrounding the bridge footing on the Alaskan Way Viaduct.

supports called micropiles into stable soil. When tied into the existing column foundation, the micropiles create a wider and stronger structure that will arrest further settlement of the viaduct in this location. WSDOT began the work because the footings in this location continued to sink gradually; they have settled approximately five-and-a-half inches into the ground since the 2001 Nisqually earthquake. This is a temporary repair of a short section of the structure to keep the Viaduct safe for drivers until this section is taken down in 2012.

I-5 Everett (Snohomish)

On June 5, WSDOT Secretary Paula Hammond joined Atkinson-CH2M Hill staff, state, local officials and the community to celebrate the final milestone of the I-5 Everett HOV freeway expansion project. The opening of two new I-5 HOV ramps at Broadway Avenue marks the last major piece of the third-largest project in Washington state history. More than 200 miles of HOV lanes are now available to drivers in the Puget Sound Region. The two new, side-by-side HOV ramps serve carpoolers, vanpoolers and transit on northbound and southbound I-5. Crews opened these ramps in time for the morning commute on June 6.

I-5 41st Street Interchange Design.

SR 206 Mount Spokane (Spokane)

Water cascading through small creek tributaries washed out a section of SR 206 on Mount Spokane late Sunday, May 18. About 1,000 feet of the roadway was totally destroyed. SR 206 was closed from just below the state park gates to the summit. Residents who live above the closure were unable to cross the damaged highway and no detour routes were available. More than 3,000 cubic yards of fill material was used to bring the roadway back up to a useable grade, hauled up the mountain in 200 dump truck loads. Another 20 truck loads of large sized base gravel and smaller gravel were used to create the driving surface, along with 30 truck loads of "riprap." These are the very large rocks that were used to stabilize the slope below the roadway and hold the fill material. On May 28, the roadway was opened to general traffic. A full repair and pavement restoration will be completed later this summer. Estimated costs for the complete repairs are $1 million.

A WSDOT employee looks at the damage done to SR 206 on Mount Spokane just days after the road was washed out.

Ferries

Bids opened for contract to build new 50-car ferry

WSDOT Ferries Division opened bids in late March for a contract to construct a new 50-car vessel based on the Steilacoom II design. One bid was received from Todd Pacific Shipyards. The proposed bid price was $25,985,125 compared to WSDOT engineer's estimate of $16.8 million. On April 3, ferry officials announced that they were rejecting the sole bid from Todd Pacific Shipyards. On April 28, Governor Gregoire announced that WSDOT will move forward with construction of two 64-car Island Home style vessels and will not build a smaller 50-car vessel. WSDOT no longer plans to build a 50-car Steilacoom II style vessel, which was originally intended to fill the gap in service. Instead, WSDOT reached agreement with Pierce County to extend the lease on one of the County's ferries until the new vessels can be built. The state will advance the advertisements of the Island Home style construction to July 2008. The first vessel will be completed by spring 2010, with the second vessel following in fall 2010. The Island Home is a ferry operated by the Nantucket Steamship Company in Massachusetts.

Port Townsend/Keystone reservations program to begin Monday, May 19

Just in time for the busy Memorial Day weekend, customers were able to reserve vehicle space on the Port Townsend/Keystone route. Travelers are encouraged to make a reservation to reduce wait times and to help ease congestion while

vehicle capacity is temporarily reduced. Until new vessels are built, the route will be served by one 50-car vessel sailing every 90 minutes. Reservations will be for vehicles and motorcycles only. On Monday, May 12, WSDOT began taking advanced reservations by phone for the Port Townsend/Keystone route for travel on or after Monday, May 19. Reservations can be made 30 days in advance and up to two hours before a sailing time. Customers will be able to make advance and same day reservations by calling 1-888-808-7977, 206-464-6400 or 5-1-1 between 7 AM and 9 PM. Advance and same day reservations were made available on the web starting Wednesday, May 21.

Ferries second-in-command resigns

WSDOT Ferries Division Assistant Secretary David Moseley announced on March 21 the resignation of his second-in-command, Traci Brewer-Rogstad. Ms. Brewer-Rogstad rose through the ranks at the ferry system and has served the past two years as Deputy Director and Chief of Staff. As Deputy Director, she had the overall responsibility for maintaining and ensuring a safe and reliable level of service for the nation's largest ferry system. Other positions she held at ferries since she first began in 1997 are: Director of Operations, Assistant Director of Operations, Regional Manager, and Area Terminal Manager.

Public transportation

SR 16 on-ramp in Tacoma sheds HOV designation

The new Narrows Bridge and additional capacity on SR 16 have traffic moving so smoothly that a decade-long HOV-only designation at the Jackson Avenue on-ramp to westbound SR 16 is no longer necessary. The restriction was lifted as of April 21 and all vehicles can now use the on-ramp. WSDOT's decision to remove the HOV-only designation was made in coordination with the Tacoma City Council. WSDOT implemented the afternoon peak-hour restriction in January 1997, at the request of the City Council, to alleviate backups that overflowed into this neighborhood just east of the Narrows. It was not uncommon for hundreds of cars to backup at the ramp and block local residents from pulling out of their driveways. Now that the new bridge is open, and additional lanes and ramps have freeway traffic moving efficiently, the justification to maintain the HOV designation no longer exists.

Richland celebrates expanded park & ride

On June 20, Ben Franklin Transit and WSDOT officials invited local officials, business leaders, and citizens to help celebrate the newly expanded Columbia Park Trail Park and Ride in Richland. As vanpool ridership continues to grow for Ben Franklin Transit, demand for parking at the original park and ride location exceeded the available space. Ben Franklin Transit collaborated with WSDOT and using a $300,000 Regional Mobility Grant and local transit funds, they constructed the expanded park and ride. The project more than doubled the 104 parking spaces to 250 parking spaces.

Aviation

WSDOT awards $1.1 million towards 2008 airport improvement projects

In its second round of grants during the 2007-09 biennium, WSDOT Aviation has awarded over $1.1 million to 34 airports for 56 different projects. Of that $1.1 million, WSDOT is using approximately $477,000 to leverage $16.7 million in federal funds. Airports also contribute a required 2.5% local match to federal funds for their specific projects. Therefore, the combination of state, federal and local match funds brings the grand project total for this round of grants to nearly $19 million. Consistent with other grant rounds, WSDOT focused most of its funds—approximately $781,000—towards pavement projects at Washington airports. As revealed in the most recent Airport Pavement Management System report, 23% of Washington airport pavements have deteriorated to the point where costly reconstruction or even rehabilitation is needed. For the rest of airport pavements, preventative maintenance is required to avoid such costly repair. Other WSDOT-funded projects are in the areas of safety, maintenance, planning and other, security and runway safety.

Rail

Rail Authority formed for the Palouse River and Coulee City (PCC) Railroad

Spokane, Lincoln and Grant counties, and the Port of Whitman formed the Palouse River and Coulee City (PCC) Rail Authority in April 2008. This new organization will oversee the business and economic development provisions of the railroad operating leases entered into by private rail companies with the WSDOT to provide service on the three branches of the PCC Rail System. The PCC is the state's longest short-line, freight rail system and spans four counties in eastern Washington.

In 2007, WSDOT completed the purchase of this rail line per legislative direction. In 2008, $8.6 million was appropriated to rehabilitate the PCC lines. The PCC Rail Authority, which had to be formed before the funds could be used, submitted a

grant request for the use of the funds, and requested WSDOT to administer the rehabilitation projects according to a plan developed in 2007. The final agreement with the PCC Rail Authority needed for rehabilitation work to proceed was signed by WSDOT on May 13, 2008. The PCC Rail Authority will continue to monitor progress, and review significant changes to the rehabilitation plan as it is updated.

Announcements, awards, and events

HOT lanes open on SR 167 (Renton to Auburn)

On April 26, Washington's first high occupancy toll (HOT) lanes began offering solo drivers a new choice for their commute on SR 167. The SR 167 HOT Lanes Pilot Project will assess how variable tolling can help make the state's roadways more efficient and less congested. WSDOT converted nine miles of a pre-existing high occupancy vehicle (HOV) lane in each direction of SR 167 between Renton and Auburn to a single HOT lane. With HOT lanes, drivers have the choice to pay an electronic toll without ever slowing or stopping and escape traffic back ups when they can't afford to be late. The price increases and decrease with current traffic levels in the HOT lane to maintain the optimum amount of vehicles and the optimum lane speed for the smoothest traffic flow. There are no toll booths since tolls are collected by the same Good To Go! transponders currently in use on the Tacoma Narrows Bridge. Carpools carrying two or more people, vanpools, transit and motorcycles continue to use the HOT lanes toll-free and do not need a transponder.

New HOT lane signs show the toll rate for single-occupancy vehicles.

SR 20 - North Cascades Highway opens

WSDOT opened the gates for the North Cascades Highway (SR 20) on May 1, right on the estimated schedule. Crews had started the clearing effort six weeks earlier, on March 24th. East and west side crews met near Rainy Pass on April 28. SR 20 closed on December 4, 2007 due to avalanches. The highway is closed at milepost 134, near Diablo on the west side of Rainy Pass to milepost 171 east of Washington Pass, each winter.

Crews reopen SR 123 Cayuse Pass

It has been a monumental year for snow on the mountain passes and Cayuse Pass (SR 123) is no exception. WSDOT closes Cayuse and nearby Chinook Pass each winter, usually in November, due to high, avalanche risk. Crews began clearing snow during the first week of March 2008. They encountered two feet of snow at the Mount Rainier National Park gate and snow depths increased rapidly as they moved toward the summit. Crews found snow depths of 22 feet at the 4,675-foot summit. The late season snow did not help, but crews worked tirelessly to clear the roads on this popular pass. They were finally able to get it open on Friday, May 23, just in time for Memorial Day weekend. Despite the obstacles, this is the earliest Cayuse Pass has reopened in three years. The reopening was delayed in 2006 and 2007 by washout repairs.

On March 26, 2008, a dozer and snowblower work as a team to clear a path through 18 to 19 feet of snow at milepost 65.4 of Ghost Lake on Cayuse Pass.

Special Report: The Making of the Gray Notebook

WSDOT and its Strategic Assessment Office Celebrate 30 Editions

For the 30th edition of the *Gray Notebook*, WSDOT's Strategic Assessment Office (SAO) wanted to share some of the work that we do with our readers. The responsibilities of SAO include transportation system analysis to evaluate how the multimodal systems that are WSDOT's responsibility are performing; strategic, short and mid term planning to set key business directions for the next two to six years; and performance measurement and reporting of all agency programs to support alignment with agency, Governor and legislative direction.

Our mission is to enhance accountability, transparency and "no surprises" performance reporting, and ensure a credible, candid and high quality reporting approach. Our work ensures that accurate and complete performance information is reported to citizens and policy-makers alike. This commitment is best reflected in our work that goes into producing the GNB. This publication is the foundation for many of WSDOT's external reporting requirements such as the Governor's *Government Management, Accountability and Performance* (GMAP) report and the Attainment (Progress) Report.

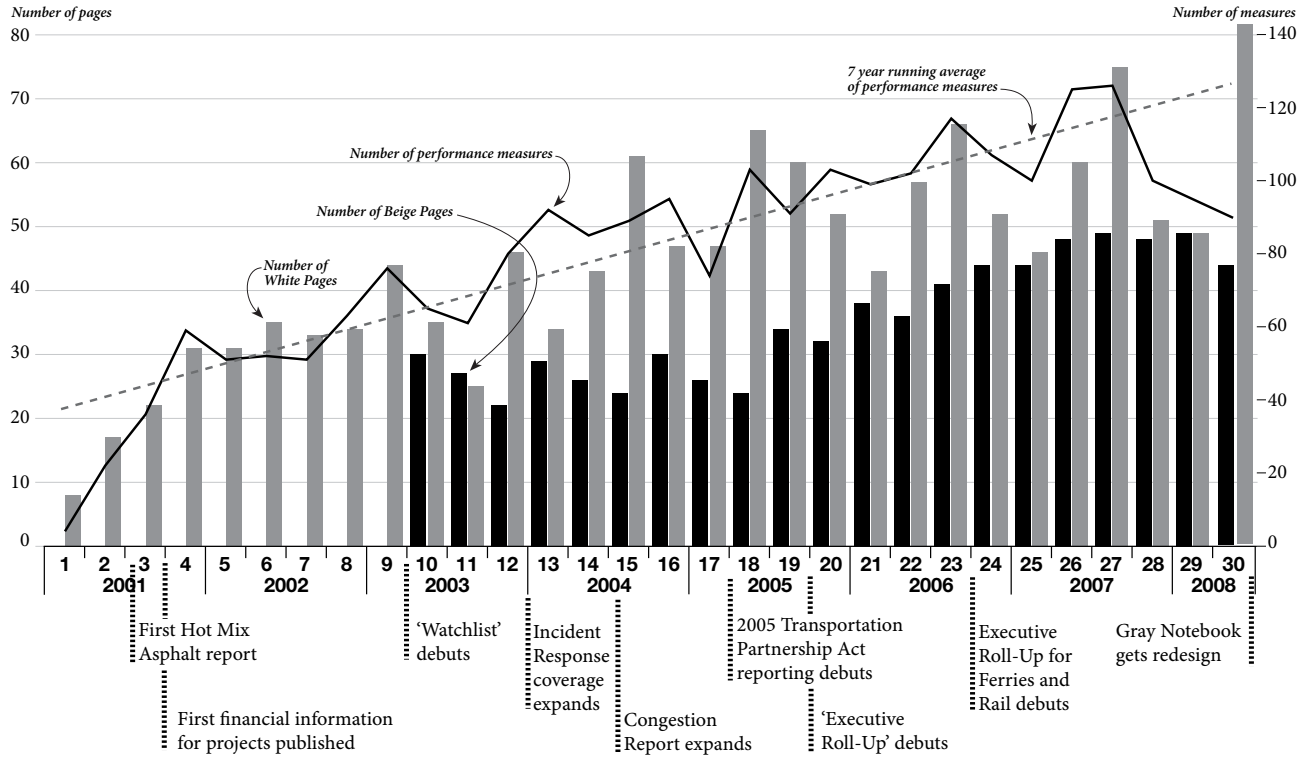
SAO continuously looks to enhance its work by conducting research to improve performance measurement and management. WSDOT also receives many requests to share its work with peers on the national level and provides guidance as time permits. Last year, SAO published several professional papers including a Transportation Research Board paper describing the WSDOT's Performance Journalism approach.

Since its creation in spring 2001, the GNB has grown from eight pages to more than 100, with an average of 100 performance measures each quarter (see graphic below). The GNB covers all critical topics ranging from project delivery to worker safety. Nationally, it is regarded as one of the premier transportation performance reports and often cited as a best practice example. To accomplish this work, it takes many dedicated partners throughout the agency: the small SAO team works with 30 organizations across WSDOT with 100 contributing authors.

Performance reporting is high priority at WSDOT. Through the GNB, WSDOT continues to build on a legacy of consistent and accurate data collection, comprehensive system analysis, and candid and transparent reporting.

Growth of the Gray Notebook

Number of project delivery (Beige) and program (White) pages with featured number of performance measures per edition



Data Source: Strategic Assessment Office.

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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 http://www.wsdot.wa.gov

For this or a previous edition of the *Gray Notebook*, visit www.wsdot.wa.gov/accountability

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