Washington State
Department of Transportation

The Gray Notebook

GNB 34

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

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

Quarter ending June 30, 2009

published August 20, 2009

In this edition

Annual Reports
- Highway Fatalities
- Highway Corridor Safety Projects
- Bridges Assessment
- Capital Facilities
- Programmatic Permitting
- Construction Contracts

Quarterly Reports
- Incident Response
- Rail
- Ferries
- Capital Projects
- Workforce

Special Reports
- Federal Recovery Act-funded Projects
- Six-Month Travel Times Update
- Climate Change

http://www.wsdot.wa.gov/accountability

Executive Summary

Performance highlights in this edition of the *Gray Notebook*

This edition of the *Gray Notebook* presents information on WSDOT's performance in the quarter ending June 30, 2009, as well as six annual and four semi-annual reports. Highlights from this edition include:

- **As of June 30, 2009, WSDOT has delivered a total of 194 Nickel and Transportation Partnership Account (TPA) projects valued at $2.546 billion**, on target with the funding provided in the 2007-09 Transportation Budget. At quarter end, June 30, 2009, WSDOT had completed 194 projects, 81 projects were under construction, and 70 projects advertised for construction bids. An additional 21 projects are scheduled to be advertised by December 31, 2009. 90% of Nickel and TPA projects combined are early or on time, 88% are under or on budget, and 78% are both on time and on budget. (See the *Beige Pages* for a quarterly report of WSDOT's *Capital Project Delivery Program;* pp. 55-76) Also in this edition is the first special report on *Construction of the New 64-Auto Ferry* for the Port Townsend-Keystone route. (p. 82)
- **More than 100 American Recovery and Reinvestment Act (Recovery Act) highway projects were awarded to contractors by the end of July, including three that were completed.** Washington State and local government agencies are working quickly to spend the $492 million in highway and $179 million in transit funds the state received. The *Special Report* includes June employment data on how Washington's Recovery Act projects are creating and preserving jobs. (pp. 46-54)
- *Before and Af er Studies:* This edition includes two articles with Before and After results on selected **Highway Safety Strategies:**

  Analysis shows a 57% reduction in serious injury and fatal crossover collisions since the installation of centerline rumble strips (pp.8-9). Separate analysis shows a 34% reduction in fatal and disabling injuries for 30 completed highway corridor safety projects (*Highway Corridor Safety Annual Report;* pp. 12-14). **Overall, the reported number of traffic fatalities was 8.7% lower in 2008 compared to 2007**. At 522 fatalities, it was the lowest number since 1955's 461 fatalities (*Highway Safety Annual Report*; pp.5-11).
- **For Fiscal Year 2009, 97% of WSDOT's bridges were in good or fair condition.** WSDOT's bridge inventory increased from 3,607 to 3,628 total structures between FY 2008 and FY 2009. (*Bridge Assessment Annual Report;* pp. 16-22)
- **Eighty-three percent of WSDOT's capital facilities are in good or fair condition**, a slight decline from 2006 (85%). (*Capital Facilities Annual Report;* pp. 23-26)
- **During the first half of 2009, travel times during peak periods improved on 13 of 18 surveyed commute routes in the Seattle area.** The I-405 Tukwila to Bellevue morning commute route saw a 12-minute travel time improvement, in part due to the completion of a WSDOT capacity improvement project. As was seen during the second half of 2008, rising unemployment due to the economic recession contributed to reduced peak period travel. (*Travel Trends Semi-Annual Report;* pp. 28-30)
- **WSDOT completed its first greenhouse gas inventory to measure emissions from its activities** – one of the first transportation agencies in the country to do so. (*Climate Change: Greenhouse Gas Emissions;* pp. 40-42)

On this quarter's cover (from top):

WSDOT's workforce.

WSDOT's highway corridor safety program incorporates signage to heighten driver awareness.

Careful inspections are the first step in the complex process of preserving the state's bridges.

Programmatic environmental permits speed WSDOT's work in many ways, including in fish-bearing streams.

WSDOT begins construction on Recovery Act-funded projects.

Table of Contents

Executive Summary ii
Table of Contents iii
Table of Tables and Graphs iv
Navigating the WSDOT Information Stream vi
Performance Dashboard vii
Contributors xii

Safety

Worker Safety Quarterly Update 2
Worker Safety and Wellness 4

Highway Safety Annual Report 5
Traffic Fatalities in Washington 5
Collision Prevention / Seat Belt Use and Enforcement 7
Before & After results: Centerline rumble strips 8
Before & After results: Cable median barriers 9

Highway Corridor Safety Program Annual Report 12
Before and After Results of Selected Traffic Safety Corridor Projects 13
Before and After Program Results 14

Preservation

Asset Management: Bridge Assessment Annual Report 16
Bridge Inventory / Bridge Inspections 17
Bridge Replacement and Rehabilitation 18
Bridge Preservation 19
Bridge Risk Reduction 21

Asset Management: Capital Facilities Annual Report 23
Facility Conditions 24
Preservation & Improvement Projects 25
Preventive Maintenance 26

Mobility

Travel Time Trends Semi-Annual Report 28
Travel Times on Major Central Puget Sound Freeways 28
Travel times improved on 13 of 18 commute routes during January-June 2009 29
Driving Forces and Other Travel Trends 30

Incident Response Quarterly Update 31
Fatality and 90-Minutes-and-Over Responses 32
Extraordinary (Six Hours-Plus) Incidents 33

Washington State Ferries Quarterly Update 34
Ridership and Revenue 34
Customer Feedback 35
Service Reliability 36

Rail: Amtrak *Cascades* Quarterly Update 38

Environment

Climate Change 40

Programmatic Permits Annual Report 43

Stewardship

Special Report on Federal Recovery Act-funded Projects 46
Recovery Act-funded Projects Overview 47
State Projects 49
Local Projects 50

WSDOT's Capital Project Delivery Program 55
Highway Construction: Nickel & TPA Project Delivery Performance Overview 55
Highway Construction Dashboard 56
Rail and Ferries Construction Dashboard 57
Schedule, Scope and Budget Summary 58
Advertisement Record 65
Projects To Be Advertised 71
Project Milestones: Nickel projects 73
Project Milestones: TPA projects 74
Paying for the Projects: Nickel 75
Paying for the Projects: TPA 76
Completed Projects: Delivering Performance and System Benefits 78
Special Reports:
US 395 – North Spokane Corridor 81
Tacoma/Pierce County HOV Program Quarterly Update 83
SR 104 Hood Canal Bridge 84
Watch List: Projects with schedule or budget concerns 85
Pre-Existing Funds (PEF) Projects:
Programmatic Reporting 96
Milestones, Watch List 97
Advertisement and financial overviews 98
Advertisement record 99

Cross Cutting Management Issues 102
Utilities 102
Right-of-Way 105
Construction Cost Trends 106

Construction Contracts Annual Report 108
Award Amount to Engineer's Estimate 108
Contract Final Costs to Award Amount 109
Contract Final Costs to Engineer's Estimate 110
Overview of Contracting Process 111

Workforce Level and Training Quarterly Update 112

Transportation Research Special Report 115
How Research Is Funded / Case Studies 116

Highlights of Program Activities 119

Gray Notebook Subject Index 123
Americans with Disabilities Act (ADA) Information 134

In this issue

5 :: In the ***Highway Safety Annual Report,*** WSDOT reports on the lowest number of traffic fatalities since 1955, and outlines projects aligned with Target Zero.

16 :: ***Bridge Assessment*** reports on the 3,628 bridges in WSDOT's care; in FY 2009, 97% were in good or fair condition.

23 :: The ***Capital Facilities Annual Report*** discusses how WSDOT's aging facilities affect project backlogs and priorities.

28 :: ***Travel Time Trends semi-annual report*** notes that some travel times in the Puget Sound region have continued to shorten.

38 :: ***Amtrak Cascades*** reports slowing ridership but even better on-time performance.

46 :: ***Recovery Act special reporting*** presents WSDOT's progress on the 183 federally funded stimulus projects at the state and local level.

108 :: ***Construction Contracts*** examines some of the 163 highway and ferry contracts WSDOT completed in FY 2009.

115 :: Learn how ***Transportation Research*** inf uences and guides WSDOT decision-making.

Table of Tables & Graphs

Table or graph title	page
Safety	
Worker Safety	
OSHA-recordable worker injuries have declined significantly since FY 2006	2
Number of work injuries by type	2
New injury-reduction targets for FY 2010	2
Yearly OSHA-recordable injuries and illnesses rate for maintenance and engineering workers	3
Yearly OSHA-recordable injuries and illnesses rate for ferry system workers	3
Progress towards achieving OSHA-recordable injury reduction goal (by region)	3
Highway Safety Annual Report	
Washington annual traffic fatalities	5
Traffic fatality rates in Washington compared to the national average	5
Fatal and serious injury collisions by vehicle miles traveled	6
Rate per capita fatalities from selected U.S. states	6
The role of impairment, speed, and no seat belt in traffic fatalities, 2005-2008	6
State ranking of seatbelt usage	7
Washington seat belt use rates	7
Crossover collision rates after centerline rumble strip installation by type of collision	8
Crossover collision rates after centerline rumble strip installation by contributing circumstance	9
Collision rates after cable barrier installation	9
Number of injuries per collision by barrier type	10
Cable barrier effect on cross-median incidents	10
Cable barrier effectiveness on rollover collisions in medians	10
Highway Corridor Safety Annual Report	
Highway Corridor Safety projects	12
Before & After data: total annual collision and fatal/serious collision rates (three graphs)	14
Preservation	
Asset Management: Bridges Annual Report	
Bridge structural condition ratings	16
WSDOT inventory of bridges and structures	17
Status of painting needs for WSDOT steel bridges	20
Status of bridges in the seismic retrofit program	21
Overview of Federal Highway Administration bridge condition ratings	22

Table or graph title	page
Asset Management: Capital Facilities Annual Report	
Comparison of selected Washington State agencies' managed facilities	23
WSDOT facility conditions	23
WSDOT facility condition trend	23
Capital facilities estimated backlog by deficiency category	24
WSDOT facility age and backlog	24
Capital facilities backlog, 2008	24
Select capital facility preservation projects	25
Capital facilities project performance in the 2007-09 biennium	25
Capital facilities program criticality matrix	26
Preventive maintenance workload by criticality	26
Mobility	
Travel Times Semi-Annual Report	
Comparing changes in average travel times and volumes during peak periods: January-June 2007-2008-2009	29
Unemployment on the rise as consumer confidence declines	30
Incident Response Quarterly Report	
Number of incidents responded to by Incident Response program	31
Number of responses and overall average clearance time	31
Number and percentage of responses by category	32
Incidents lasting less than 15 minutes (8,787)	32
Incidents lasting 15 to 90 minutes (2,817)	32
Incidents lasting 90 minutes and longer (117)	32
Number of responses, average clearance time of fatality collisions	32
Progress toward the goal for reducing average clearance times for over-90 minute incidents on 9 key western Washington highway segments	32
Extraordinary (6 hours +) incidents on 9 key Puget Sound routes	33
Frequency of commercial motor vehicle involvements in over-90 minute incidents on 9 key western Washington routes	33
Ferries Quarterly Update	
Ferries ridership by month	34
Ferries farebox revenues by month	34
Common complaints per 100,000 customers	35
Average number of complaints per 100,000 customers	35
Washington State Ferries route map	35
Ferries quarterly missed-trip index comparison	36
Reasons for trip cancellations	36
Ferries quarterly on-time performance comparison	37
Rail: Amtrak Quarterly Update	
State-supported Amtrak *Cascades* quarterly ridership	38
Amtrak *Cascades* by funding entity	38
State-supported Amtrak *Cascades* on-time performance	38

Table of Tables & Graphs

Table or graph title	page
Environment	
Climate Change	
WSDOT direct greenhouse gas emissions in 2007	40
Programmatic Permits Annual Report	
Programmatic permits issued by Washington State Dept of Ecology	43
Programmatic permits issued by the Washington State Dept of Fish and Wildlife	44
Stewardship	
Federal Recovery Act Special Report	
Recovery Act-funded highway projects	47
Recovery Act-funded state highway 'bucket' projects	47
State projects funded with Recovery Act contributions	49
Local projects funded with Recovery Act contributions	50
Capital Project Delivery Program	
Cumulative performance of Nickel and TPA projects	55
Highway construction performance dashboard	56
Rail construction performance dashboard	57
Ferries construction performance dashboard	57
Biennial totals 2007-2009	64
Advertisement Record summary	70
21 Projects in delivery pipeline for 07/01/09, through 12/31/09	71
Projects to be advertised summary	72
Schedule milestone tracking for Nickel projects	73
Schedule milestone tracking for TPA projects	74
Transportation 2003 (Nickel) account revenue forecast	75
Multimodal Account (2003 Package) revenue forecast	75
Transportation Partnership Account (TPA) gas tax revenue forecast	76
Completed Projects: Delivering performance & System Benefits	
I-5/Boston to Shelby, southbound I-5, Westside	77
SR 509/SR 518 interchange – Signalization and channelization	78
SR 518/SeaTac Airport to I-5/I-405 interchange	78
I-5/Rush Road to 13th Street – Add lanes	79
US 101/Sol Duc River Bridge – Upgrade bridge rail	79
SR 3/Junction US 101 to Mill Creek – Safety	80
I-5/Guardrail retrofit – Safety	80
Special Reports	
US 395 – North Spokane Corridor Phase I projects	81
Progress on I-5/SR 16 Westbound Nalley Valley, since Jan 2009	83
Watch List summary	86
Pre-Existing Funds (PEF) Projects	
Six individually tracked PEF projects: results through 06/30/09	96
Milestone tracking for programmatic PEF projects	97
PEF projects: Biennial progress	98
PEF projects construction program	98
PEF preservation program cash flow	98
PEF improvement program cash flow	98
PEF projects scheduled for advertisement or advertised this quarter	99
Cross Cutting Management Issues	
Utilities risk levels for advertised Nickel and TPA projects	102
On-time Right-of-Way certification results	105
Acquisitions for all Nickel, TPA, and PEF projects	105
Condemnations for all Nickel, TPA, and PEF projects	105
Construction Cost Indices: Washington state, FHWA, and selected western states	106
Components that make up WSDOT's CCI	107
Individual contracts: award amount to engineer's estimate, FY 2009	108
Distribution of contract value over/under: award amount to engineer's estimate, FY 2009	108
Highway construction contracts awarded: year-to-year comparison	109
Individual contracts: final costs to award amount	109
Distribution of contract value over/under: final costs to award amount	109
Completed contracts: Final costs to award amount	110
Individual contracts: final costs to engineer's estimate, FY 2009	110
Completed contracts: Final costs to engineer's estimate	111
Distribution of contract value over/under: final costs to engineer's estimate, FY 2009	111
Workforce/Training	
Mandatory diversity training for all WSDOT employees	112
Number of WSDOT permanent full-time employees	112
Mandatory policy training for all WSDOT employees	112
Mandatory training compliance for FY 2009	113
Maintenance and safety training compliance	113
Required training for maintenance employees by WSDOT region	113
Statutorily required maintenance & safety courses	114
Eversafe driver safety training compliance by region	114
Transportation Research Special Report	
WSDOT's 2007-09 research project activities	115
Number of WSDOT research projects planned	115
2007-09 Biennium research projects, total value by funding source	116
2007-09 Biennium funding for approved State Planning & Research projects	116

Navigating the WSDOT Information Stream

Linking performance measures to strategic goals

The Gray Notebook is the basis for WSDOT performance reporting that links performance measures for the strategic plan, legislative, and executive policy directions, as well as federal reporting requirements.

Statewide transportation policy goals

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

The five statewide transportation policy goals are:

- **Safety:** To provide for and improve the safety and security of transportation customers and the transportation system;
- **Preservation:** To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;
- **Mobility (Congestion Relief):** To improve the predictable movement of goods and people throughout Washington;
- **Environment:** To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and
- **Stewardship:** To continuously improve the quality, effectiveness, and efficiency of the transportation system.

The Transportation Progress Report

Under this law, the Washington State Office of Financial Management (OFM) is responsible for setting objectives and establishing performance measures for each of the goals. OFM must report on the attainment of the goals and objectives to the Governor and Legislature each biennium. In January, 2008, OFM published a "baseline" report to get feedback from the Governor and Legislature on draft objectives and performance measures. The second report will be published in March 2009.

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

WSDOT Strategic Plan

WSDOT's 2009-2015 strategic plan Business Directions summarizes WSDOT's work plan based on the programs and budgets authorized by the State Legislature and the Governor. The plan describes the agency strategic directions and initiatives to address critical programs and service delivery mandates. The table on pages viii-ix illustrates this alignment. WSDOT's 2009-11 strategic plan is available online at: http://www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm.

About WSDOT's Performance Dashboard

The 'dashboard' of performance measures on the facing page offers readers a snapshot glance at WSDOT's progress against the five statewide policy goals and WSDOT's strategic plan. Some results are discussed in depth within this edition of the Gray Notebook, while others are in previous editions or will be updated in coming editions based on established reporting cycles. Turn to the Subject Index (pp. 125-135) to find earlier coverage; all previous editions are available online at www.wsdot.wa.gov/accountability.

Other performance reporting requirements

Priorities of Government (POG)

POG is an investment prioritization process used to help the Governor and Legislature develop agency budgets. Every biennium, workgroups composed of government agency and private sector representatives identify results that citizens expect from government, and evaluate the performance of state agency activities and services against those expected results. Information about the 2009-11 POG process is available at: http://www.ofm.wa.gov/budget/pog.

Government Management Accountability and Performance program (GMAP)

GMAP is a management tool that promotes the sharing and evaluation of current performance to improve results. Under GMAP, the Governor and her leadership team meet in "GMAP forums" with agency directors to review results and develop action plans to improve results. These meetings provide an opportunity for candid conversations about what is working, what is not, and how to improve results.

WSDOT regularly reports to the Governor during the Transportation GMAP forums. WSDOT's GMAP reports can be found at: http://www.wsdot.wa.gov/Accountability/PerformanceReporting/GMAP.htm.

Performance Dashboard

✓ Goal has been met. ⇧ Performance is trending in a favorable direction. ⇔ Trend is holding. ⇩ Performance is trending in a unfavorable direction.

Policy goal/Performance measure	Previous reporting period	Current reporting period	Goal	Goal met	Progress	Comments
Safety						
Number of **traffic fatalities** per 100 million vehicle miles traveled (VMT) in Washington State (annual measure, calendar years 2006 & 2007)	1.00	0.94	1.00	✓	⇧	Highway fatalities continue to decline, even lower rate (0.76) for state/interstate highways
Yearly **OSHA-recordable injury and illness rate** per 100 WSDOT maintenance & engineering workers (annualized: FY09 Q3, FY09 Q4[6])	5.2	5.8	6.0	✓	⇩	Meets federal benchmark, but injuries increasing. New strategies being implemented
Preservation						
Percentage of state **highway pavements** in fair or better condition (annual measure, calendar years 2006 & 2007)	93.5%	93.3%	90.0%	✓	⇔	Recent Recovery Act funded projects may improve future condition ratings
Percentage of **state bridges** in fair or better condition (annual measure, calendar years 2007 & 2008)	97.0%	97.0%	97.0%	✓	⇔	Performance level meets goal - trend remains f at
Mobility (Congestion Relief)						
Average clearance times for **major (90+ minute) incidents** on key Puget Sound corridors (quarterly: FY09 Q3, FY09 Q4[6]))	153 minutes	154 minutes	155 minutes	✓	⇩	Average clearance time increased while over-90 minute incident calls dropped 19%
Percentage of **Washington State Ferries** trips departing on-time[2] (year to year: FY08 Q4, FY09 Q4[6])	92%	94%	90%	✓	⇧	On-time performance improved compared with last-year's rate
Percentage of **Amtrak *Cascades*** trips arriving on-time[3] (year to year FY08 Q4, FY09 Q4[6])	67%	75%	80%	---	⇧	Best on-time performance ever, very close to meeting goal
Annual weekday **hours of delay** statewide on highways compared to maximum throughput (51 MPH)[1] in thousands of hours (annual measure, calendar years 2006 & 2007)	23,330	25,490	N/A	---	⇩	Growth in delay slowed from 35% to 8% between 2005 and 2007's recorded delay hours
Environment						
Cumulative number of WSDOT **stormwater treatment facilities** constructed or retrofitted[4] (annual measure, calendar years 2007 & 2008)	809	850	N/A	---	⇧	New stormwater facilities permit will expand WSDOT's responsibilities
Cumulative number of WSDOT **fish passage barrier improvements** constructed since 1990 (annual measure, calendar years 2007 & 2008)	205	225	N/A	---	⇧	2009 construction season will correct additional barriers
Stewardship						
Cummulative number of Nickel and TPA **projects delivered, and percentage of on-time and on-budget delivery performance** (quarterly: FY09 Q2, FY09 Q3[6])	186/ 78%	194/ 78%	90% on-time and on-budget	---	⇔	Additional projects delivered, but on-time/on-budget performance rate remains the same
Variance of total project costs compared to **Legislative budget expectations**[5] (quarterly: FY09 Q2, FY09 Q3[6])	0%	0%	0%	✓	⇔	Overall program delivered on or under budget
Percentage of **completed contracts** final costs within 10% of the original award amount (annual measure, state fiscal years 2007 & 2008[6])	85.5%	83.4%	100%	---	⇩	Performance down, but contracting improvements are still generating better bids.

[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 in Clark, King, Pierce, and Snohomish counties.
[5] Budget expectations are the figures established by the Legislature annually for major projects under construction.
[6] WSDOT's fiscal year begins on July 1 and ends on June 30. There are eight fiscal quarters in the biennium, and are organized as follows: Quarters 1 & 5: July 1 - September 30, Quarters 2 & 6: October 1 - December 31, Quarters 3 & 7: January 1 - March 31, Quarters 4 & 8: April 1 - June 30

Navigating the WSDOT Information Stream

Linking performance measures to strategic goals

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

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
1. Safety: To provide for and improve the safety and security of transportation customers and the transportation system	Vigilantly reduce risks and increase safety on all state-owned transportation modes; reduce fatalities and serious injuries; assist local communities in identifying effective solutions to transportation safety needs.	Number of traffic fatalities	annual	GNB 34 pp. 5
		Rate of traffic fatalities per 100 million miles traveled	annual	GNB 34 pp. 6
		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 34 pp. 2-4

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
2. Preservation: To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.	Catch up with all necessary maintenance and preservation needs on existing highways, bridges, facilities, ferry vessels, airports, and equipment, while keeping pace with new system additions.	Percent of state highway pavement in fair or better condition	annual	GNB 32 pp. 12-16
		Percent of state bridges in fair or better condition	annual	GNB 34 pp. XX
		Percent of targets achieved for state highway maintenance activities	annual	GNB 32 pp. 17-20
		Number of ferry vessel life-cycle preservation activities completed	annual	GNB 33 pp. 15-16
		Percent of ferry terminals in fair or better condition	annual	GNB 32 pp. 21-22

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
3. Mobility (Congestion Relief): To provide for the predictable movement of goods and people throughout the state.	Move people, goods, and services reliably, safely, and efficiently by adding infrastructure capacity strategically, operating transportation systems efficiently, and managing demand effectively.	Travel times and hours of delay on the most congested state highways	annual	GNB 31 pp. 18-31
		Reliable travel times on the most congested state highways around Puget Sound	annual	GNB 31 pp. 32-37
		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 34 pp. 34
		Ferry ridership	quarterly	GNB 34 pp. 36
		Ferry trip reliability	quarterly	GNB 34 pp. 38-39
		Percent of ferry trips on-time	quarterly	GNB 34 pp. 38-39
		Amtrak *Cascades* ridership	quarterly	GNB 34 pp. 40
		Percent of Amtrak *Cascades* trips on time	quarterly	GNB 34 pp. 40

Linking performance measures to strategic goals

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

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
5. Stewardship: To continuously improve the quality, effectiveness and efficiency of the transportation system	Enhance WSDOT's management and accountability processes and systems to support making the right decisions, delivering the right projects, and operating the system efficiently and effectively in order to achieve the greatest benefit from the resources entrusted to us by the public.	Capital project delivery: on-time and within-budget	quarterly	GNB 34 pp. 57-59
		Recovery Act-funded project reporting	quarterly	GNB 34 pp. 48-56

Navigating the WSDOT Information Stream

Organization of the Gray Notebook

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

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

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

How is the Gray Notebook organized?

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

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

The first four sections primarily feature quarterly and annual reports on key agency functions, providing regularly updated system and program performance information that was previously covered in the White Pages. Annual system performance updates are rotated over four quarters based on data availability and relevant data cycles, to provide in-depth analysis of topics such as capital facilities, aviation, freight, and a post-winter report on highway maintenance. Quarterly topics, such as worker safety, incident response, Amtrak Cascades, and Washington State Ferries, are featured in each edition since data is generally available more frequently.

The Beige Pages are still beige; reporting on the delivery of the projects funded in the 2003 Transportation Funding Package (Nickel), 2005 Transportation Funding Package (TPA), and Pre-Existing Funds (PEF), they appear in the Stewardship section. They 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. Starting in *Gray Notebook* 33, this section contains pages dedicated to the reporting of WSDOT's Federal Recovery Act-funded projects.

More easily tracked business plan results

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

Business Directions reflects WSDOT's program and project delivery responsibilities with the goal of demonstrating the best possible return for taxpayers' dollars. For a copy of Business Directions, please visit: http://www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm.

Publication frequency and archiving

The Gray Notebook is published quarterly in February, May, August and November. This edition and all past editions are available online at http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm.

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

Gray Notebook Lite

WSDOT publishes a quarterly excerpt of selected performance topics and project delivery summaries from the Gray Notebook, called Gray Notebook Lite. The folio-style Lite allows for a quick review of WSDOT's most important activities in the quarter. It can be accessed at http://www.wsdot.wa.gov/Accountability/GrayNotebook/navigateGNB.htm.

Online capital project reporting and using the website

WSDOT prepares information for legislators, state and local officials, interested citizens, and the press on the progress of the state's three capital delivery programs. The *Gray Notebook*, in the Beige Pages section, highlights each quarter's progress and reports on financial and other program management topics, but much more detailed information can be found on-line at the WSDOT website.

WSDOT's on-line project reporting uses several different tools, including the *Gray Notebook* (as a downloadable PDF), web-based Project Pages, and Quarterly Project Reports (QPRs). There is a Project Page on the website for each major WSDOT project, and QPRs for Nickel-funded projects in the 2003 Transportation Funding Package.

Navigate the WSDOT website

The WSDOT home page (shown 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/, typical page shown below) report on virtually all WSDOT capital delivery program construction projects.

Project Pages provide details on overall project vision, funding components, financial tables, milestones, status description, problem discussions, risks and challenges, forecasting, maps, photos, links and more, which are updated regularly.

Project Pages cover:

- Overall project vision
- Financial table, funding components
- Roll-up milestones
- Roll-up cash flow, contact information
- Maps and Links to QPRs.

Quarterly Project Reports

The Quarterly Project Reports (QPRs) are reached by a link on the Project Page. They summarize quarterly activities:

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

Contributors

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

Contributors

Safety	Worker Safety	Joel Amos, Cathy English, Olga Peterman
	Highway Safety Fatalities Report	Pat Morin, Faris Al-Memar, Katherine Boyd, Mike Dornfeld, Dan Davis, Dave Olson, Rick Glad
	Highway Corridor Safety Program	Matt Enders, Pat Morin
Preservation	Bridges	DeWayne Wilson
	Capital Facilities	Steve Holloway, Thanh Nguyen, Yvonne Medina, Dennis Tate
Mobility/ Congestion Relief	Six-Month Congestion Update	Katherine Boyd, Mark Hallenbeck, John Ishimaru, Jamie Kang
	Incident Response	Katherine Boyd, Paula Connelley, Jim Hill (WSP), Lila Kirkeby (WSP), Marcia Marsh (WSP), Diane McGuerty, Rick Phillips, Krystle Spice, Tom Stidham, Captain Bill Hilton (WSP)
	Washington State Ferries, including new ferry construction program	John Bernhard, Tim Browning, Dave Burns, Tom Castor, Matt Hanbey, Laura D. Johnson, Al McCoy, Mehrdad Moini, Ron Wolfram
	Rail	Teresa Graham, Vickie Sheehan, Jeff Schultz, Ken Uznanski, George Xu
Environment	Climate Change	Karin Landsberg
	Programmatic Permitting	Ken Schlatter
Stewardship	Federal Recovery Act Reporting	WSDOT offices including: Project Control & Reporting, Highways & Local Programs, SAPD, Rail, Construction, Public Transportation, Aviation, Transportation Planning Office
	WSDOT's Capital Project Delivery Programs (the Beige Pages)	Project Control and Reporting Office, Claudia Lindahl, Regional Program Managers
	North Spokane Corridor Project Spotlight	Laura Aradanas-Ditmer
	Washington State Ferries New Vessel Construction	Laura D. Johnson, Ron Wohlfrom
	Hood Canal Bridge Project Update	Becky Hixson, Joe Irwin
	Tacoma/Pierce Co. HOV Lanes Update	Claudia Cornish
	Right-of-way	Mike Palazzo
	Utilities	Ahmer Nizam, Rhonda Wiest
	Construction Cost Trends	Jenna Fettig
	Construction Contracts	Jenna Fettig
	Workforce Level and Training	Dave Acree, Sue Briggs, Margarita Mendoza de Sugiyama, Matthew Moreland, David Supensky
	Transportation Research	Rhonda Brooks
	Program Highlights	Ann Briggs
GNB Production	Performance Analysis Team	Laura Cameron, Dan Genz, Karl Herzog, Rachel Knutson, Jason Nye, Ed Spilker, Eric Thomas, Tyler Winchell
	Graphics	Chris Britton, Steve Riddle, Chris Zodrow
	Publishing and Distribution	Linda Pasta, Trudi Philips, Deb Webb

For information, contact:
Daniela Bremmer, Director
WSDOT Strategic Assessment Office
310 Maple Park Avenue SE, PO Box 47374, Olympia, WA 98504-7374
Phone: 360-705-7953 :: E-mail: bremmed@wsdot.wa.gov

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

Quarterly Update: Worker Safety 2
Highway Safety Annual Report 5
Highway Corridor Safety Annual Report 12

See also

Incident Response 33
Workforce Training 114

Earlier safety-related articles

Highway Safety, GNB 30, 32

Worker Safety Quarterly Update

Improving the safety of WSDOT employees

Worker Safety Highlights

- WSDOT reportable injuries and illnesses decline 25% from FY 2006, but increase 4.5% from FY 2008.
- New goals announced for reducing sprain and strain injuries by 20% and hearing loss by 50%.
- Two regions, North Central and Urban Corridors, met injury reduction goals for FY 2009.
- New Return to Work Unit helps employees recover and return faster.

WSDOT has reduced injuries 25% since 2006

In 2006, WSDOT established a goal of zero workplace injuries by 2019. Significant progress has been made toward this goal. The number of OSHA-recordable worker injuries and illnesses declined from 525 in fiscal year 2006 to 393 in fiscal year 2009, a decrease of 25%.

Injuries increased by 17 in FY 2009 compared to FY 2008

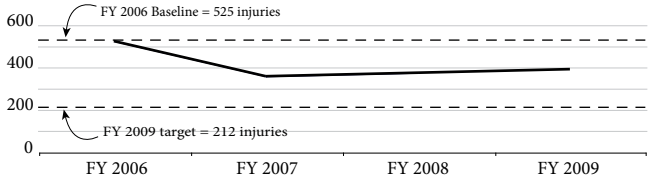
While there has been substantial progress over the past three years, WSDOT did not achieve its annual target for FY 2009, which sought to reduce the number of recordable injuries and illnesses to 212, 60% fewer than the FY 2006 baseline. Between July 1, 2008 and June 30, 2009, 393 injuries and illnesses were recorded statewide. This was 17 more injuries than what was recorded in FY 2008 (376 injuries), a 4.5% increase. Two regions, the North Central Region and the Urban Corridors Office met their injury-reduction targets for FY 2009.

The injury increase was partly caused by a 12% rise in sprains and strains from 183 in FY 2008 to 206 in FY 2009. Sprains and strains continue to be the agency's most prevalent type of injury, accounting for 52% of injuries. WSDOT has recognized the challenge in controlling this type of injury and has developed multi-faceted mitigation plans for its control. The plans include Ergo Awareness training, just-in-time hazard recognition and control in the form of Pre-Activity Safety Plans, Employee Wellness, Sprains and Strains Risk Factors training, evaluation of equipment design and work procedures, and worker-generated safety solutions. However, the effective implementation of these plans will take time to be realized, since these approaches require systemic and worker behavioral changes. WSDOT understands the problem and is systematically addressing it.

WSDOT introduces new targets for FY 2010

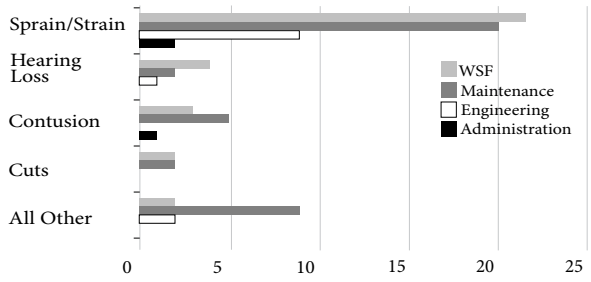
The agency established new goals to reduce sprains and strains by 20% and hearing loss by 50% below the FY 2009 rates. The new goals are designed to focus injury prevention on key areas. As WSDOT continues to emphasize injury reduction, the agency will use a new measure to track workplace injuries: a rate of injuries per 100 full time equivalent employees (FTEs). The change to a rate will provide a consistent measure as the agency's workforce level fluctuates and allow for greater consistency of reporting.

OSHA-recordable worker injuries have declined significantly since FY 2006
Fiscal years 2006 to 2009



Data Source: WSDOT Safety Office.

Number of work injuries by type
April 1 through June 30, 2009



Data Source: WSDOT Safety Office and Washington State Ferries (WSF).

New injury-reduction targets for FY 2010
Goals as rate per 100 employees, annualized

Staff category	Sprains & strains	Hearing loss
Region employees	2.2	0.4
Washington State Ferries employees	4.7	0.4
Headquarters employees	0.4	0

Source: WSDOT Safety Office and Washington State Ferries (WSF).

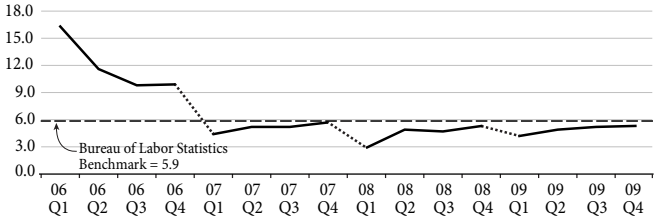
Annual trends of OSHA-recordable injury and illness rates

For highway, street, and bridge construction workers

The injury rate for WSDOT's highway, street, and bridge construction workers was 5.8 per 100 workers through the fourth quarter, which is 0.6 higher than the previous quarter and 0.5 higher than the same quarter one year ago. WSDOT's current OSHA-recordable rate is lower than the most recent Bureau of Labor Statistics Benchmark (2007) by 0.1.

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

OSHA-recordable injury rate per 100 workers, FY 2006 to June 30, 2009

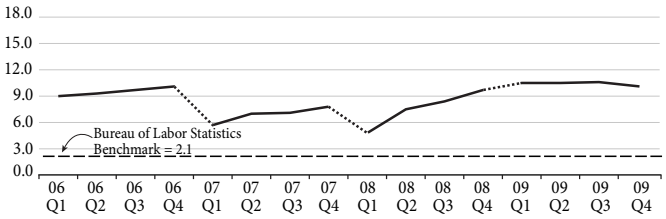


Data Source: WSDOT Safety Office.
[1]Rates are cumulative and annualized for each fiscal year.

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

OSHA-recordable injury rate per 100 workers, FY 2006 to June 30, 2009

OSHA-recordable injury rate per 100 workers[1]



Data Source: WSDOT Safety Office and WSDOT Ferry System.
[1]Rates are cumulative and annualized for each fiscal year.

For Ferry System workers

Ferry workers' annualized injury rate through the fourth quarter was 10.0 per 100 workers. This is 0.6 less than the previous quarter and 0.3 more than the same quarter one year ago. The ferry system's current OSHA-recordable rate is 8.9, which is higher than the most recent (2007) Bureau of Labor Statistics benchmark in the industry classification of Inland Water Transportation Workers, which is 2.1.

Progress towards achieving OSHA-recordable injury reduction goal (by region)

FY 2009 through quarter 3 (July 2008 - June 30, 2009); Goal: 60% reduction in OSHA-recordable injuries from FY 2006 baseline.

WSDOT region	FY 06 baseline	FY 07 total	FY 08 total	FY 08 Q4 only	FY 09 Q4 only	FY 09 total	FY 09 injury types through Q4	FY 09 target number of injuries	Achieved FY 09 target?
Northwest	122	77	78	32	33	77	52% sprain/strain	49	No
North Central	33	20	17	8	2	13	62% sprain/strain	13	Yes
Olympic	71	45	41	3	4	45	32% sprain/strain	28	No
South Central	33	29	22	6	13	37	46% sprain/strain	13	No
Southwest	31	17	14	4	13	23	50% sprain/strain	12	No
Eastern	56	23	28	17	5	27	59% sprain/strain	22	No
Urban Corridors[1]	N/A	N/A	7	3	0	0	No injuries.	4	Yes
Headquarters	23	28	19	8	7	20	38% sprain/strain.	9	No
Ferry System	156	120	150	52	31	151	51% sprain/strain.	62	No
WSDOT total	**525**	**359**	**376**	**123**	**108**	**393**	**54% sprain/strain**	**212**	**No**

Data Source: WSDOT Safety Office.
[1] WSDOT started tracking OSHA-recordable injuries for Urban Corridors (UCO) as a separate region in FY 2008; it was initially part of the Northwest region. In FY 2010, WSDOT will no longer be tracking OSHA-recordable injuries for UCO.
[2] As a result of rounding by regions, the goal of 212 total injuries/illnesses for FY 2009 is slightly more than a 60% reduction of the WSDOT baseline.

[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 a year.

[2]The ferry system operates a ship repair facility, urban transit system, and an inland water transportation system with numerous boardings and unloadings daily. These diverse activities make it difficult to identify relevant worker injury benchmarks. On the recommendation of BLS, the Ferry System measures workers under the NAICS code Inland Water Transportation. The Inland Water Transportation normally incorporates far fewer boardings and unloadings than the Ferry System requires.

Worker Safety Quarterly Update

Worker Safety and Wellness

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

Highway maintenance workers

For the fourth quarter FY 2009, highway maintenance workers reported 56 injuries, 52% of all injuries agency-wide. This was 10 more than the previous quarter and seven more than the same quarter one year ago. Workers missed 428 days of because of these injuries; 22 were sprain/strain injuries.

Highway engineering workers

For the fourth quarter, highway engineering workers reported 18 injuries, 17% of all injuries agency-wide. This was 6 more than the previous quarter but seven less than the same quarter one year ago. Workers missed 72 days of work because of these injuries; six were sprain/strain injuries.

Administrative Staff

Three WSDOT administrative staff were injured during the fourth quarter of FY 2009. This is equal to the previous quarter and four injuries less than the same period one year ago. No work days were lost due to these injuries, one of which was a sprain/strain.

Ferry system

Ferry workers reported 31 injuries for the fourth quarter, 29% of all injuries agency-wide. This was eight less than the previous quarter, and 21 less than the same period one year ago. There were 235 days away from work associated with these injuries, 20 of which were sprain/strain injuries.

Safety Stand Down emphasizes safe practices

Region administrators and division directors developed new sprain and strain reduction plans to reduce workplace injuries. Employees will participate in a Safety Stand Down program in August to highlight worker safety and wellness. This year's program stresses preparation for a safe working environment, "Are you ready for work today?"

Wellness Program encourages employees to take a Health Risk Assessment

The Wellness Program continues to promote the Health Risk Assessment (HRA). The HRA collects data on the health and lifestyles of employees while providing feedback to participants encouraging healthy behaviors. Participation in January through May of 2009 was higher than in the first five months of 2008 according to data from the Health Care Authority.

The goal is to have at least 30% of WSDOT employees complete the assessments. The Wellness program continues to collect data that provides a more accurate snapshot of where WSDOT stands among other state agencies regarding medical screening, chronic disease management, and health promotion.

Health Risk Assessments completed

2009 year to date	2008	2009
Health risk assessments completed	565	671
Percent of assessments completed	8.1%	9.7%
WSDOT ranking among 83 state agencies	40	48

Data Source: Health Care Authority and WSDOT Wellness Program.

2009 Flu shot campaign in preparation

The Wellness Program is preparing for the 2009 Flu Shot Campaign statewide as the flu season approaches. WSDOT is partnering with other state, county, and city agencies to ensure that employees have easy access to the vaccine.

Unit helps injured employees return to work

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

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

WSDOT is also developing a job bank to help injured workers return to work more quickly and to assist supervisors in identifying light duty options. Light duty jobs are approved by the employee's primary physician and designed to meet their physical capabilities.

Traffic Fatalities in Washington

Keeping citizens safe on Washington's highways is a top priority for WSDOT and the State. Washington is one of the few states that have a traffic safety goal of zero fatalities, although many other states are adopting zero fatalities as their goal.

Target Zero: Washington's goal of zero traffic deaths and zero serious injuries

The Strategic Highway Safety Plan: Target Zero has been developed to identify Washington State's traffic safety needs and to guide investment decisions in order to achieve significant reductions in traffic fatalities and serious injuries. In developing this plan, Washington State seeks to build traffic safety partnerships throughout the state in order to align and leverage resources to address traffic safety challenges.

The Target Zero vision is to achieve zero traffic deaths and zero serious injuries in Washington by the year 2030. The most recent version of Target Zero is available online at www.wsdot.wa.gov/planning/SHSP.htm. WSDOT and its partner agencies are updating the plan at this time; it should be available in late 2009 or early 2010.

Fatal traffic collisions often involve driver impairment, excessive speed, or the failure of driver or passengers to use seat belts. Efforts are under way to address these three areas, as well as other key contributors to fatal collisions. In order to assess the effectiveness of these strategies to improve roadway safety, WSDOT collects and analyzes traffic collision data from state and local jurisdictions.

Traffic fatalities decrease to lowest number since 1955

Over the past decade, there has been a downward trend in traffic fatalities on Washington State's highways, city streets, county roads, and other public roadways. Washington experienced a decrease in fatalities in 2003 and 2004, and again from 2006 to 2008 after a spike in 2005 of 649 highway fatalities (see table at right). 2008 brought the lowest number of traffic fatalities recorded (522) since 1955 (461). For 2008, vehicle miles traveled on state highways statewide decreased approximately 3.8% from 2007, which may have contributed to reduce fatalities and serious injuries.

These reductions are due in part to new state laws, including the seat belt law; increased enforcement, such as speed and DUI patrols; and significant investments in highway safety projects, such as cable median barrier, rumble strips and intersection modifications. Although we continue to make progress with these focused strategies, the number of fatalities still needs to be further reduced.

Washington lower than national fatality rate: 0.94 per 100 million vehicle miles traveled

Traffic fatality rates are commonly expressed as deaths per 100 million vehicle miles traveled (VMT). The national target was set to lower the fatality rate to 1.00 fatality per 100 million vehicle miles traveled by 2008. In 2007, Washington met the national target with a fatality rate of 1.00, which represented a decrease of 11%, from 1.12 in 2006.

Highway Safety Performance Highlights

In 2008, Washington saw an 8.6% decrease in traffic fatalities as compared to 2007. This was the lowest number of traffic fatalities recorded (522) since 1955 (461).

Washington is the sixth lowest in the nation for fatality rates per capita.

With a 96.5% usage rate, Washington is third in the nation for highest seat belt usage.

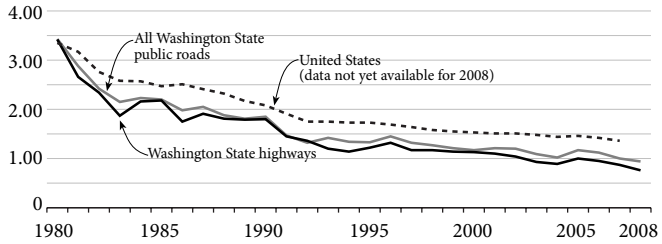
Washington has seen a 35% reduction of serious injury and fatal crossover collisions since the installation of centerline rumble strips.

Washington annual traffic fatalities
2003-2008

2003	2004	2005	2006	2007	2008
600	567	649	633	571	522

Data Source: Fatal Accident Reporting System (FARS).

Traffic fatality rates in Washington compared to the national average
Fatalities per 100 million vehicle miles traveled; 1980-2008



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 Report

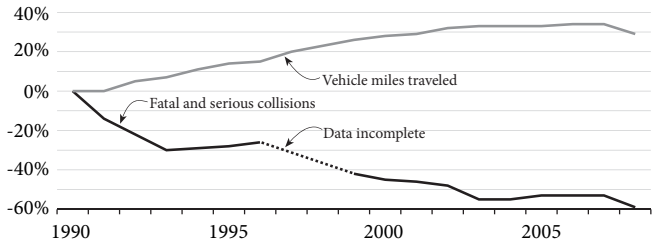
2008 Traffic Fatality Data

In 2008, Washington bettered the national milestone with a fatality rate of 0.94. In comparison, the most recent national fatality rate reported by the National Highway Traffic Safety Administration was 1.36 for 2007. The national fatality rate for 2008 is not yet available.

Over the past 18 years, the fatality rate on all Washington public roads (state, city, and county) has decreased 49%, from 1.85 in 1990 to 0.94 in 2008. For Washington State highways only, during this same time period, fatal and serious injury collisions have declined 59%, from 2,491 collisions in 1990 to 1,024 in 2008 while the state highway VMT increased 29%. The year 2008 represents the greatest one year reduction of fatal and serious injury collisions on state highways since 1990.

Fatal and serious injury collisions by vehicle miles traveled

Washington highways (state routes and interstates)
Percent change between 1990-2008



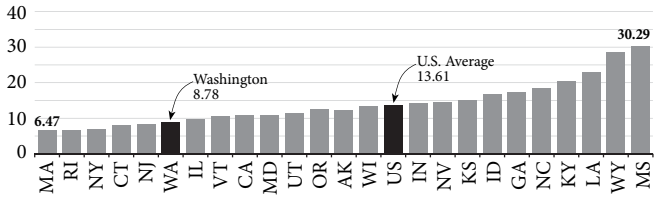
Data Source: WSDOT-Transportation Data Office.

Washington is the sixth lowest in the nation for fatality rates per capita

Washington's average fatality rate per capita is about nine traffic fatalities for every 100,000 people, which is below the national average rate of about 14 fatalities per 100,000 people. In 2004 and 2005, Washington ranked seventh in the nation for fewest traffic fatalities in relation to population, and ranked ninth in the nation for 2006. In 2007, the most recently available national data, Washington ranked sixth lowest in the nation.

Rate per capita fatalities from selected U.S. states

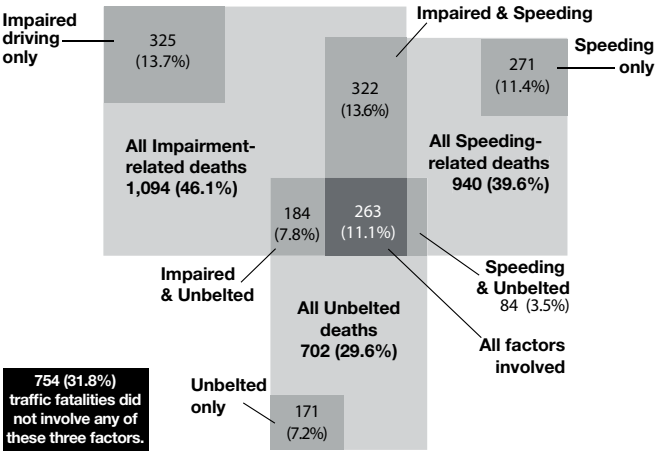
Data from public roads, including highways, city and county roads
Traffic deaths per 100,000 people in 2007



Provided by: WSDOT-Traffic Data Office (TDO).
Data Source: National Highway Traffic Safety Administration (*Traffic Safety Facts 2007 book*).

The role of impairment, speed, and no seat belt in traffic fatalities, 2005-2008

Data derived from 2,374 total traffic fatalities; 68.2% or 1,620 deaths, involved driver impairment, speeding, or failure to use seat belts, or a combination of these behaviors.



Analysis of major contributing factors in traffic fatalities, 2005-2008

Target Zero identified impaired driving, speeding, and failure to use seatbelts as the three leading causes in traffic-related fatalities for 2000 to 2004. In examining data from 2005 to 2008, impairment- and speeding-related deaths stayed roughly the same as a proportion of total fatalities, at approximately 50% and 40%, respectively. Meanwhile, deaths whose primary or secondary cause was the lack of seat belts dropped considerably (from 48.5% to 29.6%). This drop could be attributed to Washington's ongoing "Click it or Ticket" enforcement and education program, begun in 2002 (see p. 7 for more details).

Collision Prevention / Seat Belt Use and Enforcement

Collision counter-measures and solutions: the Four Es

Traffic safety advocates realize that a number of factors cause traffic collisions. Roadway features, vehicle design, driver distraction and impairment, and poor decision-making all contribute to the many traffic collisions that occur each year in Washington. No one solution will target all of the contributing factors, so traffic safety advocates develop collision counter-measures or solutions based on the "Four Es":

- ***Engineering*** solutions focus on roadway improvements. Improvements can be large-scale projects that add lanes or interchanges, or smaller scale projects that add guardrail or cable median barrier, or install rumble strips. While WSDOT supports all of these efforts, Engineering is WSDOT's main responsibility among the Four Es.
- ***Education*** programs attempt to improve driver awareness of key traffic safety concepts. The 'Click it or Ticket' campaign has helped increase the state's seat belt use to more than 96%. Other traffic safety education campaigns include efforts to increase awareness of motorcyclists, bicyclists, and pedestrians.
- ***Enforcement*** is used to improve driver behavior. Police officers and troopers enforce traffic safety laws on a daily basis, focusing on behaviors known to cause traffic collisions such as speeding and impaired or aggressive driving.
- ***Emergency*** medical services work to ensure the collision victims are quickly transported to the best facility with the expertise to address their injuries.

Washington third in the nation for seat belt use

When used correctly, seat belts reduce the risk of injury and death by between 50-70%, according to local and national research (as reported in *Accident Analysis and Prevention*, 18:229-241). In 2008, Washington came in third in the national rankings for seat belt usage, with a 96.5% usage rate. This is the highest-ever annual compliance rate for the state. Between 2005 and 2008, although fewer than 5% of the population didn't use a seatbelt, almost 30% of motor vehicle fatalities involved unbelted drivers or passengers.

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, and publicity warning motorists that the patrols are happening. WSDOT supports this effort by putting the seat belt message on lighted variable message road signs visible on more than 150 highways throughout the state.

State ranking of seatbelt usage

Top six ranking states and territories for 2008 and 2007

State	2008	2007 [1]
Michigan	97.2%	93.7%
Hawaii	97.0%	97.6%
Washington	**96.5%**	**96.4%**
Oregon	96.3%	95.3%
California	95.7%	94.6%
Maryland	93.3%	93.1%

Source: Traffic Safety Facts: Research Note DOT HS 811 106 (US DOT NHTSA).

[1] 2007 not in ranking order; provided for comparison purposes only.

Washington seat belt use rates

By type of road

Rank	Type of road	2008	2007 [1]	2006 [1]
1	Interstate highways	97.51%	97.6%	97.6%
2	State routes	96.55%	95.0%	95.8%
3	U.S. routes	95.11%	95.1%	95.3%
4	City streets, county roads	91.39%	n/a[2]	n/a[2]

Source: Washington Traffic Safety Commission.

[1] Earlier years not in ranking order, provided for comparison only.
[2] Before 2008, the Washington Traffic Safety Commission broke out city streets and county roads separately in this survey.

Nighttime enforcement is effective in increasing seat belt compliance

A consultant's review of the Washington Traffic Safety Commission (WTSC)'s nighttime seat belt enforcement program found that it was effective in increasing nighttime seatbelt usage. Surveys showed a statistically significant increase in night belt use, from 94.6% before the enforcement campaign to 95.7% in June 2008, peaking at 96.6% in September 2007.

Promoting seat belt use among teens

Building on the success of the state's 'Click it or Ticket' project, the WTSC has pioneered a teen-focused seat belt promotional project called 'Click it *and* Ticket.' The project takes place in high schools where, on appointed days, students who drive onto the school property buckled up receive "tickets" which describe the lifesaving benefits of seat belts. Students then redeem their ticket for candy once they enter the school

Before & After results: Centerline rumble strips

building, and one receives a debit card worth $124 – the cost of a real seat belt ticket.

Observational surveys of teen seat belt use preceded and followed the first project, a high school in Kennewick. Two comparison sites were also studied. One month following the project, a survey showed the 'Click it *and* Ticket' Project had raised seat belt use among the student population from 81% to 96.6%. A second survey, conducted three months later, found seat belt use to be 95%. Seat belt use at the comparison sites went down slightly during this same time period.

Increasing enforcement patrols at the local level

WSTC also grants money to local law enforcement agencies to help them provide additional impaired driving and speed patrols every week of the year. This ongoing traffic safety education and enforcement campaign is called the X52 Campaign, which stands for extra patrols 52 weeks a year. The goal of the X52 program is to reduce speeding and driving-under-the-influence (DUI)-related traffic fatalities and serious injuries on Washington's roads.

These sustained enforcement patrols specifically target speed and DUI offenders, as well as look for other traffic violations. X52 program also includes a public awareness campaign to let the public know that these extra patrols are happening in Washington every week.

The X52 program specifically targets speeding and DUI violations, but other infractions can earn unwary motorists a chat with a Washington State Patrol officer.

Before and After results: highway safety projects

Before and After analysis: Centerline rumble strips

Centerline rumble strips continue to prove themselves as an efficient, low cost, passive safety feature. The circumstances in which these safety devices are most effective are those in which the driver is fatigued or inattentive and allows the vehicle to drift over the centerline. WSDOT is installing an additional 650 miles of centerline rumble strips using funds provided by the American Recovery & Reinvestment Act of 2009 (Recovery Act; see the special report on p.48). The completion of those projects will bring the total mileage treated to nearly 2,000 miles (38%) of the 5,250 miles of two-lane rural state highways in Washington. WSDOT is focusing on Hot Mix Asphalt pavements for installation of centerline rumble strips, so not all 5,250 miles will be treated. Rumble strips are currently being tested on Chip Seal pavements.

Crossover collision rates after centerline rumble strip installation by type of collision
Rate per million vehicle miles traveled

Type	Before	After	Percent change
All crossover collisions	10.57	6.63	-37%
Serious and fatal injury crossover collisions	1.99	0.85	-57%
Crossover collisions on tangents	6.39	3.01	-52%
Serious and fatal injury collisions on tangents	1.18	0.23	-80%
Crossover collisions on curves	4.19	3.58	-15%
Serious and fatal injury collisions on curves	0.81	0.62	-24%

Source: WSDOT Design Office.

Before & After results: Cable median barriers

Although the effectiveness of centerline rumble strips is well documented, questions regarding their optimal placement remain and WSDOT is conducting a more comprehensive study. WSDOT used several data sources in this study: traffic data, roadway geometric data, collision data, actual collision reports, construction data, and construction plans.

WSDOT analyzed more than 6,800 police traffic collision reports (PTCR) from 2002 through 2008 from locations where centerline rumble strips have been installed. Collision records were examined to confirm the collision type and to identify driver actions or roadway conditions, such as adverse weather (icy roadway) or an intentional passing maneuver. Each collision record was also examined to determine if it occurred on a tangent (straight roadway), on the inside or outside of a curve, or if the collision was a result of an over-correcting maneuver by the driver.

Crossover collision rates after centerline rumble strip installation by contributing circumstance
Rate per million vehicle miles traveled

Circumstance	Before	After	Percent change
Asleep/fatigued	1.80	0.77	-58%
Inattention/distracted	0.86	0.35	-59%
Speed	0.72	0.40	-45%
Under the influence	1.27	0.73	-43%

Source: WSDOT Design Office.

This dissection of the data allows for targeted analysis and reporting on the effectiveness of rumble strips installed on various roadways in a manner that has not been previously documented. WSDOT now also uses the documented "Contributing Circumstances" data fields from the PTCR to evaluate the effect on the targeted types of collisions. That analysis found:

- A 57% reduction in the rates of serious and fatal injury crossover collisions (1.99 to 0.85 per million VMT)
- A 58% reduction in the collision rates for asleep/fatigued drivers (1.80 to 0.77 per million VMT)

Next steps

WSDOT continues to analyze rumble strip performance to determine the optimal placement of rumble strips on roadways with varied lane/shoulder widths and traffic volumes. WSDOT will also look closely at the combination of both centerline and shoulder rumble strips to determine the most effective placement where roadway geometrics allow the installation of both.

Before and After results: Cable median barriers

WSDOT installs cable median barriers to reduce the risk of injury when errant vehicles strike hard objects, overturn on steep slopes, or cross into oncoming traffic. While it is not possible to prevent all vehicles from leaving the roadway, barrier systems are intended to reduce the consequences of these events. No median barrier system can be expected to prevent all cross median collisions without injuring vehicle occupants. WSDOT engineers work to find the right balance of injury reduction, barrier deflection, initial investment cost, maintenance cost, and crew exposure when selecting barrier systems.

In 2003, WSDOT implemented efforts to install cable barriers in medians which generally ranged from 30 to 50 feet wide; installation is complete in the majority of these locations. WSDOT has since monitored and reported on cable median barrier performance.

Collision rates after cable barrier installation
1995-2008

	Before	After	Percent change
Number of annual median collisions	228	594	161%
Median collision rate (per 100 million vehicle miles)	7.86	16.01	104%
Annual serious injury median collisions	16.8	7.0	-59%
Annual fatal median collisions	8.0	6.0	-25%
Serious injury median collision rate (per 100 million vehicle miles)	0.58	0.21	-64%
Fatal median collision rate (per 100 million vehicle miles)	0.27	0.15	-44%

Source: WSDOT Design Office.

The trend in overall collision rates shows an increase in median collisions after cable barrier was installed. An errant vehicle that may have traveled 30 to 40 feet across an open median at a location with no barrier may now strike a barrier after traveling 15 to 20 feet off the road. This is where WSDOT engineers are called upon to balance the benefits and risks of barrier installation. WSDOT's performance history indicates that cable median barriers have reduced high severity cross median collisions in exchange for larger numbers of less severe collisions. Approximately 12,700 collisions with concrete median barrier and beam guardrail were evaluated for a performance comparison with cable barrier.

Before & After results: Cable median barriers

The reduction in high severity collisions is directly attributed to two key advantages cable barriers have over concrete barrier or beam guardrail. First, when struck, cable barrier systems flex or deflect more than concrete barriers or beam guardrail. This means that the impact forces for the vehicular occupants are reduced because the containment and redirection occur over a longer distance and longer time period.

Secondly, the occurrence of vehicles being rebounded into traffic is higher with concrete barrier and beam guardrail than it is with cable barrier. That means fewer secondary collisions after striking the cable barrier. Concrete barrier has performed better in reducing cross median collisions, however that reduction cannot be the sole measure of effectiveness in reducing serious and fatal injury collisions. The resultant injuries from all barrier contacts must be considered in order to drive down the overall rate of serious and fatal collisions.

Number of injuries per collision by barrier type

Cable median data includes five years before; after includes from time of installation to end of CY 08

	Cable barrier	Concrete barrier	Beam guardrail
Single vehicle collisions	0.17	0.43	0.49
Multiple vehicle collisions	0.93	0.66	0.67
All collisions	0.30	0.51	0.56

Source: WSDOT Design Office.

Cable barrier effect on cross-median incidents

Calculated with five years before data; after data includes from time of installation to end of CY 08

Type	Before	After	Percent change
Annual cross-median incidents[1]	54.8	21.6	-61%
Cross-median collision rate (per 100 million vehicle miles)	1.88	0.66	-65%
Annual serious injury cross-median collisions	8.6	2.3	-73%
Annual fatal cross-median collisions	4.8	3.5	-28%

Source: WSDOT Design Office.

1 Includes any incident in which a vehicle reached the opposing traffic lanes regardless of the outcome.

Automobiles trapped in cable barriers tend to remain in the median, rather than rebounding into traffic or entering the opposing lanes.

WSDOT engineers have reviewed nearly 3100 collisions, representing 181 miles of highway medians where cable barrier has been placed by the end of 2008. That analysis found:

- A 48% reduction in serious and fatal injury collisions (24.8/year to 13.0/year after installation of cable median barrier)
- Annual cross median collisions decreased 61% despite an 8% growth in miles traveled over the last nine years.

Collisions in which the vehicle overturns are frequently more severe as the occupants are exposed to wider range of forces, and contact with the vehicle's components. Our analysis of median collisions indicates that overturn collisions have been reduced in areas where cable barrier has been placed.

Cable barrier effectiveness on rollover collisions in medians

Calculated with five years before data; after data includes from time of installation to end of CY 08

	Before	After	Percent change
Annual median rollover collisions	84.0	60.7	-28%
Median rollover collision rate (per 100 million vehicle miles)	2.99	1.62	-46%
Annual serious injury median rollover collisions	8.6	2.7	-69%
Annual fatal median rollover collisions	2.8	2.2	-20%

Source: WSDOT Design Office.

Before & After results: Cable median barriers

Next steps

In 2002, WSDOT conducted an analysis of the potential benefits of a system-wide investment in median barriers. That analysis identified approximately 169 miles of divided highway with full access control and median widths up to 50 feet where barrier protection was appropriate. Cable barrier was identified as the preferred alternative for most of these locations. Those 169 miles identified in 2002 are almost complete. In addition to full access controlled highways and medians up to 50 feet wide, cable barrier has been installed on a few other highway medians to reduce serious and fatal injury. At the end of 2008, there were approximately 181 miles of highway median with cable barrier installed. There were nearly another 10 miles under contract.

Cable barrier systems have evolved since WSDOT began an aggressive program in 2002 to treat medians with cable barrier. High tension cable barriers emerged and dominated the installations since 2004. Over the past several years cable barrier systems have evolved by adding more cables, changing cable heights, testing on steeper slopes, and through modeling bumper trajectories with different vehicles, speeds, and departure angles.

Low-tension, three-cable barrier.

A semi-truck enters the median and encounters cable median barrier head-on – and is successfully stopped.

While many of these changes are just reaching the market, there are performance enhancements anticipated by implementing these products. The American Recovery & Reinvestment Act of 2009 (Recovery Act) enabled WSDOT to advertise three projects that will replace nearly all the low tension installations with a high tension, four-cable barrier systems (see the Special Report on Stimulus, p.48). These projects are scheduled for bid openings in July 2009, followed by selection of the successful low bidder, and final contract arrangements.

These four-cable systems provide a greater range of height coverage resulting in greater protection against vehicles getting under or over the barriers. Design options are being evaluated to retrofit three-cable high tension systems with a solution that provides four cables and greater range of height coverage. When a retrofit solution is available, funding priority discussions will determine when this work commences.

Highway Corridor Safety Program Annual Report

Program Overview

Corridor Safety Program Highlights

WSDOT, the Washington Traffic Safety Commission, the Washington State Patrol, and local communities all participate in the program.

Five Corridor Safety Projects are under way. Two projects have been completed since the last *Gray Notebook* article.

A total of 30 projects have been completed since 1991.

Before and After results of the 30 projects show:

- an average reduction of 5% for all collision types.
- an average reduction in alcohol-related collisions by 15%
- an average reduction in fatal-serious collisions by 34%.

The goal of the Corridor Safety Program (CSP) is to reduce fatalities and serious injuries on the most problematic corridors. The program is a joint effort between WSDOT and the Washington Traffic Safety Commission. Many partner agencies are also involved, including the Washington State Patrol, county public works and sheriff's offices, and city public works and police departments. The CSP works to reduce collisions on roadways using low-cost, near-term, engineering solutions integrated with partnerships in enforcement, education, and emergency services (The "four e's" - see p. 7). To date, 30 corridor safety projects have been completed statewide. There are currently five projects under way (see table below), and three projects have been completed since the last report in the September 30, 2007, *Gray Notebook* (pp. 98).

Corridor selection and development

A corridor is selected based on two things:

- There is statistical evidence that a section/set of roadways has a significant collision problem, including a higher-than-average fatal and serious injury collision rate;
- There is support at the local level to undertake and maintain a corridor project.

Each corridor project is coordinated within the community, as local leadership develop a steering committee that can oversee the life of the program. To ensure effectiveness, the program requires the involvement of local governments, interested citizens, businesses, schools, and any other agencies that have an interest in improving the safety of the corridor.

The Corridor Safety Program helps identify cost-effective solutions to safety problems that contribute to higher-than-normal collision rates. While extensive (and expensive) corridor redesigns can correct deficiencies and reduce collision rates, more often, the combination of low-cost engineering solutions, targeted traffic enforcement, and greater community awareness of the safety issues will produce the much-needed near-term results for selected corridors. In the past, WSDOT has deployed a variety of engineering solutions for the program, including rumble strips, intelligent transportation signals/systems (ITS), enhanced guardrail, and roadside enhancements. These simple yet proven enhancements go a long way towards reducing fatal and serious injury collisions on selected corridors.

Crews ground 30 miles of centerline rumble strips on US 2 between Gold Bar and Stevens Pass in June 2008. The centerline rumble strips are an example of low-cost, near-term solutions that reduce collisions.

Highway Corridor Safety projects

*Currently under way and completed since September 30, 2007**

Project	County
Projects currently under way	
US 2 from Everett to Stevens Pass	King
SR 27/278 from Spokane Valley to Rockford	Spokane
Roads in the SR 9 to I-5 corridors	Skagit
SR 99 in north Seattle	King
112th/Chkalov/Gher streets in Vancouver	Clark
*Projects that have been completed since September 30, 2007**	
SR 20	Skagit
Rainier Avenue in Seattle	King
Mill Plain Boulevard in Vancouver	Clark

Data Source: Washington Traffic Safety Commission.

*Data Note: The last Corridor Safety Program Annual Report was published in ***Gray Notebook*** edition 27: for the quarter ending September 30, 2007.

Before and After Results of Selected Traffic Safety Corridor Projects

Mill Plain Boulevard, Vancouver

This CSP project included 8.5 miles of Mill Plain Boulevard from I-5 to 192nd Avenue. Mill Plain Boulevard is the most heavily-traveled east-west arterial in Vancouver, carrying up to 60,000 vehicles a day along the route.

The project focused primarily on intersection-related collisions. WSDOT's engineering improvements included updated signal timing along the entire corridor, improved signage around the freeway entrances for north- and southbound I-205, upgraded local street name signs, and additional lane striping at intersections. The CSP funds covered additional overtime for local police to patrol the corridor, targeting driver behaviors that contributed to collisions, including following too closely, failing to yield, or not paying attention. The educational component addressed each of these efforts within the community, and included safety information materials for pedestrians and bicyclists.

From November 3, 2002, through November 2, 2005, the corridor averaged 409 collisions annually, including 11 fatal or serious injury collisions. During the project, from November 3, 2006, through November 2, 2008, the corridor averaged 377 collisions annually, with eight fatal or serious injury collisions. This represents a reduction in total collisions of 8% and fatal or serious injury collisions of 25%.

Upper Skagit Valley, Skagit County

This CSP project included 31 miles of SR 20 from the Sedro-Woolley city limits to SR 530 at Rockport. This northern cross-state route carries just over 5,000 vehicles per day between Rockport, Concrete, Hamilton, Lyman, and Sedro-Woolley.

Efforts focused on run-off-road collisions and collisions at key intersections along the route. WSDOT deployed low-cost engineering improvements that included upgraded signage and the addition of rumble strips to problematic sections of the corridor. (For more information on the use and effectiveness of rumble strips, see page 8-9 of the June 30, 2008 *Gray Notebook*) Enforcement targeted aggressive driving characteristics such as speeding and following too closely, and drivers under the influence of alcohol. Education efforts targeted the same issues, with a special emphasis on motorcycle safety.

From June 2, 2001, through June 1, 2004, the corridor averaged 73 collisions per year, including four fatal or serious injury collisions. During the project, from June 2, 2005, through June 1, 2007, the corridor averaged 71 collisions per year, including three fatal or serious injury collisions. This represents a reduction in total collisions of 3% and fatal or serious injury collisions of 31%.

New signage on Mill Plain Boulevard in Clark County redirects traffic to the proper locations for north- and southbound I-205.

The Skagit Valley Traffic Safety corridor's signage represents the educational aspect of the "four e's" approach.

Highway Corridor Safety Program Annual Report

Before and After Program Results

WSDOT and WTSC conduct Before and After analysis on all projects as part of the Governor's directive to evaluate the effectiveness and benefits of highway safety projects. After 16 years, program results are positive: all collision types are down 5% on average, with fatality and serious injury collisions (the main target of these projects) down 34% on average. Alcohol-related collisions are reduced 15%, and total injuries are reduced by 11%.

After results show fatal and serious injury collisions replaced with less severe collision types over time

Corridors evolve and change over time, influenced by changes such as increased traffic volumes, new residential and commercial developments in the area, and major road construction. Recognizing that some of these changes are unrelated to the former corridor safety project(s), the long-term benefits of projects are still measured. The graphs at right compare all collision types vs. fatal and serious injury collisions from one to 16 years after a project has begun, relative to the baseline average (the Before period). Over time, the projects show a dramatic reduction in fatal and serious injury collisions, a primary focus of *Target Zero* (see the Highway Fatalities annual report on pp. 5-11).

While the number of overall collisions gradually exceeds the baseline, this does not indicate the projects are not functioning in their later years as intended. WSDOT focuses on engineering enhancements that shift potential collisions away from becoming fatal or serious, into ones that allow a traveler to suffer only minor injuries, or even walk away. This process is both cost-effective and in keeping with the state's strategic safety goals (See page 75 of *Target Zero* for more information).

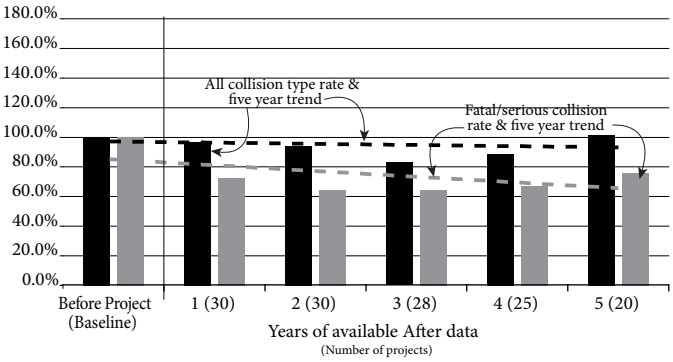
Long term effects

It takes WSDOT and local agencies six to twelve months to prepare an action plan that addresses the specific problems of the corridor safety project at hand. The implementation period takes about two years; activities include making engineering improvements to the roadway, additional enforcement of the laws, and active community education about the project.

After two years, the additional enforcement, active education, and emergency service efforts provided by the state will be reduced, leaving the engineering improvements as the remaining 'legacy' of a corridor safety project. It is the intent that local efforts to improve driver behavior through education and enforcement will continue to contribute to further collision reductions. Another legacy is the greatly improved working relationships between many traffic safety partners in the area.

Before & After data: total annual collision and fatal/serious collision rates

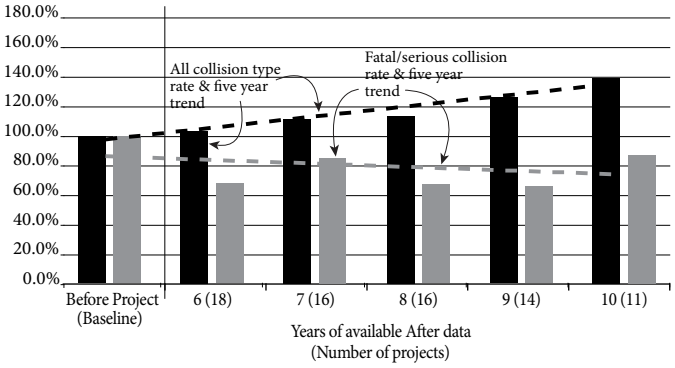
Traffic Safety Corridor projects with one to f ve years of data



Data Source: WSDOT Highways and Local Programs Office.

Before & After data: total annual collision and fatal/serious collision rates

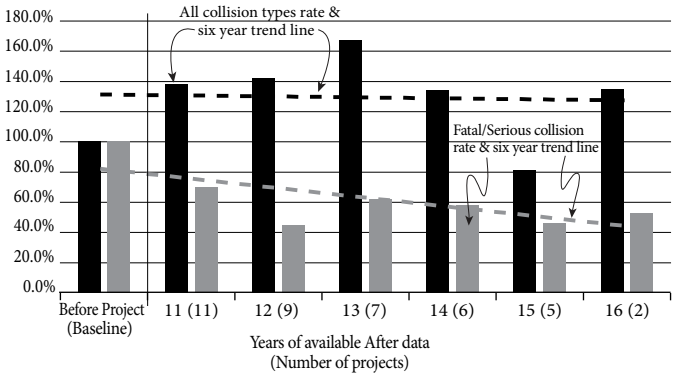
Traffic Safety Corridor projects with six to ten years of data



Data Source: WSDOT Highways and Local Programs Office.

Before & After data: total annual collision and fatal/serious collision rates

Traffic Safety Corridor projects with eleven to sixteen years of data



Data Source: WSDOT Highways and Local Programs Office.

Preservation

Legislative policy goal:

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

WSDOT's strategic goal:

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

In this section

Asset Management: Bridge Assessment Annual Report 16

Asset Management: Capital Facilities Annual Report 23

See also

Washington State Ferries (Mobility) 36

Special Report: Federal Recovery Act-funded Projects 48

Capital Projects Quarterly Report (Beige Pages) 57

Previous GNB reports

Pavement Condition, GNB 32

Highway Maintenance, GNB 32

Post-Winter Report, GNB 33

Safety Rest Areas GNB 33

Asset Management: Bridge Assessment Annual Report

Bridge Condition Ratings

Bridge Preservation Highlights:

- For FY 2009, 97% of WSDOT's bridges were in good or fair condition.
- WSDOT's bridge inventory increased from 3,607 to 3,628 total structures between FY 2008 and FY 2009.
- The Hood Canal f oating bridge is open and the rehabilitation project is nearly complete (see p. 86 for more information).

Hood Canal Bridge

- WSDOT has 11 "load posted" and 140 "load restricted" bridges as of June 30, 2009.
- WSDOT has 99 steel bridges that are due or past due for repainting.

WSDOT is responsible for managing more than 3,600 bridges and structures. To do so, WSDOT utilizes the Washington State Bridge Inventory System, which provides a way to record all inspection-related information. The Federal Highway Administration (FHWA) requires WSDOT to also gather, store, and report bridge information from other public agency bridge-owners in the state such as cities and counties.

National bridge structural condition standards have been established by the FHWA and outlined in the *Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges*. The FHWA provides a method to determine if a bridge is classified as "Structurally Deficient" or "Functionally Obsolete." These ratings relate to the evaluation of the bridge superstructure, deck, substructure, structural adequacy, and waterway adequacy codes. For a more detailed description of the Structurally Deficient and Functionally Obsolete ratings, please see p. 22. Necessary, non-structural preservation activities, such as bridge painting and replacing expansion joints, do not directly affect this rating.

WSDOT uses a separate performance measure method to classify a bridge's condition as either "Good" or "Fair" or "Poor". This measure uses only the National Bridge Inspection Standards (NBIS) bridge superstructure and substructure codes to determine the Good/Fair/Poor rating, since they provide the best direct means to asses the structural condition of the bridge. The deck code is not used because in only the most severe cases will the deck condition affect a bridge's structural condition. Nor are the structural and waterway adequacy codes used, since they only provide an appraisal of the bridge in these two areas. Additional information is available at http://www.wsdot.wa.gov/Bridge/Reporting/default.htm.

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 as part of the Comprehensive Annual Financial Report (CAFR) in accordance with reporting standards set by the Governmental Accounting Standards Board (GASB), which groups together the number of bridges, ferry terminal structures, and culverts. The Governor's goal is to maintain 97% of all bridges statewide at a condition rating of good or fair. For fiscal year (FY) 2009, 89% of WSDOT bridges were in good condition, and 8% were in fair condition. Roughly 3% of bridge structures (2.47%) had a condition rating of poor, a slight improvement compared to FY 2008 (2.99%). No bridge that is open to traffic and rated as "poor" is unsafe for public travel. There is only one WSDOT bridge that is closed to the public, the Murray Morgan Bridge in Tacoma.

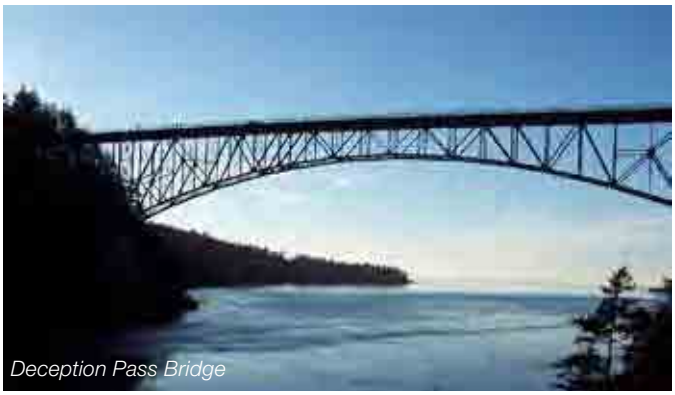
Bridge structural condition ratings

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

	Description	2004	2005	2006	2007	2008	2009
Good	A range from no problems to some minor deterioration of structural elements.	87%	89%	88%	88%	88%	89%
Fair	All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, cracking, spalling, or scour.	10%	9%	9%	9%	9%	8%
Poor	Advanced deficiencies such as section loss, deterioration, cracking, spalling, scour, or seriously affected primary structural components. Bridges rated in poor condition may have truck weight restrictions.	3%	2%	3%	3%	3%	3%

Source: WSDOT Bridge and Structures Office.

Bridge Inventory / Bridge Inspections


Deception Pass Bridge

Bridge inventory increases during FY 2009

The number of vehicular bridges more than 20 feet in length has increased from 2,995 to 3,023 since July 2008. The increased inventory primarily relates to new bridges being built and older bridges being replaced within the highway system. In addition, the number of pedestrian bridge structures has increased from 63 to 65. 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.

WSDOT inventory of bridges and structures
As of June 30, 2009

	Number	Square feet
Vehicular bridges greater than 20 feet in length	3,023	44,755,754
Structures less than 20 feet in length	336	n/a
Border bridges maintained by the border state	6	n/a
Culverts greater than 20 feet	90	n/a
Pedestrian structures	65	309,773
Tunnels and lids	39	n/a
Ferry terminal structures	71	819,726
Buildings (I-5 Convention Center)	1	n/a
Railroad bridges	5	n/a
Totals of all structures	**3,630**	**45,885,253**

Data Source: WSDOT Bridge and Structures Office.

Bridge preservation program aims to ensure WSDOT bridges are safe and operational

WSDOT's bridge preservation program consists of categories of work that ensure state-owned bridges remain in safe and operational condition. In doing so, there may be some shared responsibilities between WSDOT maintenance and preservation programs. Bridge preservation work is performed by contractors and is in addition to normal maintenance work performed by WSDOT regional personnel.

The primary elements of the program include:

- **Inspection** – Perform Federally required inspections on state-owned bridges and structures (pp. 17-18).
- **Replacements and rehabilitations** – Repair deteriorated bridge elements, such as concrete columns, expansion joints or floating bridge anchor cables. Rehabilitate and replace bridges when needed (p. 18).
- **Preservation** – Extend bridge service life by repainting steel structures; also repair and overlay concrete bridge decks. (pp. 19-21).
- **Risk Reduction** – Seismic retrofit of bridges and scour repair of bridge piers in rivers. This work provides a proactive approach that minimizes damage to bridges due to earthquakes and flooding (p. 21-22).

Inspection program vital for the effective management of WSDOT bridge assets

Inspection of the state's bridges is vital to ensure public safety, determine a bridge's condition, and so provide a basis for determining future maintenance and preservation needs. The FHWA first published the National Bridge Inspection Standards (NBIS) in 1971 following the collapse of the Silver Bridge on December 15, 1967 over the Ohio River which killed 46 people. The NBIS defines what each state must do to have a qualified bridge inspection program. The FHWA, WSDOT, and cities and counties work together to ensure the quality of the overall program, and FHWA evaluates each state's inspection program annually. Joint agency bridge inspection classes are available each year to train bridge inspectors.

WSDOT's local bridge inspection program

Local governments are responsible for the preservation and maintenance of 4,942 bridges statewide. More than 90% of these county- and city-owned bridges are currently in good or fair structural condition. WSDOT is responsible for the training and certification of local agency bridge inspectors, and was recently recognized by the Washington State Association of County Engineers for working very closely with county staff to meet federal requirements. Partly due to their efforts, Washington is regarded as a national model for a high-caliber bridge preservation program. WSDOT monitors condition ratings to ensure federal bridge funds are used efficiently based on structural conditions. This allows for the best long-term financial investments for the replacement, rehabilitation, and preventative maintenance of local agency bridges.

Asset Management: Bridge Assessment Annual Report

Bridge Replacement and Rehabilitation

Under bridge inspection trucks

WSDOT owns four Under Bridge Inspection Trucks (UBITs), costing nearly $1 million each. The trucks include a UB30 which has a horizontal reach of 30 feet and weighs 30,000 lbs., two UB50s which have a horizontal reach of 50 feet and weigh 62,000 lbs., and a UB60 which has a horizontal reach of 60 feet and weighs 65,000 lbs. The UBITs operation requires a truck driver trained on the safety and operation of the UBIT and two bridge inspectors with one operating the bucket and one inspecting the bridge elements. UBITs are used by inspectors to get within two feet of the bridge elements. They are also used by region maintenance crews to perform scheduled bridge repairs. Operation of the UBIT requires short-term lane closures during daylight hours.

WSDOT bridge inspectors using a UBIT on the Lewis and Clark Bridge.

WSDOT has scheduled for 2,002 bridges to be inspected in 2009. Under bridge inspection trucks (UBITs) will be required on 346 of these inspections.

Bridge replacement and rehabilitation

The bridge preservation program includes funding for the replacement and rehabilitation of selected bridges. The 2005 Transportation Partnership Account (TPA) included funding for the replacement of 25 bridges and the SR 104 Hood Canal bridge. An additional 33 bridges were identified and prioritized for replacement or rehabilitation using Pre-Existing Funds (PEF). The list of 33 bridges was prioritized based on traffic volumes, structural condition, and any load restrictions in place. The bridge replacement/rehabilitation budget for the 2009-2011 biennium is $148.1 million.

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 of less than 50 and classified as SD.

As of June 30, 2009, 146 bridges over 20 feet in length were classified as SD (roughly 4% of the total inventory of bridges over 20 feet). WSDOT constructed 109 bridges more than 20 feet long that carry vehicular traffic from 2002-2007, 22 of these were funded through the bridge preservation program. On average, WSDOT builds 22 bridges a year, with just over four per year built under the bridge preservation program.

Bridge replacement projects currently under contract include:

- U.S. 101 West Fork Hoquiam River Bridges at milepost 98.13 and milepost 99.49 (near Humptulips, Grays Harbor Co.)
- U.S. 101 Purdy Creek Bridge (near Shelton, Mason Co.)
- SR 6 South Fork Chehalis River (near Adna, Lewis Co.)
- U.S. 12 Tieton River West Crossing (near Naches, Yakima Co.)

Major bridge repairs

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, and 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 may be needed. WSDOT has been given $17 million for the 2009-2011 biennium to address repair needs. Most of the funds will be used on the I-90 Homer Hadley floating bridge, replacing expansion joints and selected anchor cables, and the SR 520 Evergreen Point floating bridge, to replace selected anchor cables.

Major bridge repair projects include the following:

- I-90 Homer M. Hadley Floating Bridge – Expansion joints (near Mercer Island, King Co.) Project details: http://www.wsdot.wa.gov/Projects/I90/HomerHadleyBridgeRepair/
- I-90 Homer M. Hadley Floating Bridge – Anchor Cables
- I-5 North Fork Lewis River Bridge southbound – Expansion joint replacement (near LaCenter, Clark Co.)
- I-5 Nisqually River Bridge northbound – Steel truss rehabilitation (near Olympia, Thurston Co.)

Bridge Preservation

What are modular expansion joints?

Modular expansion joints consist of steel and rubber seals working together to accommodate large movements in a bridge due to temperature changes. These joints are like mini-bridges that must support repeated bending cycles from heavy truck loads while being able to expand and shrink in ranges up to 48 inches; they are constructed in one piece to provide long-term service life. WSDOT has 50 bridges with modular expansion joints. The construction process may require extended lane closures on a bridge. The four largest modular expansion joints on the I-90 Homer Hadley bridge were replaced in May and July of 2009.

New expansion joint on the I-90 Homer Hadley Floating Bridge.

Preservation strategies that help extend the life of WSDOT bridges

Preservation is a statewide policy goal to keep transportation facilities in sound operational condition. The objective is to achieve the best long-term financial investment while preventing failure of the existing system. 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.

Border bridge preservation: Washington and Oregon

Washington and Oregon share the maintenance and operation of nine bridges over the Columbia River between the two states, seven of these are made of steel. These bridges represent some of the biggest bridges in each state's inventory. Preservation and maintenance costs and decisions are shared for these bridges. The lead agency role has been assigned for each bridge with the Oregon Department of Transportation (ODOT) as the lead agency for five bridges and WSDOT as the lead for four bridges. The two states will meet in July 2009 to coordinate future preservation actions for each bridge. Both states will add the bridge preservation needs to their Statewide Transportation Improvement Plans.

Washington-Oregon border bridges:

US 101 Astoria Megler Bridge – ODOT lead agency

Built in 1966, the bridge is 21,650 feet long with two sections made of steel and one section in the center made of concrete. The steel spans on the Washington side (3,826 feet) are currently under contract to be painted with a total project cost of $10.5 million. The steel spans on the Oregon side (6,624 feet) will be painted starting in 2011 with a total project cost of $24.3 million.

SR 433 Lewis and Clark Bridge – WSDOT lead agency

Built in 1930 the bridge is 5,478 feet long; a steel bridge, it will be painted in several stages. Stage 2 is under contract with a total project cost of $18.3 million. The main steel truss span will be painted in future stages over the next two to three years at an estimated cost of $47 million. The Recovery Act stimulus funding directed $12.5 million towards the next painting contract.

I-5 Columbia River Bridges – ODOT lead agency

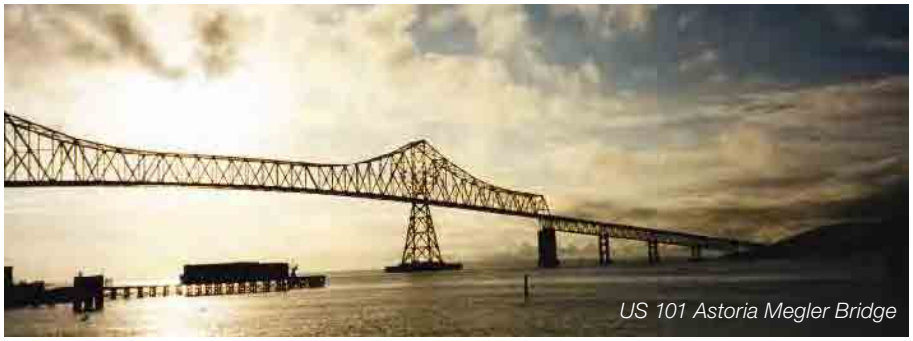
These two steel bridges were built in 1917 and 1958. Each has a movable span and is 3,528 feet long. A project to build a new bridge at this location is in the planning stages.

I-205 Glenn Jackson Bridge – ODOT lead agency

Built in 1982, this 11,760 foot bridge is made of concrete. A project to replace the expansion joints is scheduled for 2009, at a total project cost of $1.6 million.

US 197 Dalles Bridge – ODOT lead agency

This 3,342 foot-long steel bridge was built in 1954. The bridge will need deck replacement and repainting by 2016, at an estimated cost of $37 million.



US 101 Astoria Megler Bridge

Asset Management: Bridge Assessment Annual Report

Bridge Preservation

US 97 Biggs Rapids Bridge – WSDOT lead agency

Built in 1962, this steel bridge is 2,567 feet long. A $15 million deck replacement project was completed in 2008. The bridge will need to be repainted by 2015, at an estimated cost of $12 million.

I-82 Umatilla Bridges – WSDOT lead agency

There are two bridges at this location. The oldest is a 3,380 foot steel bridge built in 1955. This bridge will need to be repainted by 2017 at an estimated cost of $24 million. The other is a 3,433 foot concrete bridge that was built in 1988.

Steel bridge painting

Protective paint coatings on steel bridge elements are essential to prevent corrosion and extend service life. Bridge painting is a major project with significant costs due to the complexity of safety, environmental, and containment system requirements. WSDOT owns 273 existing painted steel bridges that require routine painting. In addition, WSDOT shares the costs with Oregon and Idaho for repainting steel bridges on their respective borders. The Tacoma Narrows Bridge is painted by maintenance personnel at the bridge.

Bridge inspection data is used to determine the condition of the paint coatings on steel bridges. During routine bridge inspections, the inspectors visually rate the condition of the paint. If a bridge has 2% or more of the steel area exposed (no longer covered with paint), then it is programmed for repainting, which typically needs to be done every 15 to 20 years. The original paint systems on new steel bridges can last 30-40 years before they need to be repainted.

The decision to overcoat versus full removal of the existing paint depends on the condition of the existing paint coating. Nearly all of the bridges on WSDOT's future paint list will require full paint removal. There are 99 WSDOT steel bridges that are either due or past due for painting. The cost to repaint these bridges, plus the Astoria Bridge, is estimated to be $388 million. The funding needed to address these bridges over the next 10 years will be $78 million per biennia. WSDOT repainted four bridges between 2005 and 2009 compared to 37 bridges between 2000 and 2004.

Status of painting needs for WSDOT steel bridges
As of June 30, 2009

	Number of bridges	Cost to repaint
Past due for painting	32	$178 million
Due for painting	67	$176 million
Not due for painting	178	$364 million

Data source: WSDOT Bridge and Structures Office.

Bridge painting projects under contract:

- SR 433 Columbia River Lewis and Clark (near Longview, Cowlitz Co.)
- US 101 Columbia River Astoria (near Astoria, Oregon)
- I-5 Capitol Blvd. I-5 Overcrossing (Olympia, Thurston Co.)
- US-12 Black River (near Oakville, Grays Harbor Co.)
- SR 542 North Fork Nooksack River (near Olympia, Thurston Co.)
- SR 509 F.B. Hoit and Joes Creek (near Tacoma, Pierce Co.)

Bridge deck repair and overlay

WSDOT has been working since the early 1980s on a systematic program to prevent concrete bridge deck deterioration. WSDOT performs concrete deck testing to determine which bridges require repair and overlay.

The process of repairing and applying a concrete overlay include the following steps:

1. Scarify (remove) ½ inch of existing concrete. Hydro-milling machines using up to 36,000 PSI water pressure are

Bridge deck repair and overlay process

Hydro milling machine used to prepare the deck.

Deck prior to repair or overlay.

Pouring a 1.5 inch thick concrete overlay.

Bridge Risk Reduction

commonly used to remove ½ inch of good concrete and any additional bad concrete.
2. Repair deteriorated concrete areas.
3. Apply and cure a concrete overlay. WSDOT allows a contractor to choose between three different concrete designs with different additives to add strength and increase durability: Fly-Ash, Microsilica or Latex.

For the 2009-2011 biennium, WSDOT has been provided $6.9 million to repair and overlay eight bridge decks. There are five bridges under construction with another three bridges scheduled to go to contract in 2010.

Bridge deck repair and overlay projects under contract:

- I-90 Medical Lake Bridges (near Spokane, Spokane Co.)
- US 97 Okanogan River (near Omak, Okanogan Co.)
- SR 532 BNSF Rail Road Overcrossing (near Stanwood, Snohomish Co.)

Bridge risk reduction

The seismic retrofit of selected bridges and the scour repair of bridge piers in rivers are proactive strategies that minimize the risk of damage to bridges due to earthquakes and flooding.

Seismic retrofit

The 2005 TPA package provided $87 million to high- and moderate-risk bridges in the Puget Sound area for seismic retrofit. This work is in progress. The planned 2009-11 biennium budget allocates $38.2 million for the seismic retrofit of bridges.

WSDOT has worked closely with federal, state, and local agencies to determine how the remaining seismic retrofits should be prioritized. The conclusion was that WSDOT should focus on the bridges along I-5 between McChord Air Force Base near Lakewood to the I-5 and I-90 interchange in Seattle. Retrofitting these bridges provides a systematic plan that will begin to provide an earthquake-resilient route that could be used to speed a recovery effort following a major seismic event.

Status of bridges in the seismic retrofit program
By number of bridges

Completed	230
In-progress	30
Partially completed	140
Not started	479
Total	**879**

Source: WSDOT Bridge and Structures Office.

Seismic bridge retrofit projects currently under contract:

- I-90 / Richards Rd to Winery Rd mileposts 9.88 to 26.87, 16 bridges require retrofit (King Co.)
- I-90 and I-5 to 12th Avenue South, 3 bridges (King Co.)
- I-5 Central King to South Snohomish Co., 19 bridges require retrofit (King, Snohomish Cos.)
- I-5 236th Street SW and 228th Street SW, one bridge requires retrofit (King Co.).

Seismic bridge projects under design:

- SR 99 Aurora Avenue George Washington Memorial Bridge (Seattle, King Co.)
- SR 520/I-405 vicinity Seismic Retrofit (Bellevue, King Co.)

Preserving a bridge's historic character using new technologies for seismic retrofit

WSDOT is currently partnering with Washington State University to perform seismic testing of scale model samples of the SR 99 Aurora Avenue bridge in Seattle. The testing will determine if the existing concrete columns (which have a "+" or cross shape) can be retrofitted with carbon fiber sheets. If the testing results in the laboratory verify that the carbon fiber retrofit will work, then engineers will proceed with the design. If the laboratory results show it will not work, then engineers will need to look at other options like steel jackets. The carbon fiber retrofit will most closely resemble the existing column shape and maintain the historical look of the bridge compared to a steel jacket retrofit.

WSDOT is currently testing the effectiveness of using carbon fiber to help reinforce columns on the SR 99 Aurora Avenue Bridge.

Asset Management: Bridge Assessment Annual Report

Bridge Risk Reduction

Scour mitigation

"Scour" is defined as the eroding away of streambed material from under bridge foundations. Scour generally happens when a river experiences high water flows. Nationally, as in Washington, more bridges have collapsed from the scour of bridge foundations than from any other cause. Bridge engineers prepare a list of bridges requiring scour mitigation each biennium based on current inspection information. During the preliminary engineering phase of a project, WSDOT coordinates with the Washington State Department of Fish and Wildlife and the 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 under contract include:

- SR 508 Tilton River (near Morton, Lewis Co.)
- US 12 Touchet River Bridge (near Touchet, Walla Walla Co.)

Emergency scour repair

In March, WSDOT divers inspecting a void under pier 3 of the SR 508 Tilton River Bridge near Morton, found nearly half of the footing was undermined. The Bridge Office declared an emergency in April 2009 and restricted truck overloads over the bridge. The Southwest Region set up temporary traffic control and closed one lane on the bridge. An emergency contract was established to hire a contractor to build a coffer dam, de-water under the footing, remove loose material, and pour concrete under the footing to provide a firm foundation. The project is estimated to have a final total cost of nearly $700,000.

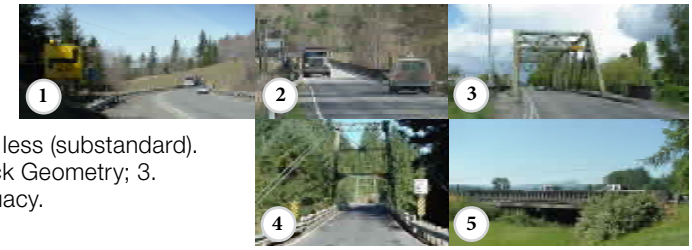
Overview of Federal Highway Administration bridge condition ratings

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.

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): This rating means a bridge is in a structurally deteriorated condition and does not adequately carry its intended traffic loads. The SD rating is applied if a bridge meets one of the following condition codes: super structure, deck, and/or substructure rates at "4" (poor condition) or less; or one of the two appraisal codes for structural adequacy and waterway adequacy is coded at "2" (very substandard). Condition categories are: 1. Superstructure; 2. Deck; 3. Substructure; 4. Structural Adequacy (appraisal category); and 5. Waterway Adequacy (appraisal category).

Functionally Obsolete (FO): This rating means the bridge does not have adequate approach alignment, geometry or clearance to meet the intended traffic needs and is below accepted design standards. The FO rating is applied if a bridge with an approach roadway alignment, deck geometry, underclearance, structural adequacy, or waterway adequacy appraisal code is rated at "3" or less (substandard). Appraisal Categories are: 1. Approach Roadway Alignment; 2. Deck Geometry; 3. Underclearances; 4. Structural Adequacy; and 5. Waterway Adequacy.



Asset Management: Capital Facilities Annual Report

Capital Facilities Program

WSDOT's capital facilities program maintains, operates, and is responsible for the improvement and preservation of 946 department-owned buildings and structures at 296 separate sites across the state. Sites include region headquarters complexes, maintenance and operations shops, project engineer offices, laboratories, materials storage, communications sites, pits, quarries, and stockpile storage areas.

Key strategies for the capital facilities program are presented in the WSDOT 2009-2015 Strategic Plan; they include reducing maintenance and preservation backlogs, increasing preventive maintenance, identifying needs from system additions, and replacing functionally deficient facilities. The value of WSDOT-owned facilities assets is estimated at $1.2 billion dollars. WSDOT provides more than 2.7 million square feet of building space; about 170,000 square feet of space is managed by the WSDOT Ferries System. Facilities consist of office and crew space for a majority of the department's staff, as well as storage and support space for 6,500 vehicles and equipment valued at $220 million dollars. It is essential that facilities operate and function properly in support of daily efforts to design, construct, operate, maintain, and preserve the state's highway system. WSDOT's capital facilities budget for the 2009-11 biennium is $29.8 million, with $25 million for operations and $4.8 million for capital expenditures. Of the $4.8 million, $3 million will be used to address maintenance and preservation projects.

Capital Facilities Highlights

Capital Facilities manages more than 2.5 million square feet of building space used as work space for the majority of WSDOT staff and storage and support space for 6,500 vehicles and equipment.

83% of WSDOT's capital facilities are in good or fair condition, a slight decline from 2006 (85%).

In the 2007-2009 biennium, WSDOT Capital Facilities completed 92 of 101 planned projects worth $9.8 million. Nine projects were not completed due to budget revisions.

Comparison of selected Washington State agencies' managed facilities
Values in total square feet

	Department of Licensing	Washington State Patrol	Department of Natural Resources	Department of Fish and Wildlife	WSDOT
Owned	0	648,913	883,401	1,544,424	2,714,400[1]
Leased	371,829	166,674	57,187	83,131	510,290
Total	371,829	815,587	940,588	1,627,555	3,224,690

Data Source: 2007 OFM Facilities Inventory Report.

[1] Approximately 170,000 square feet is managed by the WSDOT Ferries System.

Number of facilities in fair or better condition declines slightly from 2006

Facility condition assessments (FCA) are conducted every two years to assess the overall condition of individual sites and building systems (using building industry standards). These assessments are used to identify the facilities backlogs and are one of the factors used to determine facility replacement priorities. The results are summarized and reported to OFM.

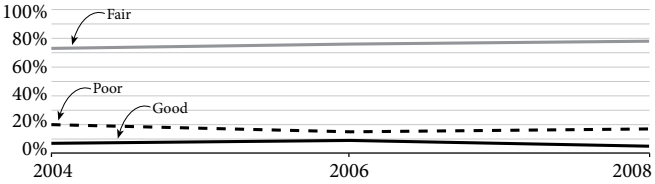
The FCA rates the condition of site and building systems on a scale of 1–5, with 1 being good and 5 being poor. In 2008, 83% of WSDOT's capital facilities were in good or fair condition; a slight decline from 2006, when 85% were assessed as good or fair. In 2008, 17% of facilities were in poor condition, 5% were good, and 78% were fair. If a site or system is found to be deficient, it is rated as a 4 or 5 and a preliminary cost to repair is estimated. The form identifies preservation and improvement deficiency costs separately.

WSDOT facility conditions

Condition	2004	2006	2008
Good	7%	9%	5%
Fair	73%	76%	78%
Poor	20%	15%	17%

Data Source: WSDOT Capital Facilities Office.

WSDOT facility condition trend
Percentage of facilities in good, fair, or poor condition, 2004-2008



Data Source: WSDOT Facilities Office.

Asset Management: Capital Facilities Annual Report

Facility Conditions

Aging facilities accelerate the growth of the improvement and preservation backlog

Thirty-nine percent of WSDOT's owned facilities are more than 25 years old and 15% are more than 50 years old. Major building systems – such as roofs, carpet, heating and cooling systems, siding, and plumbing systems – come due for replacement around the 20- to 25-year point in a building's lifetime. Further, older buildings are more likely to be inefficient or unsuitable for today's operations, plagued by problems that range from an inadequate number of vehicle bays and bay sizes too small for modern trucks, to insufficient crew facilities and material storage.

Based on the 2008 condition assessments, WSDOT faces an increasing number of backlog items at each building as the age of the facility increases; the 13 buildings more than 75 years old have a backlog of $0.64 million per building. The tables and graph below and at right show the backlog per building, and the improvement and preservation backlog by category.

In 2002, the backlog was estimated at $101.1 million; at $134.3 million in 2004; at $135.8 million in 2006; and in 2008 it was estimated at $188.0 million.

Backlogged facilities spread across the state

WSDOT's 296 owned facilities are located in both remote and urban areas and are spread throughout nearly every corner of the state. Most sites contain multiple buildings. Old, outdated, and deficient buildings are found in all WSDOT regions.

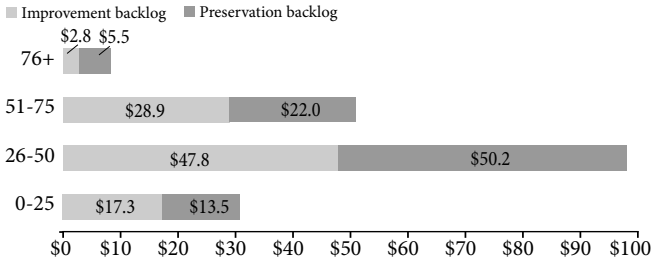
WSDOT facility age and backlog
Dollars in millions

Age	Number of buildings	Percentage of total	Backlog total	Backlog per building
0-25	574	61%	$30.8	$0.05
26-50	230	24%	$98.0	$0.43
51-75	129	14%	$50.9	$0.39
76-100	13	1%	$8.3	$0.64
Total	**946**	**100%**	**$188.0**	**–**

Data Source: WSDOT Capital Facilities Office.

Note: Site deficiencies have been prorated into the building backlog because there can be multiple buildings per site.

Capital facilities backlog, 2008
Age in years; dollars in millions



WSDOT Capital Facilities Office.

Capital facilities estimated backlog by deficiency category
Dollars in millions

Deficiency category	Backlog	Description
Safety/Code Compliance	$15.2	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	$17.8	Site or building conditions not in compliance with local, state or federal environmental regulations.
Building Preservation	$26.2	Prevention or correction of failed building system to prevent further facility deterioration.
Utilities	$2.8	Site or building water, sewer and electrical service deficiencies.
Mechanical Systems and Energy Conservation	$21.8	Failing or inefficient HVAC, electrical and plumbing systems.
Function	$87.0	Shortage of space, inefficient use of existing space, and working environment that impact mission critical operations.
Security	$6.1	Site or building security deficiencies.
Site	$11.1	Site condition requiring paving or drainage corrections or additions.
Total	**$188.0**	

Data Source: WSDOT Capital Facilities Office.

Preservation & Improvement Projects

Projects to address deficient facilities

The facilities program submits a 16-year capital plan each biennium to OFM that includes a list of projects. The projects are identified and prioritized through the conditions assessment process described above. Projects are separated into minor, major, and facility replacement project lists.

In the 2007-09 biennium, OFM developed a six-year facility plan for all cabinet agencies that includes WSDOT. The Department continues to work with OFM to refine and update information for long-range planning and management of WSDOT facilities.

Minor works projects:

Using condition assessment data, the region facility managers package the deficiencies found at a facility into a facility work request for categorization and prioritization of minor projects generally valued under $1 million. These projects generally consist of roofing, paving, siding, lighting, elevator, radio tower installation, and mechanical systems.

Major upgrade and replacement projects:

Projects over $1 million are typically considered to be facility replacement or major upgrade projects needing line item appropriation; they are generally requested separately using OFM predesign study guidelines. No facility replacement or major upgrade projects are planned for 2009-11.

91% of planned projects completed in the 2007-09 biennium

In the 2007-09 biennium, WSDOT capital facilities planned to complete 101 projects worth $10.3 million. By the end of the biennium, 92 of these projects (91%), worth $9.8 million, had been delivered. Nine projects were not completed due to budget revisions.

Capital facilities project performance in the 2007-09 biennium
Dollars in millions

	Number of projects	Value of projects
Planned	101	$10.3
Delivered	92	$9.8
% Complete	91%	

Data Source: WSDOT Capital Facilities Office.

Preventive maintenance

Preventive maintenance is a schedule of planned maintenance actions designed to preserve and enhance reliability. The primary goal of preventive maintenance is to avoid failure of equipment before it occurs. Failures can be very costly, and places an unnecessary burden on funding due to their unanticipated nature, and result in reduced productivity.

Select capital facility preservation projects
2007-2009 Biennium

Project	Project Budget	Deficiency category
Northup structural study	$4,000	Safety/Code
Corson TEF Shop Crane Repair	$49,000	Safety/Code
Dayton Avenue Elevator	$1,275,000	Safety/Code
Union Gap Freight Elevator	$17,000	Safety/Code
ACE Elevator Renovations	$864,000	Safety/Code
Tumwater Emergency Response Bldg.	$88,000	Safety/Code
Transportation Data Office Demolition/Environmental	$120,000	Environmental Compliance
Bonney Lake Deicer containment	$12,000	Environmental Compliance
Yelm Deicer containment	$15,000	Environmental Compliance
Euclid Ave. PE Office Renovations	$73,000	Building Preservation
Euclid Ave. Site Renovation	$57,000	Building Preservation
Lookout Mt. Tower and Building Replacement	$14,000	Building Preservation
Transportation Building HVAC replacement	$286,000	Mechanical/Electrical Systems
Northup Lighting Renovation	$21,000	Mechanical/Electrical Systems
Colfax Lighting Renovation	$26,000	Mechanical/Electrical Systems
Olympic Region Complex Emergency Repairs	$100,000	Emergent Needs

Data Source: WSDOT Capital Facilities Office.

Asset Management: Capital Facilities Annual Report

Preventive Maintenance

To mitigate equipment failures and manage preventive maintenance, WSDOT Facilities implemented a Computerized Maintenance Management System, or CMMS, in the 2003-05 biennium. Proper utilization of a maintenance management system, along with a proactive upgrade and replacement program reduces emergent needs, or corrective maintenance activities.

Each site, building and associated equipment maintained in the CMMS system is assigned a level of priority, or criticality. The criticality level is then used to prioritize preventive maintenance activities to be funded and delivered. Criticality levels range from 2 through 10, with 2 being the low end and 10 being the most important.

Capital facilities program criticality matrix

Criticality	Definition
10 – Life safety	Hazardous site or building conditions that jeopardize the health and safety of the users
9 – Code compliance	Site or building conditions requiring maintenance/ inspection to remain in compliance with local, state or federal regulations
8 – Facility loss	Maintenance of, or inspection to, systems critical to building integrity and securtiy
7 – Environmental compliance	Site or building conditions requiring maintenance/ inspection to remain in compliance with local, state or federal environmental regulations
6 – Mission support	Components deemed essential to continued operations and/or building and system functionality
5 – Delayed priority	Functional components dealt with through corrective measures
4 – Cost effective measures	Components and equipment that are not routinely maintained for cost effectiveness
3 – Deferred renovation	Building components not requiring frequent routine inspections/maintenance
2 – Department image	Items not essential to safety, code compliance or functionality

Data Source: WSDOT Capital Facilities Office.

Preventive maintenance workload by criticality

2006-2008

Criticality	2006	2007	2008
10	15%	15%	12%
9	10%	11%	12%
8	24%	25%	27%
7	1%	1%	1%
6	50%	50%	48%
Total	**100%**	**100%**	**100%**

Data Source: WSDOT Capital Facilities Office.

The implementation of the facility preventive maintenance program in the 2003-05 biennium allowed WSDOT to benchmark and identify critical equipment, outline required maintenance schedules, and develop predefined levels of service. This methodology has been used in each subsequent biennium to provide a mechanism in which to quantify and allocate funding to each region. In 2008, 4,800 scheduled preventive maintenance service requests were completed for equipment and procedures identified as the most important to keep our facilities operational.

Current program level funding allows WSDOT to focus on only the most important maintenance priorities, identified as Criticality 6 through 10. This creates a maintenance backlog in unfunded categories that continues to grow.

In recognition of this backlog, and to further refine and prioritize work, WSDOT initiated an internal control model to capture relational preventive maintenance data. This effort will consist of quarterly review of preventive maintenance forecasts for comparison with completed efforts. The information gathered will:

- Enhance analysis opportunities
- Evaluate planned vs, actual performance within criticalities
- Assist in development of efficiencies
- Identify opportunities to increase productivity in efforts to reduce backlog.

Other program highlights

Inventory management and data sharing

WSDOT has been establishing relationships with other state agencies and organizational partners to collect capital facility asset information, as required by Washington's Office of Financial Management (OFM). WSDOT has been on the forefront of this effort, helping shape the direction and content of OFM's Facility Inventory System. Inventory management is a key component of WSDOT's efforts to reduce maintenance and preservation backlogs and to increase preventive maintenance; the implementation of a new internal database system will help track WSDOT's capital assets and their condition, and serve the OFM data collection effort as well.

ADA transition plan update

WSDOT is working to verify facilities compliance with the American Disability Act. Consultants will complete assessments of all WSDOT owned public access buildings and safety rest areas by June 30, 2009. The assessments will be used to plan for mitigation measures if necessary.

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.

In this section

Travel Time Trends Semi-Annual Report 28
Incident Response Quarterly Update 31
Washington State Ferries Quarterly Update 34
Rail: Amtrak Cascades Quarterly Update 38

See also

Special Report: Federal Recovery Act-funded Projects 46
Quarterly Report on Capital Projects (Beige Pages) 55

Earlier mobility-related articles

Congestion Report, GNB 31
Freight/CVISN, GNB 33
Economic Recession & Travel Demand, GNB 33
Commute Options, GNB 33
Traveler Information, GNB 33

Travel Time Trends Semi-Annual Report

Travel Times Continue to Improve on Major Central Puget Sound Freeways

Travel Trends 2008-2009

January-June 2008:
Due in part to high fuel prices, 13 of 18 trips had lower travel times by at least one minute, and no trips showed increasing trip times compared to the first half of 2007.
Peak period volumes grew despite high fuel costs; discretionary travel and daily volumes declined.

July-December 2008:
Economic conditions deteriorate in the central Puget Sound.
Travel times improved between 1 and 7 minutes on 15 of 18 key commutes, with 3 unchanged compared to the second half of 2007.
Peak period volumes declined; discretionary travel continued to drop.

January-June 2009:
Compared to the same time period in 2008, travel times continued to improve on 13 of 18 surveyed commutes.
Tukwila to Bellevue morning commute improved by 12 minutes in part due to the completion of new WSDOT auxiliary lane on I-405.
Changes to peak period and daily volumes mixed–some up and some down.

This analysis is performed twice a year to provide up-to-date information on the nature of travel trends in the central Puget Sound during a time of changing regional economic conditions as well as ongoing congestion relief strategies and projects under WSDOT's *Moving Washington* program to fight congestion. Specifically, this analysis focuses on a sample of 18 key commute routes across the central Puget Sound. These results supplement the annual Congestion Report, which takes a more comprehensive look at congestion trends in the central Puget Sound and around the state; the next annual Congestion Report will be published as part of the September 30, 2009 *Gray Notebook*.

This travel trends analysis compares traffic conditions in the first six months of 2009 to the same time period in 2008. These two time periods represent distinctly different economic conditions and trends in the Seattle area. The first six months of 2008 saw continuing regional economic growth coupled with excessively high gas prices, but with signs of economic changes at both the regional, state, and national levels. The second half of 2008 saw major changes in the regional economic picture as economic conditions worsened; these conditions continued into the first half of 2009.

Average travel times down consistently between January and June 2009

During the first half of 2009, travel times for the major Puget Sound commute routes examined in this study improved for most trips compared to the same time period in 2008, but by a smaller amount than in the previous year's comparison (2008 vs. 2007). The year-over-year results showed that seven of the 18 trips had a travel time reduction of one minute or more in the first half of 2009, and six additional trips had small improvements of less than a minute. Travel times for four trips increased by less than one minute, and one trip (*Seattle-Bellevue via I-90 PM*) increased by more than one minute. This increase may be due in part to the effects of ongoing I-90 construction activities on Mercer Island and the Homer Hadley Floating bridge (please see pp. 18-19 for more information on this project).

The most recent data shows a continuation of the general trend towards reduced travel times. That said, the 2008 to 2009 year-on-year changes are less pronounced than those of 2007 to the first six months of 2008, when travel times for 13 of 18 trips were shorter by at least one minute and none increased in duration.

Over a two-year period (first half of 2009 vs. first half of 2007), every trip analyzed showed an overall drop in travel times, with 12 of the 18 trips quicker by two or more minutes. Of the trips analyzed, the trips via I-90 and SR 520 across Lake Washington had the smallest changes in travel times over the two-year period. It is unclear why these routes are less affected by the economic and operational factors impacting the other corridors.

WSDOT *Moving Washington* project helps improve travel times on I-405 by 12 minutes

During the first six months of 2009, the trips from *Federal Way to Seattle via I-5* (AM), and from *Tukwila to Bellevue via I-405* (AM) showed the most improvement in travel times, with the Federal Way trip seven minutes shorter than in the first half of 2008—a continuation of the pattern seen in the latter half of 2008 vs. 2007. The Tukwila to Bellevue trip showed sustained year-over-year average travel time savings of 12 minutes during the AM peak period. Data suggest that a contributing factor to this improvement was the completion of an auxiliary lane near the I-90 interchange that opened in January 2009. Preliminary results from shortly after the opening of the new lane showed immediate travel time changes; those trip time savings have been largely sustained for the nearly six months following that lane opening.

Travel times improved on 13 of 18 commute routes during January-June 2009

Comparing changes in average travel times and volumes during peak periods: January-June 2007-2008-2009[1]

		Average travel time in minutes					Peak volume change		Daily volume change	
		2007	2008	2009	2009 vs. 2007	2009 vs. 2008	2008 vs. 2007	2009 vs. 2008	2008 vs. 2007	2009 vs. 2008
Peak direction – Morning commutes										
I-5	Federal Way – Seattle	42.6	38.7	**31.4**	-11.2	-7.3	+2.1%	+4.6%	+1.2%	+1.0%
I-5	Everett – Seattle	40.5	35.5	**35.2**	-5.3	-0.3	+5.3%	-0.1%	+0.3%	+3.4%
I-405	Everett – Bellevue	40.8	36.4	**35.3**	-5.5	-1.0	+1.7%	-2.7%	-0.8%	-2.2%
I-405	Tukwila – Bellevue	34.8	34.3	**22.0**	-12.8	-12.3	-2.4%	+28.9%	-0.6%	+6.3%
SR 167	Auburn – Renton[2]	16.5	15.2	**13.8**	-2.7	-1.4	+2.0%	+8.2%	+2.1%	+3.8%
I-90	Bellevue – Seattle	14.7	11.3	**12.1**	-2.6	+0.8	-2.4%	+2.0%	-1.8%	+1.2%
SR 520	Bellevue – Seattle	15.0	13.6	**13.5**	-1.5	-0.1	+0.2%	-1.9%	-0.3%	-1.4%
I-90	Seattle – Bellevue	14.6	13.9	**14.0**	-0.6	+0.1	+0.4%	-7.5%	-1.3%	-2.0%
SR 520	Seattle – Bellevue	16.9	16.1	**15.2**	-1.8	-0.9	+0.5%	-2.4%	-0.1%	-1.7%
Peak direction – Evening commutes										
I-5	Seattle- Federal Way	32.0	29.7	**28.9**	-3.2	-0.9	+3.9%	+0.9%	+1.9%	+0.2%
I-5	Seattle - Everett	37.1	33.8	**34.4**	-2.7	+0.7	-0.1%	-2.1%	-1.2%	-1.2%
I-405	Bellevue - Everett	37.8	34.9	**33.5**	-4.3	-1.4	+4.3%	+4.2%	-0.1%	+0.8%
I-405	Bellevue - Tukwila	30.0	29.0	**27.1**	-2.9	-1.9	+2.1%	+0.7%	+1.1%	-0.4%
SR 167	Renton - Auburn[2]	16.0	14.1	**12.6**	-3.4	-1.5	+2.3%	+1.5%	0%	-2.3%
I-90	Bellevue - Seattle	22.0	16.9	**17.3**	-4.8	+0.4	+1.3%	-1.6%	-1.8%	+1.2%
SR 520	Bellevue - Seattle	23.0	21.7	**21.6**	-1.4	-0.1	+1.7%	-0.6%	-0.3%	-1.4%
I-90	Seattle - Bellevue	14.3	12.7	**14.2**	-0.2	+1.4	+0.2%	+1.4%	-1.3%	-2.0%
SR 520	Seattle - Bellevue	16.4	15.9	**15.6**	-0.8	-0.4	+1.0%	-0.6%	-0.1%	-1.7%

Source: Washington State Transportation Center (TRAC).

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

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

Peak period volumes mixed during first half of 2009

While volume trends can vary based on the specific location chosen, the overall pattern of year-over-year changes in peak period vehicle volumes appears to have shifted slightly from the trend observed throughout 2008. The first six months of 2008 saw a general trend toward higher volumes compared with the first six months of 2007, with 12 of 18 locations showing volume growth of between 0.5% to 5.5%. This trend was reversed in the second half of the year, with 12 of 18 sampled locations showing volume reductions ranging from -0.5% to -5.0% compared to the second half of 2007. This corresponds with the time period when significant changes were occurring in the national and regional economy. The first half of 2009 shows that the volume trend observed in the second half of 2008 appears to have moderated somewhat, with half of the 18 locations showing a drop in peak period volume, and the other half showing higher volumes, compared to the first half of 2008.

While results were evenly split between locations with higher volumes and those with lower volumes, there were some notable individual examples. The most significant change in volume was observed at a location on I-405 between Tukwila and Bellevue (northbound AM), which showed a nearly 29% growth in peak period vehicle volumes year over year. These changes were primarily due to improved throughput efficiency related to the completion of the auxiliary lane on I-405 discussed earlier.

Three other locations have shown moderate growth in the first half of 2009; they include a location on the Auburn to Renton northbound AM route on SR 167, which saw over 8.2% growth in volume (excluding HOT lane volumes), and locations on the route from *Federal Way to Seattle via I-5* (AM), and the route from *Bellevue to Everett via I-405/I-5* (PM), with growth of +4.6% and +4.2% respectively. The most notable drop in vehicle volumes (-7.5%) was on I-90 eastbound from Seattle to Bellevue (AM), a continuation of a pattern seen in the second half of

Driving Forces and Other Travel Trends: January-June 2009

2008. It is possible that some of this volume change could be associated with ongoing I-90 construction activities, which might have caused some travelers to change trip routes or travel modes.

Daily volumes also mixed during the first half of 2009

The pattern of change of year-over-year daily vehicle volumes during the first six months of 2009 was consistent with that of peak period volumes. In the first six months of 2009, daily volumes rebounded somewhat, with half of the locations showing volume growth ranging from 0.2% to just over 6%. By comparison, an analysis of the first half of 2008 showed a mixed trend toward slightly lower daily vehicle volumes, followed by almost universally lower volumes in the second half of the year.

An analysis of daily volumes during the first six months of 2009 suggests that the trend is shifting toward volume growth at half the locations. As with the peak period, the most significant volume growth occurred at locations on *Tukwila to Bellevue via I-405* (AM), and on the *Auburn to Renton AM route on SR 167* (GP + HOT volumes). The I-405 volume was influenced by the capacity expansion project near I-90, while the SR 167 spot location has seen a consistent pattern of volume growth during the past year.

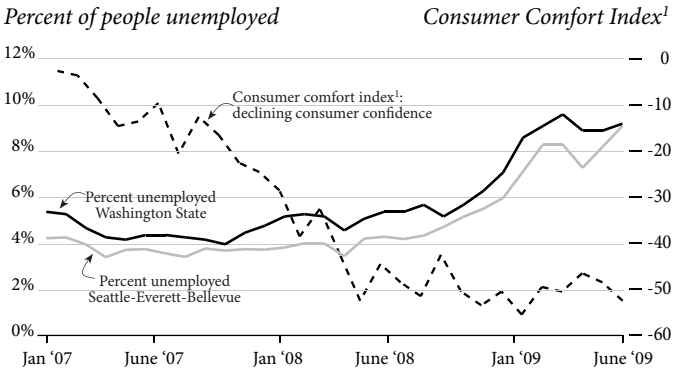
Driving forces: economic conditions continue to affect travel demand in the Seattle area

In mid-2008, the average unemployment rate in the Seattle-Everett-Bellevue area began a sharp rise that continued during the second half of the year, reaching 6.0% by December 2008. This trend continued into the first half of 2009, with the rate now at 9.1% as of June 2009. During the first half of 2008 unemployment was relatively low, hovering around 4% (varying from 3.5% to 4.3%). It is possible that increasing unemployment during the second half of 2008 and the first half of 2009 has contributed to decreased travel demand particularly during peak periods.

Coupled with rising unemployment has been a sharp decrease in consumer confidence. A number of national consumer confidence indicators show a sharp deterioration in consumers' views of the economy. An ongoing weekly national survey suggests that consumer confidence has dropped significantly in the past year. The survey asks respondents three questions regarding the state of the national economy as well as their own personal finances. At the beginning of 2007, survey results were at a near neutral level (roughly half the respondents held negative, half positive, views of the economy). By January 2009, consumer confidence reached an all-time low for the survey (equivalent to a 77% overall negative view toward the economy, which translates into an index score of -54). During the first half of 2009, consumer confidence has

Unemployment on the rise as consumer confidence declines

January 2007-June 2009



Data Sources: Washington State Employment Security Department and ABC News-Washington Post Consumer Comfort Survey.
1 Consumer comfort index ranges from +100 (100% of survey respondents with a positive view of the economy) to -100 (100% of survey respondents with a negative view of the economy).

leveled off, varying from a 72% to 75% overall negative view of the economy (index scores of between -45 and -51). A possible effect of the decrease in consumer confidence is reduced spending, which leads to less discretionary travel, and less freight travel to restock inventories or make deliveries.

Fuel prices lower during the first half of 2009 as compared to the same time period last year

During the first half of 2008, average gas prices saw an acceleration of a multi-year upward trend, rising from $3.18 per gallon of regular gas in January 2008 to a high of $4.35 a gallon in mid-2008. The second half of 2008 saw a significant drop to $1.77 a gallon as of December 2008, a level not seen since early 2004. During the first half of 2009, prices have resumed a general upward pattern (though not as dramatically as the previous year), rising to $2.82 a gallon as of mid-2009. Considering the drop in fuel prices since mid-2008, it appears reasonable that gas prices are no longer influencing driver behavior as they did in the first six months of 2008.

Moving Washington: WSDOT's balanced program to fight congestion

Effective transportation is critical to maintaining our economy, environment, and quality of life. Moving Washington is the WSDOT's vision of investments and priorities for the next 10 years. It includes a balanced strategy that integrates new capacity, efficiencies, and commute options to address congestion and improve the performance of our state's transportation system.

Incident Response Quarterly Update

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

Second quarter of 2009 clearance times are down 8.7%

Between April 1 and June 30, 2009 (Q2), WSDOT's Incident Response team's cleared 11,721 incidents with an average clearance time of 12.9 minutes. This clearance time is down 8.7% from last quarter's clearance time of 14.1, and up 9.1% from 11.8 minutes in the same quarter of 2008. The number of incidents responded to is up 17.7% from last quarter's 9,961 incidents, and down 7.8% from the 12,707 incidents attended in the same quarter of 2008.

The Q2 2009 value of 11,721 incidents represents an increase from a historical low of 9,961 incidents in Q1 2009. The number of incidents attended dropped from highs ranging from 13,000-16,000 in 2005 and 2006, to ranges of 11,500-13,000 in 2007 and 2008. The program lost federal grant funding that supported several responders in 2008, and fewer incidents could be responded to. This quarter's incidents are in line with more recent years' trends.

Fatality incident clearance times remain high

In Q2 2009, Incident Responders from WSDOT attended 18 fatality events around the state. The average clearance time of these 18 incidents was 231 minutes, up 38% from the Q1 2009 average of 167 minutes. This value is above the trend of a 162-180 minute-average clearance time range for the past year and a half, with the exception of Q1 2009. That quarter saw a similarly high average fatality clearance rate of 242 minutes. It is not clear why fatality clearance times are periodically higher. An analysis showed that these longer clearance time quarters are not statistically significantly different from the shorter clearance time quarters. WSDOT will continue to monitor this measure for possible trends.

Incident Response Highlights

The total number of incidents responded to was 11,721, up 17.7% from last quarter.

The average clearance time was 12.9 minutes, an 8.7% improvement over last quarter.

The annualized, average time for clearing 90-minute-and-over incidents was 154 minutes in Q2.

Number of incidents responded to by Incident Response program

April 1, 2008-June 30, 2009

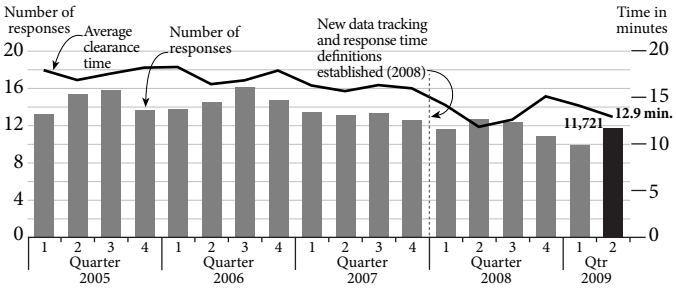
Quarter	# of incidents
Q2 (April 1 - June 30) 2009	11,721
Q1 (January 1 - March 31) 2009	9,961
Q4 (October 1 - December 31) 2008	10,843
Q3 (July 1 - September 30) 2008	12,383
Q2 (April 1 - June 30) 2008	12,707

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

Number of responses and overall average clearance time

January 1, 2005 - June 30, 2009

Number of responses in thousands, clearance times in minutes



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

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

Incident Response Quarterly Update

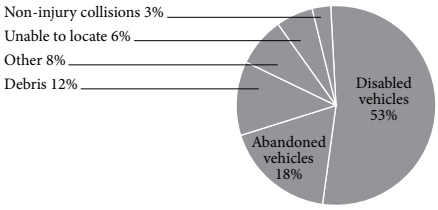
Fatality and 90-Minutes and Over Responses

Number and percentage of responses by category

Second Quarter, April 1 - June 30, 2009

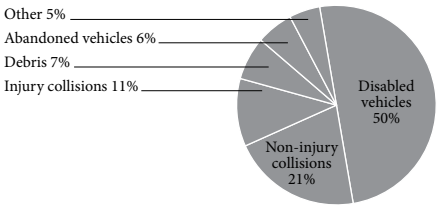
Incidents lasting less than 15 minutes (8,787)

Fatality, injury and police activity were less than 1% (not shown). There were 17 fires, 5 hazardous materials events involved incidents in addition to or as a result of above incidents. 15 incidents involved wsdot property damage, and 246 were located in work zones.



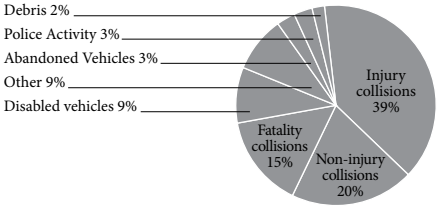
Incidents lasting 15 to 90 minutes (2,817)

Fatality, police activity and unable to locate were less than 1% (not shown). There were 95 fire, and 6 hazardous materials involved incidents in addition to or as a result of above incidents. 120 incidents involved wsdot property damage, and 161 were located in work zones.



Incidents lasting 90 minutes and longer (117)

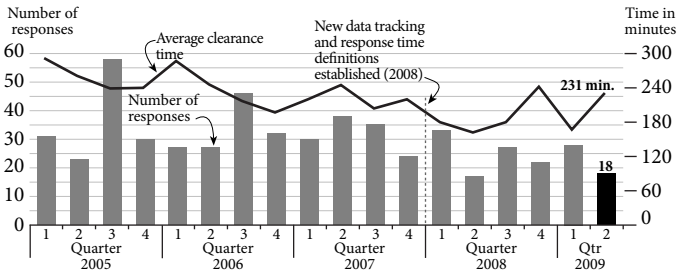
There were 30 hazardous materials and 120 fire involved incidents in addition to or as a result of above incidents. 62 incidents involved wsdot property damage, and 6 were located in work zones.



Data Source: WSDOT Traffic Office and Washington State Patrol.

Number and response time of fatality collisions

January 1, 2005 - June 30, 2009



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

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

Responses to 90 minutes-and-over incidents on nine key western Washington corridors

Second quarter of 2009 clocks in below 155-minute target

The second quarter of 2009 saw 72 over-90-minute incidents on the nine key routes, with an average duration of 154 minutes for the quarter. The annual 2009 average to date is 154 minutes, one minute below the annual goal.

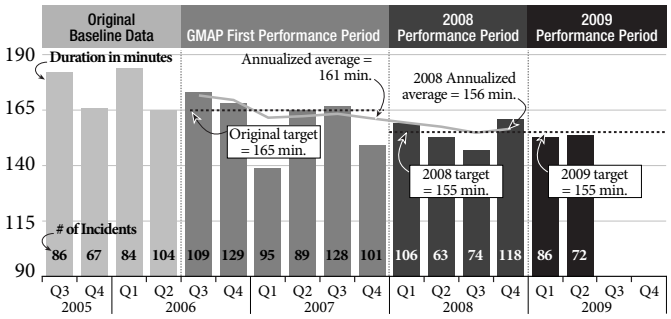
The Governor's GMAP goal for WSDOT and WSP responses to 90-minutes and over incidents

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

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

July 1, 2005 - June 30, 2009

Average duration in minutes



Data Source: Washington State Patrol and WSDOT Traffic Office.

Three extraordinary (6+ hour) incidents in the second quarter of 2009

WSP and WSDOT experienced three extraordinary (6+ hour) incidents in Q2 2009. Continuing a pattern seen in past reports, these incidents involved commercial motor vehicle events, fatalities, and multiple complicating factors.

Anatomy of a 15-hour incident

This quarter, a complex incident blocked highway traffic access to an I-5 on-ramp for 15 hours. On Friday, May 29, at 7:27 pm, a commercial motor vehicle traveling on the 200th Street off-ramp on northbound I-5 overturned and spilled 58,000 lbs of high-value lumber onto the adjacent on-ramp. Although the Major Incident Tow program was activated within 20 minutes of the start of the incident in order to expedite removal, it

Extraordinary (Six Hours-Plus) Incidents

Extraordinary (6 hours +) incidents on nine key Puget Sound routes
Second quarter 2009, duration in minutes

Date	Duration	Location	Description
May 14	415	SR 167 at Gay Road (Pierce County)	Three-car collision with one fatality and multiple serious injuries. Wreckage was submerged in the Puyallup River and WSDOT property was damaged.
May 29	903	I-5 at 200th Street on and off-ramps (King County)	A truck overturned on the off-ramp and spilled 58,000 pounds of lumber and as well as diesel fuel. A class-C tow was required.
June 16	556	SR 18 at Black Diamond Road (King County)	Diesel spill from a truck required a hazardous materials clean-up.

Data Source: Washington State Patrol and WSDOT Traffic Office

was not an easy clearance. The initial tow company cancelled, and the second responding company had to call for additional equipment to clear the commercial motor vehicle and its heavily damaged, partially-loaded trailer. In addition, WSDOT cleaned 40 gallons of diesel fuel that had spilled from the wreckage onto the roadway and soil. The vehicle was removed at 11:36 pm, for a total of four hours and nine minutes of blockage on the off-ramp.

However, 58,000 lbs of lumber still remained on the northbound on-ramp. WSDOT's responders had three options: leave the lumber in place, relocate it until it could later be recovered, or move some of the materials aside and squeeze traffic past it on what remained of the on ramp.

WSDOT's responders made the decision to close the ramp to traffic and recover the load on-site. The decision was made with several factors in mind: first, due to the long, sharp curve in the on-ramp layout, there was no way to easily relocate the lumber away from the ramp for an off-site recovery process. This curve also convinced both WSP and WSDOT that it wasn't safe to try to squeeze traffic by on the on-ramp.

Because the lumber was of considerable value and not severely damaged in the incident, the lumber company had expressed a desire to salvage the load. Both the insurer and WSDOT recognized that specialized rental equipment would be required to remove the long lumber. Unfortunately, no such equipment was readily available in the evening on a Friday night. Using WSDOT equipment to move the lumber, either off the ramp or to the side of it, would have taken considerable time and would have destroyed the lumber.

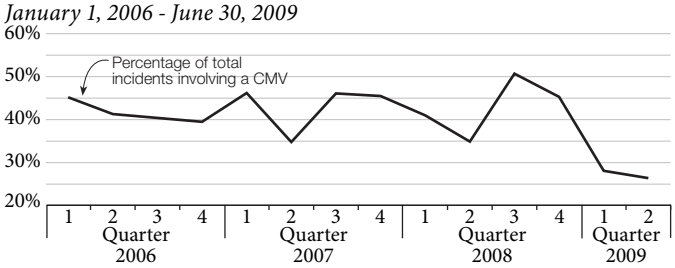
WSDOT determined that it was easier and safer to leave removal to the lumber company, which sent a vehicle and equipment to retrieve the lost load. Fortunately, because overnight traffic was light and a detour on-ramp was available a short distance away, there would be minimal impact to travelers during the closure/clean-up time. Unfortunately, the truck sent by the lumber company wasn't big enough to remove the whole load, so another truck had to be dispatched, lengthening the recovery process.

This incident resulted in a closure of the on-ramp from the start of the incident at 7:27pm until 10:30am the next morning, 15 hours and three minutes total. After debriefing from the incident, responders determined that better up-front coordination with the tow company and cargo owner could shorten the length of the closure by ensuring they bring the correct equipment for the incident.

Percentage of incidents involving commercial motor vehicles remains low

As noted in the March 31, *Gray Notebook* report (p. 40), the percentage of over-90-minute incidents involving commercial motor vehicles has been at historically low levels in the previous quarters. These incidents have accounted for approximately 35% to 50% of all over-90-minute incidents in a quarter for the nine key routes, averaging 43% for all incidents between 2006 and 2008; on average, they take 21% more time to clear. Last quarter, these vehicles were only involved in 28% of over-90-minute incidents, and this quarter the proportion again remained lower, at 26%. WSDOT and WSP will continue to follow this trend in the involvement of commercial motor vehicles in major blocking incidents.

Frequency of commercial motor vehicle involvements in over-90 minute incidents on nine key western Washington routes
January 1, 2006 - June 30, 2009



Data Source: WSDOT Traffic Office and WSP.

Washington State Ferries Quarterly Update

Ridership and Revenue

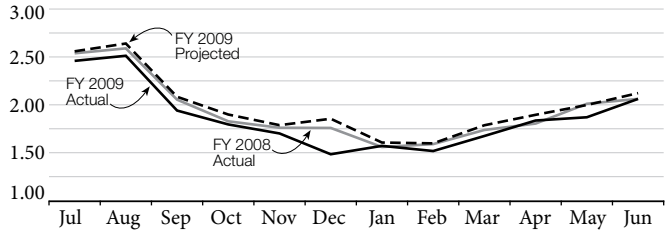
Washington State Ferries (WSF) serves as both an extension of the state's highway system and as a regional mass-transit provider. It provides a critical link to communities separated by water or longer driving distances, and is essential to the movement of goods and people in the Puget Sound region.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

Ridership levels remain below projected levels

Between April 1 and June 30, 2009, 5.8 million people traveled on the ferry system. For this quarter, WSF ridership was 4.1% below projected levels, or 245,073 fewer riders than expected. The gap in projected vs. actual ridership fluctuated during the quarter, with approximately 60,000 fewer riders than projected in April and June and approximately 130,000 fewer riders than projected in May. As compared to the same quarter one year ago, WSF ridership was 1.8% lower. For the year, WSF ridership is 5.9% below projected levels. Generally, the decline in ridership levels reflects the current national trends of reduced discretionary travel.

Ferries ridership by month

Actual ridership vs. planned ridership for f scal year 2009
Ridership in millions



Data Source: WSDOT Ferry System.

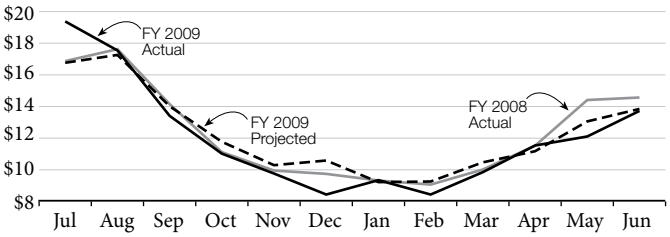
For FY 2009, 22.5 million riders (1.4 million fewer than in FY 2008) traveled on the ferry system, which was 5.7% below the projected ridership of roughly 23.8 million. This represents the second consecutive year that ridership has declined. In FY 2008, ridership totaled 23.3 million, or 5% below FY 2008 ridership projections of 24.5 million. Also, FY 2008 saw a 2.8% decline in ridership from FY 2007, which had 23.9 million riders.

Farebox revenue below projections for third consecutive quarter

Similar to ridership trends, WSF farebox revenue totaled $37,360,599 and was 1.9% below projected levels for the quarter, or $716,094 less than expected. As compared to the same quarter one year ago, WSF farebox revenue is 7.7% lower. Year-to-date WSF farebox revenue was $144,540,455; coming in 2.1% below projected levels, or $3,169,495 less than expected.

Ferries farebox revenues by month

Actual revenues vs. planned revenue for f scal year 2009
Dollars in millions



Data Source: WSDOT Ferry System.

Farebox revenue for FY 2009 was approximately 2.6% below the farebox revenues collected in FY 2008. The farebox revenue performance of FY 2009 represents the second consecutive fiscal year in which both actual fares were below FY projections, and less than the actual revenue levels

Washington State Ferries Highlights

- Ridership was down 4.1% for the quarter, and 5.7% below fiscal year 2009 projections.
- Farebox revenue was down 1.9% for the quarter, and 2.1% below fiscal year 2009 projections.
- The average number of customer complaints dropped by 67% in fiscal year 2009 to average 2.2 complaints per 100,000 customers.
- Service reliability improved in the fourth quarter, with a 39% average drop in missed trips. For the fiscal year, the average number of missed trips increased by 1.5%.
- WSF completed 99.7% of scheduled trips, compared with 99.5% for the fourth quarter one year ago.
- System-wide on-time performance improved to 97%, compared with 92% for the fourth quarter a year ago. The average sailing delay improved to an average of 3.4 minutes vs. 3.9 minutes.

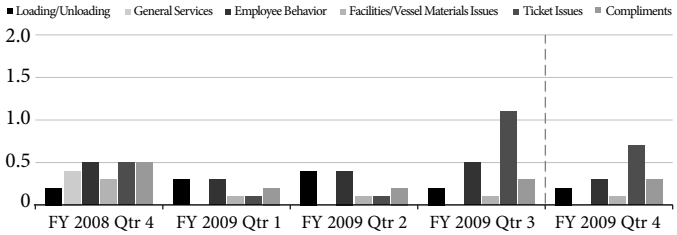
Customer Feedback

of the previous fiscal year. For FY 2008, actual revenues were down 3.4% from projections, and roughly 1.1% below FY 2007 actual farebox revenue. With the regional economic downturn, discretionary travel has declined, and expected ridership levels and farebox revenues declined as well.

Customer complaint rate decreased by over one-third versus previous quarter

During the quarter, the rate of complaints decreased to 2.0 complaints per 100,000 riders as compared to 3.1 complaints per 100,000 for the previous quarter, and improvement of 35.5%. Consistent with the downward trend in complaints, none of the rates for the major categories of customer feedback increased during the period. Compared to the same quarter one year ago, complaints this past quarter were 1.5 fewer per 100,000 passengers, a decrease of 44.2%.

Common complaints per 100,000 customers

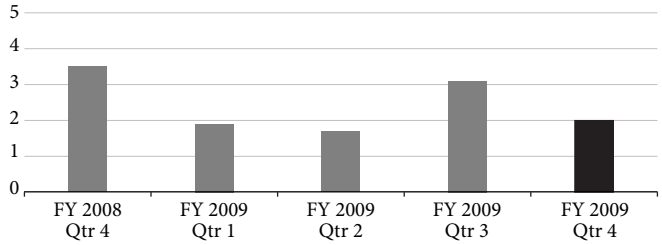


Data Source: WSDOT Ferry System.

Complaint average decreases by two-thirds in fiscal year 2009

In FY 2009, WSF saw a 67.8% decline in customer complaints per 100,000 riders, compared with FY 2008. The department recorded an average of 6.8 complaints in FY 2008, compared to 2.2 in FY 2009. The decline in complaints was a three-fold improvement over the 18.7% decline in FY 2008 over FY 2007, when complaints averaged 8.3 per 100,000 customers in that fiscal year.

Average number of complaints per 100,000 customers

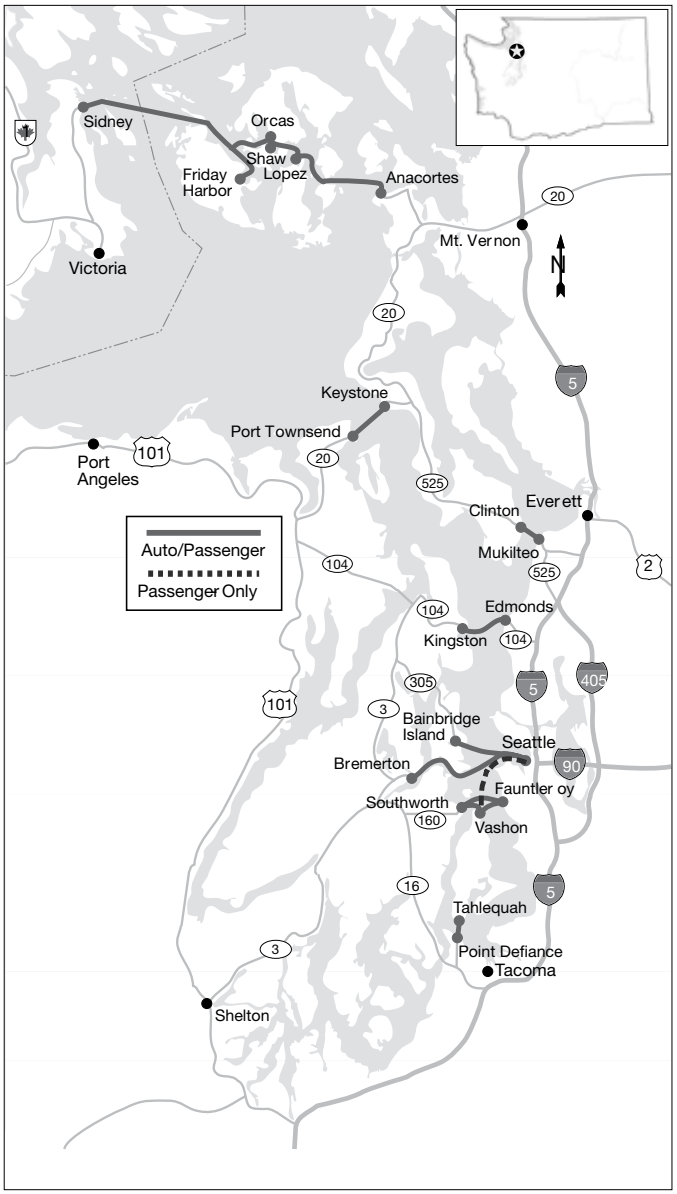


Data Source: WSDOT Ferry System.

WSF's customer feedback methodology

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

Washington State Ferries route map



Washington State Ferries Quarterly Update

Service Reliability

Number of missed trips declines for second consecutive quarter

The 'missed trip index' average for the fourth quarter was 1.3 missed trips a year, an improvement over the previous quarter of 0.4 fewer missed trips a year. As compared to the same quarter one year ago, WSF's improved performance by 39% (2.2 missed trips for Q4 FY2008 versus 1.3 missed trips for Q4 FY2009). For FY 2009, the annual missed trip index average was 3.98 missed trips per rider, a 1.5% increase over the FY 2008 average of 3.92 missed trips. WSF's missed trip index measures trip reliability averages, and is annualized based on quarterly data, assuming 400 trips a year for each commuter.

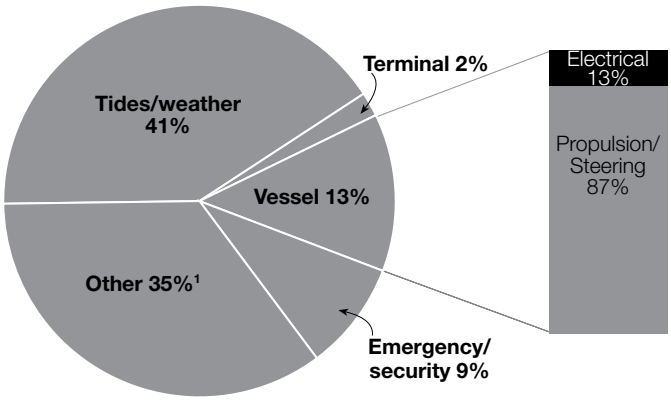
In the fourth quarter of FY 2009, 40,572 regular service sailing trips were scheduled. Of those trips, 232 were cancelled and 98 were replaced, resulting in a total of 40,438 during the quarter (40,572 scheduled – 232 cancelled trips + 98 replacement trips = 40,438 net trips). Washington State Ferries had a 99.7% overall service reliability rating for the fourth fiscal quarter, an improvement over the same quarter one year ago, at 99.5% Overall average reliability improved year over year from 99.0% in FY 2008 to 99.6% in FY 2009.

Port Townsend-Keystone continues to impact ferry system's reliability performance

The operationally difficult Port Townsend-Keystone route posted a trip reliability average of 18.9 missed trips a year for the quarter, which is a 24% improvement from the same quarter last year (24.8 missed trips annualized), and a 6% improvement over the third fiscal quarter (20.1 missed trips annualized).

The performance of the Port Townsend-Keystone route remains below the averages recorded on the other nine routes. Until the new 64-auto replacement vessel is put into service on the Port Townsend-Keystone route in FY 2011, WSF will continue to use the M/V *Steilacoom II* ferry on loan from Pierce County. The new 64-auto ferry will be better suited to local conditions.

Reasons for trip cancellations
Fourth quarter, FY 2009



Data Source: WSDOT Ferry System.
[1] Most of the 82 trips categorized as "other" did not fit the usual trip cancellation categories and were related to provision of additional ferry service during the closure of the Hood Canal Bridge in May. 43 trips cancellations under "other" are related the provision of extra, late-night service from Edmonds to Port Townsend. Another 25 trips resulted from a change in the regular three-boat service to a two-boat service on the Fauntleroy-Southworth-Vashon Island ferry route.

Washington State Ferries quarterly missed-trip index comparison

	FY 2008, Q4: April 1 - June 30, 2008			FY 2009, Q4: April 1 - June 30, 2009		
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	20	1.2	99.7%	5	1.2	99.9%
International Route (Sidney, BC)	2	4.0	99.0%	0	0.0	100.0%
Edmonds - Kingston	8	0.7	99.8%	0[4]	0.4[4]	100.0%[5]
Seattle - Vashon (Passenger Only)	0	0.0	100.0%	0	1.0	99.7%
Fauntleroy - Vashon - Southworth	52	2.0	99.5%	29	1.1	99.7%
Keystone - Port Townsend	113	24.8	94.2%	83	18.9	95.5%
Mukilteo - Clinton	2	0.1	99.9%	6	0.4	99.9%
Pt. Defiance - Tahlequah	21	2.7	99.3%	0	1.8	99.6%
Seattle - Bainbridge Island	0	0.0	100.0%	0	0.0	100.0%
Seattle - Bremerton	0	0.0	100.0%	0	0.0	100.0%
TOTAL	**218**	**2.2**	**99.46%**	**134**	**1.3**	**99.7%**

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 (trip) reliability average is calculated by dividing the recorded number of net trips (scheduled trips - cancelled trips + make-up trips) by the number of scheduled trips.
[4] This trip had 44 cancellations, but operated 48 make up trips, for a net gain of four trips. This accounts for the 0.4 missed trip index average and the 100% reliability rating.

Service Reliability

On-time performance declines over previous quarter, but better than previous year

WSF's system-wide on-time performance for the fourth fiscal quarter declined 3.7% compared to the previous quarter, with 93% of trips on-time. Compared to the same quarter one year ago, on-time performance was 1.3% better (93% on-time this quarter versus 91.7% for the same quarter one year ago). In terms of delay, this quarter's average sailing delay (average delay from the on-time departure (*see right*)) increased 26.5% from 3.4 minutes for this past quarter as compared to 2.5 minutes of delay for the third quarter of FY 2009.

Performance improves in fiscal year 2009

At the end of FY 2009, WSF had 137,393 trips out of 147,833 recorded trips departing on-time, for an annual performance rating of 92.9%. Compared with FY 2008, on-time performance improved 1.6%, when WSF recorded an annual on-time performance rating of 91.3%. The average sailing delay (for trips not on-time) improved 15% in FY 2009 to an average of 3.4 minutes for trips not departing on-time (see the gray box to the right for how on-time performance is defined). In FY 2008, the ferry system recorded an average sailing delay of 3.9 minutes past the sailing window.

Calculating "on-time" performance and sailing delay

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

WSF's on-time performance rating is calculated on the number of trips recorded by its automated tracking system; however, marine and atmospheric conditions may prevent all trips from being detected when a vessel leaves a terminal. This quarter's system-wide on-time performance rating and average sailing delay does not include completed trips on the Port Townsend-Keystone route. This is because the leased vessel from the Pierce County ferry system (M/V *Steilacoom* II) is not able to report on-time performance.

Washington State Ferries quarterly on-time performance comparison

	FY 2008, Q4: April 1 - June 30, 2008			FY 2009, Q4: April 1 - June 30, 2009		
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	5,068	97%	6.8 minutes	6,228	86%	4.4 minutes
International Route	151	77%	6.9 minutes	198	60%	2.3 minutes
Edmonds - Kingston	4,073	90%	4.1 minutes	4,458	92%	3.7 minutes
Seattle - Vashon (Passenger Only)	347	99%	2.8 minutes	381	99%	2.3 minutes
Fauntleroy - Vashon - Southworth	9,539	94%	3.6 minutes	10,127	93%	3.5 minutes
Keystone - Port Townsend	N/A[4,5]	N/A[4,5]	N/A[4,5]	N/A[4,5]	N/A[4,5]	N/A[4,5]
Mukilteo - Clinton	6,213	99%	2.6 minutes	6,501	97%	2.8 minutes
Pt. Defiance - Tahlequah	2,389	96%	4.3 minutes	2,818	95%	3.4 minutes
Seattle-Bainbridge Island	3,859	98%	2.6 minutes	4,061	97%	1.6 minutes
Seattle - Bremerton	2,424	92%	3.2 minutes	2,493	97%	3.0 minutes
TOTAL	**35,978**	**92%**	**3.9 minutes**	**37,264**	**93%**	**3.4 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

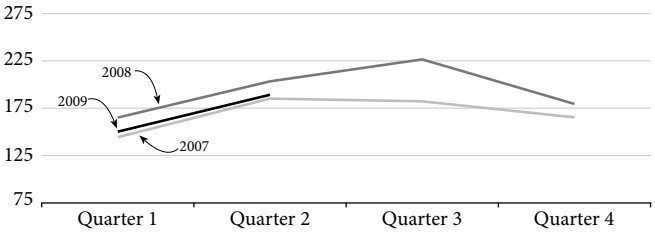
[5] On-time performance statistics reported in the March 31, 2008 *Gray Notebook* for the Port Townsend - Keystone route included trips taken on the M/V *Snohomish*, one of WSF's high-speed passenger-only vessels (equipped with the automated tracking system). The figures do not include trips completed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

Rail: Amtrak *Cascades* Quarterly Update

Rail Performance Highlights

Amtrak *Cascades* ridership dipped 7% year-on-year, but still higher compared to 2007.

State-supported Amtrak Cascades quarterly ridership
Number of passengers per quarter, calendar year 2007-2009
Riders in thousands



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

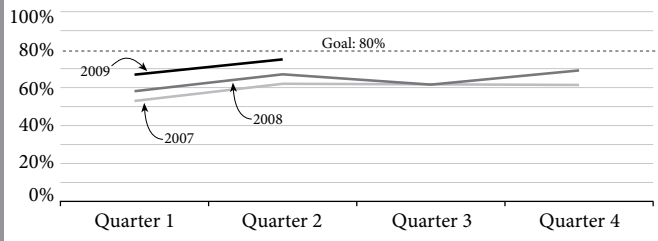
Amtrak *Cascades* by funding entity
Ridership by funding entity

Funding partner	Jan-Jun 2007	Jan-Jun 2008	Jan-Jun 2009
Washington	220,497	249,246	230,307
Oregon	55,184	59,428	51,793
Amtrak	53,654	59,689	57,163
Total ridership	**329,335**	**368,363**	**339,263**

Data Source: WSDOT State Rail and Marine Office.

On-time performance improved 12% to 75% in 2009. While still below goal of 80% on-time trains, it is better than 2008 and 2007.

State-supported Amtrak *Cascades* on-time performance
Percent of trains on time, 2007-2009



Data Source: Amtrak and State Rail and Marine Office.

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

Washington is one of 13 states, including Oregon, to provide operating funds to Amtrak for intercity passenger rail service. The Amtrak *Cascades* serves 466 route miles between Eugene, Oregon, and Vancouver, B.C. Amtrak provides operating funds for one daily round-trip route, Oregon provides funding for two routes, and Washington, through WSDOT, provides for four roundtrips. Amtrak uses five European-designed, Talgo trains for daily operations, two owned by Amtrak and the remainder by Washington.

On July 3, the Canadian government approved a pilot project to run a second daily roundtrip service between Seattle and Vancouver. The new service will become operational on August 19 and run until after the 2010 Olympic and Paralympics Winter Games. WSDOT worked with Amtrak, BNSF Railway, U.S. Customs, and other stakeholders to get the additional Amtrak *Cascades* service operational as soon as possible.

Amtrak *Cascades* second quarter ridership down 7% from previous year

The economic recession has affected the Amtrak *Cascades* service. After demonstrating record growth during 2008, ridership has shown a decrease in 2009. There were 189,151 riders in the second quarter of 2009, which represents a 7% decrease over the same period in 2008. Even though there was a decline from 2008, this quarter's ridership total is still higher compared with the same period in 2007, which demonstrates continued growth.

Although high gasoline prices have helped contribute to some ridership growth, customer feedback indicates that riders perceive the service to be a great value and appreciate the fact that they are avoiding traffic. Additionally, as individuals become more environmentally conscious, they may begin to view the service as an environmentally responsible travel option.

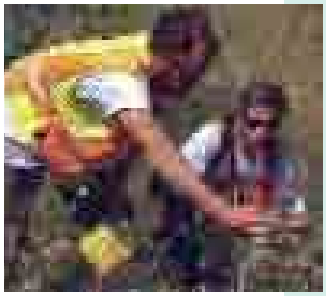
Amtrak *Cascades* ridership by funding entity

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

2nd quarter on-time performance up 12% from previous year

On-time performance for state-supported Amtrak *Cascades* trains was 75% for the quarter, which represents a 12% improvement compared to the same period in 2008. Although below the 80% on-time performance goal, this is a significant improvement over both 2007 and 2008.

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

Climate Change Annual Report 40

Programmatic Permits 43

See also

Quarterly Report on Capital Projects (Beige Pages) 55

Earlier Environment-related articles

Air Quality, GNB 31

Noise Quality, GNB 31

Fish Passage Projects, GNB 30

Environmental Documentation, GNB 32

Environmental Compliance Assurance, GNB 32

Stormwater Treatment Facilities, GNB 32

Erosion Control, GNB 32

Construction Site Water Quality, GNB 32

Wetlands Preservation Annual Report GNB 33

Endangered Species Act Annual Report, GNB 33

Special Report: NEPA, GNB 33

Climate Change

Greenhouse Gas Emissions

Climate Change Highlights

WSDOT completed its first greenhouse gas inventory to measure emissions from its activities – one of the first transportation agencies in the country to develop a greenhouse gas inventory.

In 2007, WSDOT emitted roughly 265,000 metric tons of "carbon dioxide equivalents," the standard by which greenhouse gases are measured. This is about 0.3% of all greenhouse gas emissions from all sources statewide. More than two-thirds of WSDOT's 2007 emissions came from operation of ferry vessels.

WSDOT is reducing greenhouse emissions by improving the energy efficiency of ferries, traffic and warning lights, vehicles, equipment, and facilities.

This is the first article in an occasional series of articles covering WSDOT's role in addressing climate change throughout the state of Washington. Future *Gray Notebook* editions will cover overall transportation greenhouse gas (GHG) emissions, as well as WSDOT's efforts to adapt to the potential effects of climate change. (Note: The gray box on page 42 provides internet links to legislation or reports referred to in the article.)

Federal government activity around climate change and greenhouse gases

As required by the federal 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), this spring the Environmental Protection Agency (EPA) proposed a mandatory greenhouse gas reporting rule that covers large sources of emissions. Entities that directly release over 25,000 metric tons of greenhouse gases a year would be required to submit annual reports to EPA.

Instead of requiring vehicle fleets to report emissions, the proposed rule would address fleet emissions by requiring fuel providers to report on the quantity of fuel sold and vehicle manufacturers to report on engine efficiency and pollution controls. Likewise, emissions from the production of electricity would be reported by the producer, not consumer. WSDOT would not be required to report emissions under this rule.

Washington State addresses climate change

Between 2005 and 2009, Governor Gregoire and Washington's state legislature took various actions to address the impacts of climate change on the state.

- In 2007, these actions included the Governor's "Washington Climate Change Challenge," which established goals for reducing GHG emissions to 1990 levels by the year 2020 and 50% below 1990 levels by 2050, and reducing fuels spending by 20% by 2020, and the Cleaner Energy Act (E2SHB 1303) which required state fleet diesel vehicles to consume 20% biodiesel by 2009.
- In 2008, the Legislature passed the Climate Change Framework (E2SHB 2815), which established in law (70.235.020) the emissions reductions goals set out in the 2007 Governor's "Challenge." It established broad statewide goals to decrease the annual per person vehicle miles traveled (VMT) by 18% by 2020, 30% by 2035, and by 50% by 2050.

  This legislation instructed WSDOT to work with other stakeholders to develop strategies to meet these benchmarks (47.01.440). The mandatory greenhouse gas reporting requirements

WSDOT direct greenhouse gas (GHG) emissions in 2007

Source	Major GHG-producing activities	2007 Emissions (metric tons of CO_2e)	Percentage of total WSDOT emissions
Ferry system	Operation of ferry vessels	181,321	69%
Vehicle fleet	Operating trucks, passenger vehicles, and specialized equipment	36,837	14%
Traffic services	Traffic lights, street lights	27,186	10%
Facilities	Utilities for over 1,000 buildings and structures[1]	13,762	5%
Ferry shore-side operations	Operation of terminals and maintenance facilities	5,580	2%
Total		**264,686**	**100%**

Data source: WSDOT Air, Noise, Energy Program.

1 WSDOT was not yet able to calculate emissions from actual utility use but is working to establish a process for analyzing actual usage. Utility use was estimated from utility payment information for 2007.

Greenhouse Gas Emissions

(70.94.151) were also established in this bill. The reporting mandate requires large emitters of greenhouse gases to report emissions annually. The reporting requirements will be phased in, with large vehicle fleets and large stationary sources reporting 2009 GHG emissions to the Department of Ecology in 2010. Under this requirement, WSDOT will also be required to report ferry fleet emissions beginning with 2009 emissions. Beginning in 2012, WSDOT will be required to report all agency emissions annually.

- In 2009, the legislature established greenhouse gas reduction requirements for state agencies (ESSSB 5560). Using 2005 as a baseline, state agencies are required to reduce their GHG emissions 15% by 2020, 36% by 2035, and 57.5% by 2050 (or, alternatively, 70% below expected emissions in 2050). All state agencies, including WSDOT, must report their 2005, 2008, and 2009 emissions to the Department of Ecology by June 30, 2010, as well as their projected emissions through 2035. By June 30, 2011, state agencies must develop strategies to meet these reduction requirements.

  Other legislation passed in 2009 (ESSB 5854) requires all state agencies to conduct energy audits of facilities over 10,000 square feet and implement cost-effective energy efficiency upgrades.

Also in 2009, the Governor signed Executive Order 09-05, "Washington's Leadership on Climate Change," which includes direction to WSDOT to continue developing strategies to reduce greenhouse gas emissions from the transportation sector.

Emission scopes as they apply to WSDOT

To determine ownership of emissions and reduce double counting, emissions are divided into three scopes.

- *Scope 1* includes all direct emissions, such as those released from a tailpipe or smokestack
- *Scope* 2 includes only the indirect emissions from purchased energy (primarily electricity);
- *Scope* 3 encompasses all other indirect emissions – those emissions released by someone else in the production of goods (e.g., paper) or services (such as an airline flight) used by the reporting agency, or the emissions released by a contractor or consultant working on their behalf.

Scopes 1 and 2 are generally considered to be under the control of the organization, whereas scope 3 emissions are under someone else's control. The scope 3 emissions of interest also vary from organization to organization and industry to industry.

Current reporting requirements cover scopes 1 and 2. Emissions produced by project construction are considered scope 3 emissions, as WSDOT cannot directly control the vehicles or materials used by its construction contractors.

WSDOT quantifies greenhouse gas emissions and completes first inventory

WSDOT recently completed its first greenhouse gas inventory, and is one of the first state transportation departments in the nation to quantify its emissions.

The inventory, which covers calendar year 2007, includes only scope 1 and 2 emissions from agency activities, and not those associated with the state transportation system as a whole, nor those released by the activity of others on the agency's behalf, such as contractor or materials manufacturers. Statewide transportation emissions are quantified in the Washington State Greenhouse Gas Inventory prepared by the Washington State Department of Ecology. (Information on all greenhouse gas emissions in Washington, including those from the state transportation system, is available on line.)

Measuring greenhouse gas emissions

Carbon dioxide (CO_2) is the most prevalent of the greenhouse gases and is used as the standard to measure all types of emissions. In addition to CO_2, WSDOT activities result in the emission of nitrous oxide, methane, and refrigerants. These emissions have been converted to CO_2 equivalents (CO_2e) in the inventory to produce a single comprehensive emissions total. Inventory preparation followed The Climate Registry's General Reporting Protocol as closely as possible. The General Reporting Protocol is widely recognized as the current best-practice standard for reporting emissions.

Utility use emissions are estimated for this report

For this first inventory, WSDOT was not able to calculate emissions from actual utility use, as required by the Registry's reporting protocol, in part because WSDOT has more than 5,000 utility accounts across the state. Instead, utility use was estimated from utility payment information. WSDOT is in the process of developing systems to capture actual utility-use emissions for future inventories.

WSDOT's 2007 greenhouse gas emissions

In 2007, WSDOT emitted roughly 265,000 metric tons (MT) carbon dioxide equivalents (CO_2e), just under 0.3% of all greenhouse gas emissions from all sources statewide. More than two-thirds of the emissions came from the operation of state ferry vessels.

Greenhouse Gas Emissions

The vast majority of WSDOT's direct greenhouse gas emissions come from energy use, and, for this reason, WSDOT is focusing on energy conservation to reduce both emissions and energy costs. Examples of current WSDOT energy conservation and GHG emission reduction initiatives include:

- **Ferries** Since 2002, Washington State Ferries has been reducing fleet emissions by upgrading engine equipment, such as fuel injectors, main engines, and ship-service generators. Operational changes include reducing the number of engines in operation when feasible and reducing speeds when it will not affect the schedule. Ferries is also investigating additional energy-saving changes such as positive restraint while at terminals and waste heat recovery systems in older boats to heat the cabins with excess engine heat.
- **No-idle policy and LED lights** In September 2006, WSDOT adopted a no-idle policy to reduce fuel use and associated emissions. However, most illuminated signage on trucks, used to direct and warn motorists, can only run when the vehicle is idling. Light-emitting diode (LED) technology uses far less energy and can run on battery power for 24 hours or more. More than 200 vehicles have been outfitted with LED lights, saving an estimated 121,000 gallons of fuel and eliminating about 1000 tons of CO_2 emissions annually.
- **LED traffic lights** WSDOT has replaced more than 90% of the red and green incandescent lights in traffic signals with LEDs to reduce associated energy consumption and GHG emissions. Solar-powered flashing beacons, message signs, and portable highway advisory radio units are being installed as funding becomes available.
- **Fuel-efficient vehicles** In 2007, WSDOT replaced 90 older vehicles with 86 low-emission vehicles and four high-mileage hybrids. In 2008, an additional 90 vehicles were replaced with 70 low-emission vehicles and 20 hybrids. The agency plans to purchase significantly more hybrids in FY 2010, as they offer the best course of action to reduce fuel consumption and emissions. WSDOT is now testing a propane-powered vehicle; if successful, WSDOT will consider converting some vehicles to this cleaner, more efficient fuel.
- **Electricity** Efforts to reduce electricity consumption include the installation of motion detectors that turn lights off when no one is in a room, automatic switches that turn off heaters in equipment shops when service bay doors are open, and lighting upgrades in several Northwest Region shops. WSDOT desktop computers now employ software that detects idle PCs and puts them into stand-by mode, reducing per-PC energy consumption.

Main diesel engines owned by WSDOT Ferries Division. Several of these engines will be used in the new 64-car ferries.

- **Natural gas** WSDOT is updating its heating and ventilation systems to reduce natural gas use. For example, a heating and ventilation improvement project in the Southwest Region headquarters in Vancouver helped reduce electricity use by 10.5% and natural gas consumption by 8.6%.
- **Highway maintenance** WSDOT maintenance crews are mowing the right-of-way area next to highways less frequently to reduce fuel consumption and emissions.

Online resources and references

WSDOT's GHG inventory report: http://www.wsdot.wa.gov/NR/rdonlyres/A9FD1AD6-94C1-49D9-85E5-A45815D670BD/0/WSDOT_2007_GHG_Inventory.pdf.
Governor's Executive Order "Washington's Leadership on Climate Change": http://www.governor.wa.gov/execorders/eo_09-05.pdf.
2009 Engrossed Second Substitute Senate Bill 5560 – State Agencies – Emissions Reductions (Section 1 is the reduction requirements, Section 2 is the state agency reporting requirements.): http://apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bills/Session%20Law%202009/5560-S2.SL.pdf
2009 Engrossed Second Substitute Senate Bill 5854 – Climate Pollution Reduction – Energy Efficiency: http://apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bills/Session%20Law%202009/5854-S2.SL.pdf
RCW 70.94.151 – Adoption of rules requiring the reporting of greenhouse gases. http://apps.leg.wa.gov/RCW/default.aspx?cite=70.94.151
RCW 47.01.440 – Adoption of statewide goals to reduce annual per capita vehicle miles traveled by 2050. http://apps.leg.wa.gov/RCW/default.aspx?cite=47.01.440
A summary of **all state climate change laws and executive orders** is available at: http://www.ecy.wa.gov/climate change/2005-2009actions.html
Information on all greenhouse gas emissions in Washington: http://www.ecy.wa.gov/climatechange/ghg_inventory.htm
Climate Registry on line at http://www.ecy.wa.gov/climatechange/registry.htm

Programmatic Permits Annual Report

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 develops programmatic permits with water resource agencies to help simplify and expedite regulatory processes.

These permits improve efficiency by reducing the number of staff hours otherwise spent processing individual permits; they also provide standards that WSDOT can design its projects to meet. The following tables display the types of current programmatic permits that have been issued for WSDOT activities by DOE and WDFW.

No new permits were issued to WSDOT in 2008, but eight WDFW permits were renewed or amended: 'Beaver dam removal,' 'Channelized stream maintenance,' 'Statewide culvert maintenance in freshwater,' 'Fishway structures in freshwaters statewide,' 'Debris removal from WSDOT bridge structures,' 'Statewide freshwater geotechnical survey,' 'Marine sediment test boring,' and 'Statewide bridge and ferry terminal maintenance.'

Environmental programmatic permits issued by the Washington State Department of Ecology

2006-2008[1]

Activity covered	Description and guidance	Effective date	Expiration date	Number of activities using permit		
				2006	2007	2008
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 [2]	31	21	6
Aquatic mosquito control	Allows the application of pesticide to control mosquito species within WSDOT right-of-way	3/7/07	4/7/10 [3]	62	16	103
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	1
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	1

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 Bridge and Ferry Terminal Maintenance permit expiration date has passed, but the Dept of Ecology extended WSDOT's coverage under this permit until the new one is issued. The permit should be reissued later this year.

3 The Washington State Department of Ecology is choosing to issue this permit on a three-year term rather than a five year term to stagger the reissuance schedule of the General Aquatic Pesticide Permits.

Programmatic Permits Performance Highlights

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

WSDOT currently has 9 active programmatic permits with the Washington State Department of Fish and Wildlife (WDFW) for water-based activities.

Since the June 30, 2008, Gray *Notebook* report, WSDOT has renewed/updated eight permits with WDFW.

In 2008, WSDOT carried out 111 activities involving DOE permits, and 687 activities involving WDFW permits.

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

Programmatic Permits Annual Report

Environmental programmatic permits issued by the Washington State Department of Fish and Wildlife

2006-2008

Project (permit) name	Description and guidance	Effective date	Expiration date	Number of activities using permit 2006	2007	2008
Channelized stream maintenance	Allows sediment removal to pre-existing condtions.	6/2/09	6/1/14	51	31	25
Fishway structures in freshwaters statewide	Allows removal of sediments and other debris from fishways as well as minor repairs of the structure.	6/2/09	6/1/14	5	1	2
Statewide culvert maintenance in freshwater[1]	Allows structural repair and sediment removal.	6/2/09	6/1/14	60	54	39
Debris removal from WSDOT bridge structures	Allows the removal and relocation of non-embedded large woody debris and material from WSDOT bridges.	6/2/09	6/1/14	68	50	13
Statewide bridge and ferry terminal maintenance	Covers bridge and ferry terminal maintenance and repair on over-water structures.	6/2/09	1/21/13[2]	1449	1089	547
Beaver dam removal	Allows the removal of beaver dams within WSDOT right-of-way statewide.	6/2/09	5/1/13[2]	126	56	53
Freshwater sediment test boring	Covers freshwater sediment test boring activities statewide.	6/9/09	6/9/13[2]	5	12	3
Marine sediment test boring	Allows test boring and sediment sampling for WSDOT projects in all state marine waters.	2/13/09	2/13/14	2	7	3
Marine pile removal and replacement	Allows the replacement and removal of up to 40 piles per project in marine waters.	3/7/05	3/5/10	2	2	2
Culvert replacement in non-fish-bearing waters	Allows replacement of culvert in same location.	Permit not reissued[3]		8	0	0

Data Source: WSDOT Environmental Services.

Notes

1 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).

2 These permits were amended and are valid for the five year period from the original issuance date.

3 WDFW requested this permit not be reissued. Culvert replacement in non-fish-bearing streams requires a hydraulic analysis to insure new culvert is properly sized for current conditions. This is beyond the scope of a general Hydraulic Project Approval (HPA).

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.

In this section

Federal Recovery Act-funded Projects 46
Quarterly Update on Capital Projects (Beige Pages) 55
Completed Project Wrap Ups 77
Special reports:
- US 395 North Spokane Corridor 81
- New Ferry Construction 82
- Tacoma/Pierce County HOV Lanes 83
- Hood Canal Bridge 84

Watch List 85
PEF Reporting 96
- Cross-cutting Management Issues:
  - Utilities 102
  - Right-of-Way 105
  - Construction Cost Trends 106

Construction Contracts Annual Report 108
Workforce Level & Training Quarterly Update 112
Transportation Research Special Report 115
Highlights 119

See also

Worker Safety 2

Special Report on Federal Recovery Act-funded Projects

Recovery Act-funded Projects Overview

Recovery Act Highlights

- 183 individual state and local highway projects have been identified and certified by Governor Gregoire as of 28 July 2009.
- Construction contracts for 106 projects have been awarded as of 28 July 2009.
- The state has met the requirement to obligate 50% of funds by June 29, and has obligated 71% of Recovery Act funds.
- Three WSDOT and local highway projects were completed as of 28 July 2009.
- Recovery Act highway project employment data shows Recovery Act work hours doubled from May to nearly 58,000 in June.

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

WSDOT and local governments across Washington State have worked quickly to use dollars from the federal American Recovery and Reinvestment Act (Recovery Act) to generate jobs and improve the transportation system. Washington received $492 million for highway projects and $179 million for transit.

- More than 100 highway projects were awarded to contractors by the end of July and 95% of the transit projects received Federal Transit Administration (FTA) grants.
- Transit system funds are already helping expand local bus fleets (including hybrid and natural gas vehicles), upgrade maintenance facilities, and improve transit stations and bus stops.

First projects are being completed

WSDOT completed the first state highway stimulus project when crews from Columbia Asphalt finished work paving a four-mile stretch of I-90 near Ellensburg on July 9. The City of Conconully and Garfield County completed local paving projects in June and July, respectively. In July, WSDOT's ferry system completed vessel painting and other preservation work on the M/V *Spokane* and topside painting of the M/V *Evergreen State* using Recovery Act transit funds.

Stimulus projects are creating and preserving jobs

WSDOT and local Recovery Act projects are creating and preserving jobs in Washington State's hard-hit construction industry. With more state and local stimulus projects now under construction, contractors reported payroll and labor hours doubling from May to June. The employment data shows workers on Recovery Act-funded projects logged nearly 58,000 labor hours in June, compared to just under 29,000 hours in May, earning an average salary of $38 an hour.

Each month, WSDOT and local government contractors submit forms documenting the number of employees, hours, and payroll for each project. WSDOT submits those figures to the Federal Highway Administration and Congress. The reports are available online at www.wsdot.wa.gov/funding/stimulus/federalreporting.

Most state highway Recovery Act projects awarded

The Governor and the State Legislature allocated the state's $340 million in federal stimulus funds dedicated to state highways for 32 individual projects (Tier One projects) and two programmatic funding buckets to address safety needs. Another 12 projects were identified that could be ready to go should additional funding become available (Tier Two projects). Through July, WSDOT advertised 28 of 32 individual projects and awarded 24 to contractors.

Continued on page 48

Granite NW Inc. crews place concrete over dowel bar slots on I-82 near Sunnyside in July.

Recovery Act-funded Projects Overview

Recovery Act-funded highway projects

Number of projects by jurisdiction; dollars in millions

Project information	State	Local	Total	Notes
Individual highway projects	36	147	183	State projects specified in the Legislative Evaluation & Accountability Program (LEAP) list. Four projects were added to the list and received federal approval.
Certified by Governor	36	147	183	Governor must certify that projects were reviewed and represent an appropriate investment of taxpayer dollars.
Projects advertised	29	130	159	
Contracts awarded/Under construction	25	81	106	
Projects completed	1	2	3	
Financial information	**State**	**Local**	**Total**	**Notes**
Recovery Act dollars provided	$340	$152.1	$492.1	
Recovery Act dollars obligated to date	$244.5	$128.4	$372.9	Obligated dollars represent projects approved by the federal government with an executed project agreement. The state must obligate 50% of funds by June 29, 2009. This requirement has been met. All dollars must be obligated by March 2010. Local jurisdictions must obligate 100% of funds by March 2010.
Total cost of obligated projects	$713.3	N/A	N/A	Also includes non-Recovery Act leveraged fund sources; represents total project funds positioned to enter the economy. Data not available for all local projects due to timing of project phases.

Data Note: Data as of July 28, 2009. Data Sources: WSDOT Project Control & Reporting Office, Highways and Local Programs Office.

Recovery Act-funded state highway 'bucket' projects

Number of bucket projects by type; dollars in millions

	Rumble strips	Cable median barrier	Total
Project status			
Certified by Governor	27	6	33
Projects advertised	27	6	33
Contracts awarded / Under construction	17	6	23
Projects completed	0	0	0
Financial information			
Funds available for buckets	$3.1	$9.2	$12.3
Recovery Act dollars obligated	$2.9	$5.9	$8.8
Total cost of obligated projects	$2.8	$5.3	$8.1

Data Sources: WSDOT Project Control & Reporting Office, Highways and Local Programs Office.

Recovery Act project definitions

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

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

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

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

Special Report on Federal Recovery Act-funded Projects

Recovery Act-funded Projects

Continued from page 46

Work now under way on first Tier Two project

Many of the projects were awarded on bids below the engineer's estimate, allowing the state to stretch the funds and apply them to Tier Two projects. Four additional improvement projects from the Tier Two list of projects can be funded with extra money. One of the Tier Two projects, paving a section of I-90 near Moses Lake, was awarded in July; three others are awaiting advertisement later this year.

More than 80 local highway projects awarded

Local cities, counties, and tribes received $152 million in federal Recovery Act funds for highway and road construction. Local governments have advertised 130 of 147 projects, awarded 81 projects, and completed two. Most projects were awarded on bids below the engineer's estimate, allowing the state to fund more Recovery Act projects.

95% of transit Recovery Act projects awarded

Washington received $179 million in Recovery Act funds to support transit projects. By the end of July, Washington transit agencies had received awards for nearly all of the projects and obligated 95% of the funds. The projects will help expand bus fleets (including hybrid and natural gas vehicles), upgrade maintenance facilities, build commuter parking lots, preserve ferry terminals and vessels, extend light rail service, and develop a new streetcar system, among other efforts. The state's Transportation Management Areas and Regional Transportation Planning Organizations selected most of the transit projects.

First WSDOT Recovery Act project completed

I-90/Yakima River to West Ellensburg (Kittitas County)

This project paved nearly four miles of I-90 near Ellensburg, extending the life of the state's busiest east-west thoroughfare.

Project benefits: The project will provide a smoother, safer driving surface on both directions of I-90 and better preserve the roadway.

Highlights and challenges: This was the first WSDOT stimulus project to begin construction and be completed. The project helped the winning contractor, Columbia Asphalt, to hire and retain workers in hard-hit central Washington. The winning bid was almost 20% below the engineer's estimate

WSDOT contractors completed work on a Recovery Act paving project on I-90 near Ellensburg in July.

Budget performance: This project was completed for approximately $2.4 million, below the original 2009 approved budget of $3 million. The surplus funds can be used to help fund additional Recovery Act projects.

Schedule performance: This project was completed on July 9, nearly two months ahead of schedule, due to aggressive work by the state and contractor to begin the state's first stimulus-funded project.

Accountability

WSDOT is committed to accountability and transparency, and has made performance reporting a high agency priority central to the 2003 and 2005 Nickel and TPA highway funding programs.

The public can find information on every state and local Recovery Act highway project on the agency's website, www.wsdot.wa.gov/funding/stimulus, featuring regular updates on the progress advancing new projects toward construction and completion.

WSDOT is providing detailed reports on how Recovery Act funds are invested and the results citizens can expect. Washington has submitted accountability reports to the Federal Highway Administration and U.S. House Transportation and Infrastructure Committee. In October, the state will submit its first quarterly accountability report to the federal Office of Management and Budget.

State Projects

State projects funded with Recovery Act contributions

*By month of advertisement, in dollars. Project names in **bold type** are substantially complete.*

Agency	Project Title	Recovery Act contribution	Construction obligated?	Advertisement date	Award date
WSDOT	SR 103/177th St to Bay Street - Chip seal	$394,691	March-09	March-09	April-09
WSDOT	I-90/Slide Curve to Cabin Creek - Paving	$2,973,679	March-09	March-09	April-09
WSDOT	**I-90/Yakima River to W Ellensburg - Paving**	**$2,428,622**	**March-09**	**March-09**	**April-09**
WSDOT	SR 282/Ephrata South - Paving	$6,088,296	March-09	March-09	May-09
WSDOT	SR 17/Grant County Airport North - Paving	*Combined with project above for construction efficiencies.*			
WSDOT	I-405/NE 8th St to SR 520 – Braided ramps	$30,000,000	March-09	March-09	
WSDOT	SR 155/Omak Eastward - Chip seal	$3,570,000	March-09	April-09	May-09
WSDOT	SR 243/Mattawa Vicinity - Chip seal	*Combined with project above for construction efficiencies.*			
WSDOT	SR 262/Potholes Reservoir Area - Chip seal	*Combined with project above for construction efficiencies.*			
WSDOT	US 2/Monroe City Limit to Sultan - Overlay	$1,946,979	April-09	April-09	May-09
WSDOT	I-5/Chamber Way vicinity to Harrison Ave vicinity	N/A	April-09	April-09	May-09
WSDOT	SR 14/Cliffs Rd to Chamberlain/Goodnoe Rd - Chip seal	$509,307	April-09	April-09	May-09
WSDOT	I-82/Granger to W Grandview westbound - Dowel bar retrofit/ Concrete rehabilitation	$6,898,932	April-09	April-09	May-09
WSDOT	US 395/Loon Lake to Immel Road - Paving	$8,225,774	April-09	April-09	May-09
WSDOT	I-5/SR 532 vicinity to Starbird Rd vicinity - Concrete rehabilitation	$7,184,050	March-09	April-09	June-09
WSDOT	I-5, Marysville to Stillaguamish River - ITS	$2,500,000	April-09	April-09	June-09
WSDOT	I-5/North Kelso to Castle Rock - Stage 2 - Concrete rehabilitation	$8,104,791	April-09	April-09	May-09
WSDOT	US 97/Centerville Rd to Bickelton Rd & Satus Pass	$3,536,233	April-09	April-09	May-09
WSDOT	I-90/Lake Easton to Bullfrog I/C WB - Concrete - Stage 2	$20,789,432	April-09	April-09	June-09
WSDOT	I-90/Snoqualmie Summit to Hyak WB - Dowel bar retrofit/ Concrete rehabilitation	$3,790,826	April-09	April-09	June-09
WSDOT	US 395 Spokane Co Line to Loon Lake - Paving	$2,176,575	April-09	April-09	May-09
WSDOT	US 2/Jct SR 211 to Newport - Paving	$7,819,040	April-09	May-09	June-09
WSDOT	SR 206/Jct US 2 to Bruce Road	$716,066	April-09	May-09	June-09
WSDOT	I-405/NE 195th to SR 527	$38,414,757	April-09	May-09	◆
WSDOT	I-90/Snoqualmie Pass vicinity - Camera replacement	$60,000	May-09	◆	◆
WSDOT	SR 20 Sherman Pass Highway Advisory Radio Site Upgrade and New radio at US 395/SR 26	$244,788	May-09	May-09	June-09
WSDOT	I-5/Port of Tacoma Rd to King county line - Add HOV	$48,678,860	May-09	June-09	July-09
WSDOT	I-90/Moses Lake - Paving	$4,575,382	June-09	June-09	July-09
WSDOT	SR 501/Ridgefield Interchange - Rebuild interchange	$10,000,000	June-09	June-09	◆
WSDOT	US 195/Hatch Rd to Jct I-90 - Dowel bar retrofit northbound	◆	◆	◆	◆
WSDOT	I-5/Martin Way to 48th St - North & southbound concrete pavement	◆	◆	◆	◆
WSDOT	I-82/Valley Mall Blvd - Rebuild interchange	◆	◆	◆	◆
WSDOT	I-5/Todd Road to Kelso Weigh Station - Paving	◆	◆	◆	◆
WSDOT	Astoria-Megler Bridge South - South end bridge painting	◆	◆	◆	◆
WSDOT	I-90/Lake Easton to Big Creek Bridge eastbound - Concrete	◆	◆	◆	◆
WSDOT	I-5/Tacoma HOV (I-5/Eastbound Nalley Valley Viaduct)	$7,784,925	◆	◆	◆

Data Source: WSDOT Project Control & Reporting Office. Note: A ◆ indicates that a project has not yet reached this stage in the process.

Special Report on Federal Recovery Act-funded Projects

Local Projects

Local projects funded with Recovery Act contributions

*By month of advertisement, in dollars. Project names in **bold type** are substantially complete.*

Agency	Project Title	Recovery Act contribution	Construction obligated?	Advertisement date	Award date
Redmond	NE 36th St Bridge	$4,594,075	Yes	March-09	April-09
Deer Park	Crawford Avenue Phase V	$1,674,431	Yes	March-09	April-09
Conconully	**Main Street/East Lake Street Overlay**	**$126,198**	**Yes**	**April-09**	**April-09**
Lynden	Grover Street	$981,169	Yes	April-09	May-09
Spokane	5-Mile	$112,720	Yes	April-09	May-09
Lynnwood	I-5/196th St SW Interchange Bridge/Ped Improvements	$1,250,000	Yes	April-09	May-09
Sedro Woolley	Fruitdale/McGarigle Road Project & SR9/Township Sidewalk	$134,867	Yes	April-09	May-09
Sedro Woolley	SR9 Pedestrian/Bicycle Safety Improvement Project	-	Yes	April-09	May-09
San Juan county	Fisherman Bay Road (MP 0.43 - 2.19)	$416,620	Yes	April-09	July-09
Spokane Valley	Sprague Avenue Resurfacing Project #1	$2,606,469	Yes	April-09	May-09
Grant county	**L-NE Overlay**	**$487,009**	**Yes**	**April-09**	**May-09**
Jefferson county	Center Road Overlay Phase 4	$358,000	Yes	April-09	May-09
Stevens county	County Wide Pavement Preservation	$980,276	Yes	April-09	June-09
Chelan county	North Road Improvement & Pathway Under Railroad Trestle	$1,021,318	Yes	April-09	May-09
Ellensburg	Canyon Rd Overlay - I-90 to Umptanum Rd	$394,865	Yes	April-09	June-09
Island county	Ault Field Road Widening	$1,357,704	Yes	April-09	June-09
Lacey	Lacey Woodland Regional Trail	$1,000,000	Yes	April-09	May-09
Washougal	SR-14 Pedestrian Tunnel	$281,747	Yes	April-09	June-09
Poulsbo	Viking Ave. Improvements Phase II (McDonald's to SR-305)	$2,729,357	Yes	May-09	June-09
Aberdeen	Heron Street Sidewalk Bulb-out Project	$614,448	Yes	May-09	May-09
Clallam county	Lake Crescent ODT	$335,000	Yes	May-09	June-09
Kennewick	Columbia Overlook - Phase1	$121,863	Yes	May-09	June-09
King county	SW 98th Street Phase I Pedestrian Corridor	$1,270,557	Yes	May-09	June-09
Wahkiakum county / WSDOT	Pave West Little Island Road	$200,000	Yes	May-09	June-09
Cowlitz county	West Side Highway/Whittle Creek Bridge Reconstruction	-	Yes	May-09	June-09
Grandview	Euclid Road Resurfacing Project	$318,327	Yes	May-09	June-09
Snohomish county	Granite Falls Alternate Route	-	Yes	May-09	June-09
Seattle	S. Spokane St. Viaduct	$13,567,568	Yes	May-09	
Spokane county	5 Mile + Strong Rd. - Project 1	$859,000	Yes	May-09	June-09
Spokane county	Rutter Parkway	$346,837	Yes	May-09	June-09
Mountlake Terrace	52nd Ave. Reconstruction Project	$841,977	Yes	May-09	June-09
Prosser	Sheridan Avenue Improvements - Phase I	$474,512	Yes	May-09	June-09
Yakima county	Terrace Heights Drive	$400,000	Yes	May-09	June-09
Everett	Holly Dr. Non-Motorized Improvements	$385,447	Yes	May-09	July-09
Wilbur / WSDOT	Wilbur Walkway to Sports Complex	$160,000	Yes	May-09	June-09
Normandy Park	1st Avenue South, Phase 2A, Multi-modal Enhancements (SW 192 to SW 200)	$3,834,000	Yes	May-09	June-09

Local Projects

Local projects funded with Recovery Act contributions

*By month of advertisement, in dollars. Project names in **bold type** are substantially complete.*

Agency	Project Title	Recovery Act contribution	Construction obligated?	Advertisement date	Award date
Puyallup	Phase III Shaw Road Extension Project	$1,201,971	Yes	May-09	June-09
Mukilteo/ Snohomish county	Harbour Pointe Blvd. Street Reconstruction	$888,692	Yes	May-09	June-09
Kelso	13th Avenue Overlay	$290,587	Yes	May-09	July-09
Adams county	Lee Rd - Phase1	$762,232	Yes	May-09	June-09
Bellingham	2009 Pedestrian Crossing Safety	$308,595	Yes	May-09	June-09
Lincoln county	Kiner Road No. 9115, Phase 1 - M.P. 8.8 to 13.04	$654,000	Yes	May-09	July-09
Pullman	College Hill Arterial Reconstruction	$358,819	Yes	May-09	June-09
Port of Tacoma	Lincoln Ave Grade Separation	$15,408,000	Yes	May-09	July-09
Lewis county	Davis Lake Road MP 0.33 to 2.62	$1,027,000	Yes	June-09	June-09
Lewis county	Jackson Highway MP 1.22 to 2.81	$775,898	Yes	June-09	June-09
Sumas	Bob Mitchell Avenue	$120,000	Yes	June-09	July-09
Thurston county	Steilacoom Road Pedestrian Enhancements	$110,244	Yes	June-09	July-09
Spokane	Fish Lake Trail	$778,317	Yes	June-09	June-09
Olympia	Union Avenue Overlay	$1,098,824	Yes	June-09	July-09
Tumwater	Capitol Boulevard Sidewalk and Bike Lane Project	$360,000	Yes	June-09	July-09
Tumwater	Capitol Boulevard Preservation Project - Dennis to Israel	$234,000	Yes	June-09	July-09
La Conner	Maple Street Overlay and Sidewalks	$146,832	Yes	June-09	July-09
Mason county	Solar Lighted Intersections - Safety	$150,000	Yes	June-09	July-09
Port Angeles	Peabody Street - 5th to 8th	$393,000	Yes	June-09	July-09
Burien	4th Avenue SW Pedestrian Safety Project	$625,000	Yes	June-09	July-09
Cowlitz county	Hall Road Reconstruction	$330,000	Yes	June-09	July-09
Mount Vernon	Laventure/Anderson Extension (Phase 1-Fowler to Blackburn)	$923,769	Yes	June-09	July-09
Orting	SR 162 Rechannelization	$420,000	Yes	June-09	July-09
Clallam county	Mt. Pleasant Road	$569,000	Yes	June-09	July-09
Pacific county	Sandridge Road Overlay & Signalization Project	$588,412	Yes	June-09	July-09
Bainbridge Island	Core 40 Shoulder Widening Program - Blakely Nonmotorized Project - Phase 2	$150,000	Yes	June-09	July-09
Kent	East Valley Highway - S. 212th Street to SR 167	$2,000,000	Yes	June-09	July-09
Skamania county	Cascade Drive Pedestrian Walkway	$13,800	Yes	June-09	July-09
Skamania county	Wind River Road (MP 0.00 - 1.00)	$307,061	Yes	June-09	July-09
Whatcom county	Scott Ditch Bridge	$600,000	Yes	June-09	July-09
Whitman county	Wawawai Road Overlay	$896,000	Yes	June-09	July-09
Stanwood	68th Road Realignment and School Safety Improvement Project	$750,000	Yes	June-09	July-09
Moxee	Beaudry Road Improvement Project	$500,000	Yes	June-09	July-09
Island county	Roadway Preservation	$325,167	Yes	June-09	July-09
Grant county	Bridge #244 - Road 3-NE East Low Canal	$750,000	Yes	June-09	July-09

Special Report on Federal Recovery Act-funded Projects

Local Projects

Local projects funded with Recovery Act contributions

*By month of advertisement, in dollars. Project names in **bold type** are substantially complete.*

Agency	Project Title	Recovery Act contribution	Construction obligated?	Advertisement date	Award date
Cowlitz county	Coal Creek Road Reconstruction	$1,056,593	Yes	June-09	July-09
Yakima	Nob Hill Blvd. Improvements	$766,684	Yes	June-09	July-09
Omak	Okoma Drive/SR215 Sidewalk Project (from 4th Ave. to Jasmine St.)	$118,702	Yes	June-09	July-09
Forks	Bogachiel Way	$160,000	Yes	June-09	July-09
Mason county	McEwan Prairie Road HMA Overlay (Countywide Paver)	$291,298	Yes	June-09	July-09
Tulalip Tribes	116th / 34th Ave NE Fish Passage Culvert	$2,000,000	Yes	June-09	July-09
Rainier	Minnesota Street N of SR 507 Overlay & Enhancements	$784,637	Yes	June-09	July-09
Pend Oreille county	Deer Valley Road: MP 7.84 to 9.55	$471,000	Yes	July-09	July-09
Marysville	Street Overlay Project	$500,000	Yes	July-09	July-09
Asotin county	Scenic Way Pavement Overlay Project	$641,147	Yes	June-09	◆
Kittitas county	Guardrail Hazard Elimination Projects (Safety)	$530,000	Yes	June-09	◆
Kittitas county	Yakima River Canyon Center Phase 1	$50,000	Yes	June-09	◆
Castle Rock	Riverfront Trail Restoration	$66,578	Yes	June-09	◆
Ferry county	Bridge Creek Top East	$370,000	Yes	June-09	◆
Thurston county	Prairie Creek Bridge Replacement	$1,050,000	Yes	June-09	◆
Thurston county	Old Highway 99 Turn Lane, N of Great Wolf Lodge	$280,000	Yes	June-09	◆
Union Gap	N Rudkin, and Main/Ahtanum Rd Intersection Overlay	$322,000	Yes	June-09	◆
Union Gap	Wide Hollow Creek Pathway - Phase 2	$158,643	Yes	June-09	◆
Benton county	Webber Canyon Road: Kiona to I-82 and Kiona Roads	$1,200,000	Yes	June-09	◆
Klickitat county	South Columbus (MP 0.77 to 3.16)	$535,000	Yes	June-09	◆
Klickitat county	Bickleton Hwy (MP 6.64 to 8.22)	$255,000	Yes	June-09	◆
Naches	2nd Street and 3rd Street Resurfacing Project	$326,000	Yes	June-09	◆
Renton	Rainier Avenue South (SR 167) Improvements Project – Phase 1: Shattuck Avenue Stormwater Bypass	$2,000,000	Yes	June-09	◆
Tenino	Sussex Avenue Street Illumination	$554,000	Yes	June-09	◆
Toppenish	S. Toppenish Ave. and Washington Ave. Improvements	$320,000	Yes	June-09	◆
Franklin county	CRP 596 R170 Landslide Area - Phase I	$750,000	Yes	June-09	◆
Sequim	East & West Washington St Sidewalk Improvements	$170,000	Yes	June-09	◆
Selah	Speyers Rd Improvements	$1,598,000	Yes	June-09	◆
Blaine	Boblett Street	$348,000	Yes	July-09	◆
Dayton	Dayton Ave Overlays	$225,000	Yes	July-09	◆
Dayton	West Dayton Street Beautification	$148,593	Yes	July-09	◆
Harrah	Harrah Road Improvements	$360,000	Yes	July-09	◆
Kalama	First Street Phase II	$416,250	Yes	July-09	◆
Moses Lake	Lakeshore & Peninsula Reconstruction 2009	$1,200,000	Yes	July-09	◆
Port Townsend	Upper Sims Way Improvement Project - A/B	$1,959,623	Yes	July-09	◆

Note: A ◆ indicates that a project has not yet reached this stage in the process.

Local Projects

Local projects funded with Recovery Act contributions

*By month of advertisement, in dollars. Project names in **bold type** are substantially complete.*

Agency	Project Title	Recovery Act contribution	Construction obligated?	Advertisement date	Award date
Richland	First Street Improvements	$1,600,000	Yes	July-09	◆
Grant county	Fairgrounds Path	$56,894	Yes	July-09	◆
Ferndale	2nd Avenue	$1,541,000	Yes	July-09	◆
Oroville	5th Ave./97 to 23rd Ave./97 (SR 97 MP 331.22 to 332.7)	$1,055,000	Yes	July-09	◆
Arlington	188th Street Pedestrian Trail	$122,000	Yes	July-09	◆
Wapato	Camas Ave Grind and Overlay Project	$312,000	Yes	July-09	◆
Wenatchee	Historic Pipeline/Pedestrian Bridge	$1,506,749	Yes	July-09	◆
Hoquiam	City Wide Pedestrian Safety and Mobility Improvement Phase II	$195,000	Yes	July-09	◆
Port of Everett / Everett	W Marine View Dr Roadway Ped/Bike Corridor Improvements (11th to 16th)	$1,900,000	Yes	July-09	◆
Colfax	Fairview Street Overlay	$192,000	Yes	July-09	◆
Edmonds	Annual Asphalt Overlay	$1,000,000	Yes	July-09	◆
Wahkiakum county.	Ferrry Terminal	$590,000	Yes	July-09	◆
Cheney	Spangle Road Improvement Project	$700,000	Yes	July-09	◆
Sammamish	East Lake Sammamish Parkway-NE Inglewood Hill Road to NE 28th Place	$3,500,000	Yes	July-09	◆
Eatonville	SR 161: Rural Town Center & Corridor Program	$825,000	Yes	July-09	◆
Benton City	7th Street: Ellen Ave to North City Limits	$207,000	Yes	July-09	◆
Kettle Falls	Kettle Falls Ped Improvements	$43,174	Yes	July-09	◆
Chewelah	Court St Bridge Replacement	$350,000	Yes	July-09	◆
Sunnyside	Yakima Valley Hwy at Lincoln Ave Intersection	$150,000	Yes	July-09	◆
Ridgefield	Hillhurst Rd Overlay Project	$200,000	Yes	July-09	◆
Walla Walla	13th Avenue Improvements: Rose to Rees	$1,980,000	Yes	July-09	◆
College Place	Whitman Drive MultiUse Path	$58,000	Yes	July-09	◆
Ilwaco	Beards Hollow Overlook	$100,000	Yes	◆	◆
Port of Seattle	East Marginal Way Grade Separation	$3,405,925	Yes	◆	◆
Garfield county	County Wide Pavement Preservation	$230,915	Yes	Local Forces	◆
Jamestown S'Klallam Tribe	Jamestown Community Center-Blyn Rd Trail	$111,000	Yes	Local Forces	◆
Battle Ground	North Parkway Improvement, N 5th to Onsdorff	$450,000	No		
Bothell	North Creek Trail - Section 1, Stage 2 (Schnitzer)	$500,000	No		
Bothell	North Creek Trail - Section 2, Stage 2 (Canyon Park)	$600,000	No		
Camas	Leadbetter Drive, Lake Rd. to Parker St.	$450,000	No		
Clark county	NE 99th Street, SR-503 to NE 137th Ave	$2,500,000	No		
McCleary	Simpson Ave Sidewalks	$134,309	No		

Note: A ◆ indicates that a project has not yet reached this stage in the process.

Special Report on Federal Recovery Act-funded Projects

Local Projects

Local projects funded with Recovery Act contributions

*By month of advertisement, in dollars. Project names in **bold type** are substantially complete.*

Agency	Project Title	Recovery Act contribution	Construction obligated?	Advertisement date	Award date
Pasco	Powerline Road	$750,000	No		
Tier Two Projects					
Port of Bremerton	South Kitsap Industrial Area Connector Phase 1	$3,000,000	No		
Port of Vancouver	West Vancouver Freight Access Project	$2,500,000	No		
Spokane	Havana St Bridge	$2,537,280	No		
Spokane county	5 Mile + Strong Rd. - Project 2	$331,000	No		
Vancouver	Downtown Vancouver Waterfront Access Project	$2,500,000	No		
Poulsbo	Viking Ave. Improvements Phase IIIA	$1,070,643	No		
Lake Stevens	Lundeen Parkway Roundabout	$920,000	No		
Monroe	US 2/Chain Lake Road/SR 203 Intersection Improvements	$2,949,331	No		
Projects transferred to other Federal Agency					
Lummi Nation	Haxton Way / Red River Pedestrian Path Transferred to Bureau of Indian Affairs.	$250,000	Yes	◆	◆
Skokomish Tribe	SR 101/t3ba'das Parkway Intersection & Safety Improvements Transferred to Bureau of Indian Affairs.	$821,061	Yes	◆	◆
Port of Pasco	Intermodal Rail Project Phase 5 Transferred to FRA.	$220,000	Yes	◆	◆
Community Transit	Mountlake Terrace Park-N-Ride (Upper Parking Area) Transferred to FTA.	$425,000	Yes	◆	◆
Projects cancelled					
Grays Harbor county	Wynoochee-Wishkah Road 13 Corners Realignment Project denied funding per FHWA 6/18/09.	-	-	Cancelled	
Island county	Bicycle Touring Enhancement	-	-	Cancelled	
Klickitat county	Foster Loop Trail, Phase 1	-	-	Cancelled	

Data Source: WSDOT Project Control & Reporting Office, Highways and Local Programs Office.

Note: A ◆ indicates that a project has not yet reached this stage in the process.

WSDOT's Capital Project Delivery Program

Highway Construction: Nickel and TPA Project Delivery Performance Overview

Since 2003, WSDOT has delivered a total of 194 Nickel and Transportation Partnership Account (TPA) projects for $2.546 billion, on target with the Legislative budget expectation.

WSDOT delivers eight projects during the fourth quarter of FY 2009

WSDOT's cumulative capital program delivery performance remained steady at 78% of projects delivered both on-time and on-budget through the fourth quarter of FY 2009. Although all three Nickel projects were completed on time, only 40% of the five TPA projects were completed according to schedule during the first part of a 2009 busy construction season. Several projects were delayed due to the time needed to redesign foundations to suit difficult geological conditions.

Among the quarter's most important completed projects was replacement of the eastern half of the Hood Canal Bridge. A full close-out report will appear in next quarter's *Gray Notebook*; for this quarter's report on activities, please turn to page 84.

On-time and on-budget performance on individual projects remained steady

For the 194 highway projects completed from 2003 through June 30, 2009, changes from the previous quarter are:

- On-time delivery performance remained steady at 90%;
- On-budget performance improved slightly to 88%;
- On-time and on-budget project delivery performance remained steady at 78%.

81 Nickel and TPA projects under construction or advertised for construction

This quarter, nine new projects were advertised for construction. Two projects advertised earlier than scheduled, four projects were advertised late, and the rest were on time. Six projects are pending contract award amount, but the remaining projects have been awarded for a cumulative construction contract total of $1.84 million.

21 projects totaling an estimated $295 million at completion are scheduled to advertise by December 31, 2009

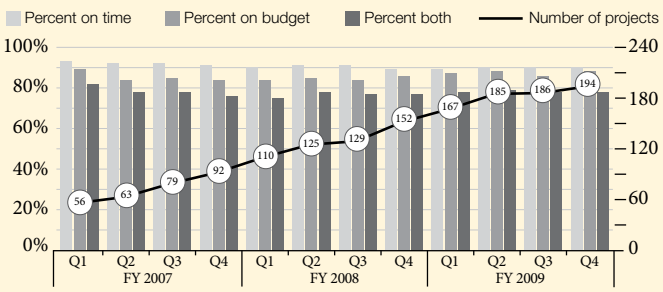
Six significantly sized projects have budgets of between $29 million and $58 million; all but five are on their original schedule, and two have been advanced to advertise earlier.

Project information in the Schedule, Scope and Budget tables

The Beige Pages report the agency's project delivery performance against the most recent Legislative baseline (for the quarter reported, this is the 2008 supplemental budget). With this quarter, WSDOT ends the fiscal year and the 2007-2009 biennium; the Beige Pages in this *Gray Notebook* reflect the eighth quarter results. The September 30, 2009, edition will provide biennial roll-up reporting and will set out the 2009 budgetary information used to benchmark the next biennium's progress.

However, those projects previously held on Watch List pending Legislative decisions taken during the spring 2009 legislative session have used the new budget to explain decisions made regarding risks to schedule or budget. Details on those changes will be added in the Beige Pages tables next quarter.

Cumulative performance of Nickel and TPA projects
As of June 30, 2009



Data Source: WSDOT Project Control and Reporting.

Project Delivery Highlights for Nickel and TPA combined:

Both Nickel and TPA programs are 100% on or under their total legislative baseline of $2.546 billion to date.

90% of all Nickel and TPA projects combined were completed early or on time, unchanged from last quarter's results.

88% of Nickel and TPA projects combined are under or on budget, a two percent improvement over last quarter.

78% of Nickel and TPA projects combined were both on time and on budget, remaining steady from last quarter.

For details of WSDOT's Federal Recovery Act-funded projects and activities, please turn to pages 46-54.

WSDOT's Capital Project Delivery Program

Highway Construction: Nickel and TPA Performance Dashboard

Each quarter, WSDOT provides a detailed update on the delivery of the highway capital programs in the *Gray Notebook* and on the web (at www.wsdot.wa.gov) through the Project Pages and Quarterly Project Reports. The *Gray Notebook*'s Beige Pages generally do not include planning studies or projects that do not have a construction phase. Pre-Existing Funds (PEF) projects are budgeted by program for the improvement and preservation of the highway system, and the delivery of the work is reported programmatically in six categories.

Highway construction performance dashboard

As of June 30, 2009; Dollars in thousands

	Nickel (2003)	TPA (2005)	Combined Nickel & TPA	Pre-Existing Funds (PEF)
Total number of projects	**153**	**238**	**391**	**766**
Total program budget *	**$3,946,466**	**$9,415,872**	**$13,362,338**	**$4,676,341**
Schedule, Scope, and Budget Summary: Results of completed projects				
Cumulative to date, 2003 – June 30, 2009	For Nickel and TPA details, see pages 58-64			See pages 96-101
Total cumulative number of projects completed	111	83	194	
% Completed early or on time	89%	88%	89%	
% Completed within scope	100%	100%	100%	
% Completed under or on budget	90%	84%	88%	
% Completed on time and on budget	82%	73%	78%	
Baseline estimated cost at completion	$1,754,329	$778,857	$2,533,186	
Current estimated cost at completion	**$1,762,651**	**$785,849**	**$2,548,500**	
% of total program over or under budget	0.5% Over	0.9% Over	0.6% Over	
Biennium to date, 2007-09				
Total number of projects completed in 2007-09	**42**	**60**	**102**	**298**
% Completed early or on time	86%	87%	86%	-
% Completed within scope	100%	100%	100%	-
% Completed under or on budget	90%	88%	89%	-
% Completed on time and on budget	81%	77%	78%	-
Baseline estimated cost at completion	$1,000,426	$763,938	$1,764,364	$1,592,927
Current estimated cost at completion	$998,597	$771,135	$1,769,732	$1,591,571
Advertisement Record: Results of projects entering into the construction phase or under construction				
Cumulative to date, 2003 – June 30, 2009	For Nickel and TPA details, see pages 65-70			See pages 96-101
Total number of projects in construction phase	**20**	**61**	**81**	**N/A**
% Advertised early or on time	75%	79%	78%	-
Total award amounts to date	$635,468	$477,657	$1,113,125	-
Biennium to date, 2007-09				
Total advertised	**15**	**55**	**70**	**261**
% Advertised early or on time	80%	78%	79%	80%
Total award amounts to date	$400,657	$349,636	$750,293	N/A
Advertisement Schedule for projects in the pipeline: Results of projects now being advertised for construction or planned to be advertised				
June 1, 2009 through December 31, 2009	For Nickel and TPA details, see pages 71-72			See pages 99-101
Total projects being advertised for construction bids	**2**	**19**	**21**	**18**
% on or better than schedule	100%	74%	76%	-

Data Source: WSDOT Project Control & Reporting. * per 2005-2007 Transportation Budget, Section 603.

Rail and Ferries Construction: Nickel and TPA Performance Dashboard

A total of seven Nickel projects and four Transportation Partnership Account (TPA) rail construction projects have been delivered on time and on budget as of June 30, 2009 (100% on-time, 100% on-budget) for $41.9 million. Ten projects (five Nickel-funded, five TPA-funded) in construction have total award amounts of $40.4 million. No additional rail projects are planned to advertise prior to December 31, 2009.

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

Rail construction performance dashboard *As of June 30, 2009; dollars in thousands*	**Nickel (2003)**	**Transportation Partnership Account**	**Combined Nickel & TPA**
Schedule, scope and budget summary: completed projects			
Cumulative to date, 2003 – June 30, 2009	7	4	11
% 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	$26,965	$14,965	$41,930
Current estimated cost at completion	$26,965	$14,965	$41,930
% 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	5	5	10
% Advertised early or on time	60%	60%	60%
Total award amounts to date	$27,996	$12,421	$40,417
Advertisement schedule: projects now being advertised or planned to advertise			
June 1, 2009 through December 31, 2009			
Total being advertised for construction	0	0	0
% On schedule or earlier	N/A	N/A	N/A

Ferries construction performance dashboard *As of June 30, 2009; dollars in thousands*			
Advertisement record: projects under construction or entering construction phase			
Cumulative to date, 2003 – June 30, 2009			
Total number of projects in construction phase	3	1	4
% Advertised early or on time	100%	100%	100%
Total award amounts to date	$10,712	$45,239	$55,951
Advertisement schedule: projects now being advertised or planned to advertise			
June 1, 2009 through December 31, 2009			
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

194 Highway projects completed as of June 30, 2009

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

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
Biennium to date (2007-09)									
Adams and Franklin Co — Roadside safety improvements (Adams, Franklin) Advertisement date was delayed to complete cultural resource survey and environmental permits. The operationally complete date was delayed until spring due to the time required for the contractor to purchase and receive steel components.	TPA	$1,000 *2005*	Late	Late	√	$1,000	$901	Under	
SR 14/Benton Co — Roadside safety improvements (Benton)	TPA	$800 *2005*	√	Early	√	$1,691	$1,518	Under	√
SR 24/SR 241 to Cold Creek Rd — Add passing lanes (Benton, Yakima)	TPA	$3,800 *2005*	√	Early	√	$5,145	$4,434	Under	√
US 2/Wenatchee — Build trail connection (Chelan)	TPA	$1,100 *2005*	Early	√	√	$1,835	$1,835	√	√
US 2/US 97 Peshastin east — New interchange (Chelan)	Nickel	$25,350 *2003*	√	Early	√	$21,935	$21,934	√	√
US 2/Roadside safety improvements — Safety (Chelan) The operationally complete date was incorrectly reported in September 2008 Gray Notebook as October 2008. The correct date is August 2008.	TPA	$800 *2005*	√	Early	√	$800	$800	√	√
US 2/Dryden — Install signal (Chelan)	Nickel	$320 *2003*	√	√	√	$498	$498	√	√
East Olympic Peninsula — Roadway safety improvements (Clallam, Jefferson, Kitsap, Mason, Pierce) Delays to both materials procurement and the ad date contributed to a delayed operationally complete date	TPA	$2,900 *2005*	√	Late	√	$2,900	$3,196	Over	
West Olympic Peninsula — Roadway safety improvements (Clallam, Grays Harbor, Jefferson)	TPA	$2,000 *2005*	√	√	√	$2,000	$1,141	Under	√
US 101/Blyn vicinity — Add passing lanes (Clallam)	Nickel	$2,085 *2003*	√	√	√	$4,381	$3,510	Under	√
SR 112/Neah Bay to Sekiu — Roadside safety improvements (Clallam)	TPA	$10,373 *2005*	√	√	√	$10,373	$7,199	Under	√
SR 112/Seiku vicinity to US 101 — Install guardrail (Clallam)	TPA	$1,800 *2005*	√	√	√	$1,800	$1,388	Under	√

Schedule, Scope and Budget Summary

194 Highway projects completed as of June 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 112/Hoko and Pysht Rivers — Erosion control (Clallam)	TPA	$250 *2005*	Early	Early	√	$250	$146	Under	√
This project is now closed after a lengthy evaluation subsequent to state forces repair work completed in December 2006 that corrected the deficiencies at the time.									
I-5/SR 502 interchange — Build interchange (Clark)	Nickel	$34,730 *2003*	√	Early	√	$51,748	$52,551	√	√
SR 14/Lieser Rd interchange — Add ramp signal (Clark)	TPA	$1,000 *2005*	Early	Early	√	$973	$833	Under	√
SR 500/I-205 interchange — Extend merge lane (Clark)	TPA	$975 *2005*	Early	Early	√	$1,002	$690	Under	√
SR 502/10th Ave to 72nd Ave — Safety improvements (Clark)	TPA	$1,215 *2005*	Early	√	√ *	$736	$434	Under	√
* Project scope reduced to low-cost operational enhancements after TPA program funded a widening project in the same corridor									
SR 503/Gabriel Rd Intersection (Clark)	TPA	$773 *2005*	√	Early	√ *	$501	$501	√	√
* Presence of potential hazardous waste site raised construction costs to a point exceeding the projected benefits of building the right turn lane. Project scope reduced to low-cost operational enhancements during the 2007 legislative session.									
I-5/Lexington vicinity — Construct new bridge (Cowlitz)	Nickel	$5,000 *2003*	√	√	√	$5,000	$5,000	√	√
SR 432/Roadside safety improvements (Cowlitz)	TPA	$600 *2005*	Early	Early	√	$616	$470	Under	√
SR 260,263, and 278 — Upgrade Guardrail (Franklin, Spokane, Whitman)	Nickel	$1,025 *2005*	Late	Late	√	$1,054	$883	Under	
Advertisment date was delayed to complete cultural resource survey and environmental permits. The operationally complete date was delayed until spring due to the 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	$166 *2006*	√	Early	√	$266	$106	Under	√
US 12/SR 127 to Clarkston — Roadside safety improvements (Garfield, Columbia)	TPA	$1,900 *2005*	√	Early	√	$307	$115	Under	√
SR 17/Pioneer Way to Stratford Rd — Widen to four lanes (Grant)	TPA	$15,215 *2005*	√	Early	√	$20,989	$20,985	√	√
US 12/Clemons Rd vicinity — Intersection improvements (Grays Harbor)	TPA	$2,500 *2005*	√	Early	√	$1,455	$1,044	Under	√
US 12/Wynoochee River Bridge — Upgrade bridge rail (Grays Harbor)	Nickel	$43 *2005*	Late	√	√	$257	$202	Under	√
Advertisement date delayed to tie this project with another for efficiency.									
US 101/Quinault River Bridge — Upgrade bridge rail (Grays Harbor)	Nickel	$51 *2005*	Late	√	√	$268	$229	Under	√
Advertisement date changed to balance with Nickel Bridge Rail retrofit allocation.									
SR 105/Johns River Bridge — Upgrade bridge rail (Grays Harbor)	Nickel	$68 *2005*	Late	√	√	$338	$263	Under	√
Advertisement date changed to balance with Nickel bridge rail retrofit allocation.									
US 101/Mt Walker — Add passing lane (Jefferson)	TPA	$2,500 *2005*	Late	√	√	$3,550	$2,073	Under	√
Advertisement date delayed for possible redesign of structural elements. Redesign was deemed unnecessary and the project was advertised in 4/07.									

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

194 Highway projects completed as of June 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 116/SR 19 to Indian Island — Upgrade bridge rail (Jefferson)	Nickel	$154 *2005*	Late	Late	√	$475	$570	Over	
Advertisement date delayed due to Dept of Archaeology & Historic Preservation (DAHP) review required for this project.									
I-405/Bridges — Seismic (King)	TPA	$1,265 *2007*	√	Early	√	$1,580	$1,482	Under	√
SR 410 and SR 164 — Roadside safety improvements (King)	TPA	$1,200 *2005*	√	Early	√	$1,200	$1,188	√	√
I-5/Pierce Co Line to Tukwila interchange — Add HOV lanes (King)	Nickel	$55,200 *2003*	Early	Late	√	$142,593	$139,803	√	
The delay in operationally complete date, from May 2007 to July 2007, was due to poor weather that reduced the number of workable contract days.									
I-5/S Seattle northbound Viaduct — Bridge paving (King)	TPA	$11,389 *2005*	√	Early	√	$14,360	$15,911	Over	
Project was over budget due to increased quantities for polyester concrete, project security, and additional contractor incentive payment.									
I-5/SB Viaduct, South Seattle vicinity — Bridge Repair (King)	TPA	$3,910 *2005*	√	Early	√	$1,108	$1,142	√	√
Project was over budget due to increased traffic control and additional contractor incentive payment.									
I-90/Two Way Transit — Transit and HOV — Stage 1 (King)	TPA	$15,000 *2003*	Late	Early	√	$20,504	$17,636	Under	√
Advertisement date delayed to obtain Agreement of Access with Mercer Island.									
I-90/Eastbound Ramps to SR 18 — Add signal and turn lanes (King)	Nickel	$3,354 *2003*	√	Early	√	$5,012	$4,843	√	√
I-90/Eastbound Ramps to SR 202 — Construct roundabout (King)	Nickel	$932 *2003*	√	√	√	$1,832	$1,843	√	√
SR 99/S 284th to S 272nd St — Add HOV lanes (King)	Nickel	$13,204 *2003*	√	√	√	$15,404	$14,930	√	√
SR 99/Alaskan Way Viaduct Yesler Way vicinity — Stabilize Foundation (King)	TPA	$4,472 *2008*	√	√	√	$4,637	$4,637	√	√
SR 167/15th St SW to 15th St NW — Add HOV lanes (King)	Nickel	$39,600 *2003*	√	Early	√	$41,491	$44,103	Over	
Operational complete date 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. In addition, electrical work meshed more efficiently with the adjacent HOT lane project. WSDOT asked OFM for funds to cover the higher costs.									
SR 167 HOT Lanes Pilot Project — Managed lanes (King)	TPA	$13,780 *2005*	Early	Early	√	$17,877	$18,806	Over	
The project is operationally complete but over budget due to higher-than-expected construction costs for sign bridges, retaining walls, and environmental work. Traffic control costs were higher than initially estimated; contractor used night lane closures during summer 2008 in order to meet construction schedule,									
SR 169/SE 291st St vicinity (formerly SE 288th Street) — Add turn lanes (King)	TPA	$1,600 *2005*	√	√	√	$2,606	$2,445	Under	√
SR 202/Jct SR 203 — Construct roundabout (King)	Nickel	$2,803 *2005*	√	Late	√	$3,950	$3,161	Under	
Operationally complete date was delayed when project was shut down due to severe weather conditions.									
I-405/SR 520 to SR 522 — Widening (King)	Nickel	$163,735 *2003*	√	√	√	$87,293	$81,445	Under	√
SR 515/SE 182nd St to SE 176th St Vic — Construct traffic island (King)	TPA	$900 *2005*	Late	√	√	$1,701	$1,530	Under	√
Advertisement date delay due to utility relocation issues.									

Schedule, Scope and Budget Summary

194 Highway projects completed as of June 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 516/208th and 209th Ave SE — Add turn lanes (King)	Nickel	$1,443 *2003*	Late	Late	√	$1,881	$2,367	Over	
Delays by the utility company in turn delayed construction into late fall; heavy rains delayed the schedule further and added labor and equipment costs.									
SR 522/I-5 to I-405 — Multimodal improvements (King)	TPA	$9,681 *2003*	Early	Early	√	$22,581	$22,449	√	√
SR 3/SR 303 interchange (Waaga Way) — Construct ramp (Kitsap)	Nickel	$15,179 *2003*	√	√	√	$24,828	$26,139	Over	
Increase was due to change orders to cover over-runs in erosion control, traffic control, and slope maintenance.									
SR 3/Imperial Way to Sunnyslope — Add lanes (Kitsap)	TPA	$2,544 *2005*	Late	Early	√	$2,911	$1,547	Under	√
Advertisement date delayed due to unresolved utilities issues.									
US 97/Klickitat County — Roadside safety improvements (Klickitat)	TPA	$1,000 *2005*	√	Early	√	$1,000	$701	Under	√
SR 7/Lewis County — Roadside safety improvements (Lewis)	TPA	$1,700 *2005*	√	Early	√	$1,680	$806	Under	√
Lincoln County — Roadside safety improvements (Lincoln)	TPA	$1,010 *2005*	√	Early	√	$1,010	$846	Under	√
US 101/SR 3 on-ramp to US 101 northbound — Add new ramp (Mason)	TPA	$3,000 *2005*	Early	√	√	$4,240	$3,811	Under	√
Advancement was made to complete this work prior to the scheduled closing of Hood Canal Bridge.									
US 97/Brewster vicinity — Install lighting (Okanogan)	TPA	$150 *2005*	Early	Early	√	$196	$196	√	√
SR 401/US 101 to east of Megler Rest Area vicinity — Upgrade guardrail (Pacific)	Nickel	$130 *2005*	Early	Early	√	$296	$141	Under	√
Pierce and Thurston Co — Roadside safety improvements (Pierce, Thurston)	TPA	$1,000 *2005*	√	Early	√	$1,000	$936	Under	√
I-5/S 48th to Pacific Ave — Add HOV lanes (Pierce)	Nickel	$92,987 *2003*	√	√	√	$105,546	$105,339	√	√
SR 7/SR 507 to SR 512 — Safety improvements (Pierce)	Nickel	$11,429 *2003*	√	Late	√	$20,268	$21,067	√	
The operationally complete date was delayed due to additional time needed for signal system installation, which delayed paving and sidewalk work.									
SR 161/SR 167 Eastbound Ramp — Realign ramps (Pierce)	Nickel	$2,039 *2003*	√	√	√	$3,066	$2,819	Under	√
SR 9, SR 11, and SR 20 — Roadside safety improvements (Skagit)	TPA	$1,400 *2005*	√	√	√	$1,400	$1,642	Over	
Project was completed over budget because additional elements (guardrail in several new locations, replacing two school flashing beacon signs) were added to reflect high traffic volumes and to help reduce accidents on SR 9.									
SR 20/Ducken Rd to Rosario Rd — Add turn lanes (Skagit, Island)	Nickel	$4,393 *2003*	Late	√	√	$8,505	$8,425	√	√
Advertisement date delayed due to environmental permitting issues.									
SR 20/Thompson Road — Add signal (Skagit)	TPA	$775 *2005*	Early	√	√	$1,038	$938	Under	√
SR 530/Sauk River (Site #2) — Stabilize river bank (Skagit)	TPA	$3,750 *2005*	Early	Early	√	$3,335	$3,298	√	√

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

194 Highway projects completed as of June 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
US 2 and SR 92 — Roadside safety improvements (Snohomish)	TPA	$1,200 *2005*	√	Late	√	$1,232	$1,145	Under	
The operationally complete date was delayed because project was shut down due to winter weather and unavailable materials.									
US 2/Fern Bluff to Sultan Startup — Stormwater drainage improvements (Snohomish)	TPA	$799 *2005*	√	Early	√	$1,012	$461	Under	√
US 2/10th St intersection vicinity — Stormwater drainage improvements (Snohomish)	TPA	$441 *2005*	√	√	√	$534	$211	Under	√
US 2/Pickle Farm Road and Gunn Road — Add turn lanes (Snohomish)	Nickel	$973 *2003*	Late	√	√	$1,322	$1,257	√	√
Advertisement date delayed to address design deviations and late addition of consultant staff.									
I-5/SR 526 to Marine View Drive — Add HOV lanes (Snohomish)	Nickel	$246,286 *2003*	Early	√	√	$220,575	$221,314	√	√
I-5/41st St Interchange — Widening and rebuild ramps (Snohomish)	TPA	$40,400 *2005*	Early	√	√	$42,844	$42,635	√	√
SR 9/SR 522 to 228th St SE, Stages 1a and 1b — Add lanes (Snohomish)	Nickel	$22,500 *2003*	√	√	√	$22,840	$23,851	Over	√
Project was over budget due to higher than anticipated costs associated with erosion control and water removal. Work on the project was suspended in December 2007 and moved to February 2008 to avoid adverse impacts to wetlands adjacent to the project site during winter weather.									
SR 9/228th St SE to 212th St SE (SR 524), Stage 2 — Add lanes (Snohomish)	Nickel	$22,283 *2003*	√	√	√	$31,181	$31,121	√	√
SR 9/108th Street NE (Lauck Road) — Add turn lanes (Snohomish)	Nickel	$1,353 *2003*	√	√	√	$1,846	$1,721	Under	√
SR 9/Schloman Rd to 256th St NE — New Alignment (Snohomish)	Nickel	$15,952 *2003*	Late	Early	√	$16,137	$16,738	√	√
Advertisement date delayed due to additional time needed to acquire environmental permits and right-of-way parcels.									
SR 9/252nd St NE vicinity — Add turn lane (Snohomish)	Nickel	$881 *2003*	Late	Early	√	$1,731	$1,693	√	√
Advertisement date delayed due to additional time needed to acquire environmental permits and right-of-way parcels.									
SR 9/268th St intersection — Add turn lane (Snohomish)	Nickel	$2,765 *2003*	Late	Early	√	$2,833	$2,608	Under	√
Advertisement date delayed due to additional time needed to acquire environmental permits and right-of-way parcels.									
SR 99/north of Lincoln Way — Construct sidewalks (Snohomish)	TPA	$931 *2005*	√	√	√	$1,557	$1,247	Under	√
SR 531/Lakewood Schools — Construct sidewalks (Snohomish)	TPA	$460 *2005*	Early	√	√	$705	$495	Under	√
I-90/Latah Creek and Lindeke St Bridges — Upgrade bridge rail (Spokane)	Nickel	$737 *2005*	√	Early	√	$813	$810	√	√
I-90/Harvard Rd pedestrian bridge — Construct bridge (Spokane)	TPA	$332 *2005*	√	√	√	$1,333	$1,362	√	√
SR 902/Medical Lake Interchange — Intersection improvements (Spokane)	TPA	$600 *2005*	Late	√	√	$743	$817	Over	
The current estimated cost to complete this project includes $246,000 received in developer mitigation funding. When these additional funds are added to the current Legislative Expectation Baseline for this project, it was actually completed within budget.									
SR 25/Spokane River Bridge — Upgrade bridge rail (Stevens, Lincoln)	Nickel	$354 *2005*	√	√	√	$369	$249	Under	√

Schedule, Scope and Budget Summary

194 Highway projects completed as of June 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 25/Columbia River Bridge — Upgrade bridge rail (Stevens)	Nickel	$448 *2005*	√	√	√	$468	$408	Under	√
SR 4/Svensen's Curve (Wahkiakum)	Nickel	$6,714 *2005*	√	√	√ *	$1,637	$1,637	√	√
* Real estate and construction costs escalated to a point exceeding the projected benefits of straightening the curve. Project scope reduced to low-cost operational enhancements during the 2007 legislative session.									
US 12/Attalia vicinity — Add lanes (Walla Walla)	Nickel	$10,333 *2003*	√	Early	√	$16,201	$15,960	√	√
SR 542 and SR 547 — Roadside safety improvements (Whatcom)	TPA	$1,300 *2005*	√	√	√	$1,284	$601	Under	√
SR 542/Boulder Creek Bridge — Replace bridge (Whatcom)	TPA	$6,025 *2005*	Late	Late	√	$7,258	$6,146	Under	
Advertisement date delayed due to time required to analyze alternative bridge footings, in turn delaying environmental review and permitting process. Operationally complete date delayed when demolition of the old bridge missed the 2007 fish passage window and was rescheduled to 2008: final embankments for the new bridge could not be constructed with old bridge still in place.									
SR 543/I-5 to Canadian Border — Add lanes (Whatcom)	Nickel	$33,897 *2003*	Late	Early	√	$49,013	$50,685	√	√
Advertisement date delayed due to delays in acquiring right of way.									
Whitman and South Spokane counties — Roadside safety improvements (Whitman, Spokane)	TPA	$1,000 *2005*	Late	Late	√	$1,000	$899	Under	
Advertisment date delayed to complete cultural resource survey and environmental permits. The operationally complete date was delayed until spring due to the time required for contractor to purchase and receive steel components of the guardrail system.									
SR 270/Pullman to Idaho state line — Add lanes (Whitman)	Nickel	$30,619 *2003*	Late	√	√	$31,188	$31,188	√	√
Advertisement date 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.									
US 12/Naches River north of Yakima — Stabilize slopes (Yakima)	TPA	$1,600 *2005*	√	√	√	$2,985	$2,976	√	√
SR 241/Rattlesnake Hills vicinity — Roadside safety (Yakima, Benton)	TPA	$250 *2005*	Late	Early	√	$2,170	$1,811	Under	√
Advertisment date delay due to environmental permitting issues.									
SR 410/Rattlesnake Creek — Stabilize slopes (Yakima)	TPA	$250 *2005*	√	Early	√	$331	$269	Under	√
SR 823/Goodlander to Harrison Rd — Build sidewalk (Yakima)	TPA	$376 *2005*	√	Early	√	$993	$1,163	Over	
Cost increases were due to design changes for utility relocation and right-of-way easements, as well as material cost escalation and inf ation. Cost increases were covered by pre-existing funds.									
Current quarter									
US 101/Sol Duc River Bridge — Upgrade bridge rail (Clallam)	Nickel	$46 *2005*	√	Early	√	$386	$216	Under	√
I-5 Guardrail Retrofit - Safety (King)	Nickel	$2,497 *2007*	√	Early	√	$3,269	$2,220	√	√
I-5/Boston St to East Shelby St — Southbound I-5, west side — Noise wall (King)	TPA	$15,820 *2005*	√	Late	√	$19,946	$8,819	Under	
Operationally complete date was delayed due to difficulties in constructing the foundation, which used a non-standard foundation design.									

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

194 Highway projects completed as of June 30, 2009

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

Project Description	Fund type	Original appro-priation & *year*	On time advertised	On time completed	Within scope	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 509/SR 518 Interchange — Signalization and channelization (King)	TPA	$6,250 *2005*	Early	Late	√	$5,841	$5,887	√	
Project changes due to unsuitable soils found at the site delayed the operationally complete date. Wall No. 3 was deleted from the design and a different installation method was required for Wall No. 1.									
SR 518/SeaTac Airport to I-5 — Eastbound widening (King)	TPA	$30,000 *2005*	√	Late	√	$35,633	$35,824	√	
Project changes due to unsuitable soils found at the site delayed the operationally complete date. Wall No. 3 was deleted from the design and a different installation method was required for Wall No. 1.									
SR 104/Hood Canal Bridge — Replace east half (Kitsap, Jefferson)	TPA	$453,412 *2005*	√	√	√	$470,085	$506,133	Over	
Increase due to higher labor and material costs for construction of pontoons, machinery installation, and superstructure work.									
I-5/Rush Rd to 13th St — Add lanes (Lewis)	Nickel	$41,000 *2003*	√	Early	√	$50,698	$52,856	√	√
SR 3/Jct US 101 to Mill Creek — Safety (Mason)	TPA	$2,000 *2005*	√	Early	√	$2,299	$478	Under	√

Source: WSDOT Project Control and Reporting Office

Biennial totals 2007-2009

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

	Percent on time advertised	Percent on time completed	Percent within scope	Current Legislative expectation baseline	Current estimated cost at completion	Percent within budget	Percent on time and on budget
Totals current quarter (June 30, 2009)	**100%**	**63%**	**100%**	**$588,157**	**$612,433**	**88%**	**50%**
3 Nickel projects	100%	100%	100%	$54,353	$55,292	100%	100%
5 TPA projects	100%	40%	100%	$533,804	$557,141	80%	20%
Totals biennium to date (2007-09)	**78%**	**86%**	**100%**	**$1,761,095**	**$1,767,512**	**89%**	**78%**
42 Nickel projects	69%	86%	100%	$1,000,426	$998,597	90%	81%
60 TPA projects	85%	87%	100%	$763,938	$771,135	88%	77%
Totals cumulative to date**	**86%**	**89%**	**100%**	**$2,529,917**	**$2,546,280**	**88%**	**78%**
111 Nickel projects	86%	89%	100%	$1,754,329	$1,762,651	90%	82%
83 TPA projects	87%	88%	100%	$778,857	$785,849	84%	73%

Source: WSDOT Project Control and Reporting Office.

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

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).

Advertisement Record

81 Projects in construction phase as of June 30, 2009

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

Project description	Fund type*	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
Cumulative to date						
SR 509/I-5 to Sea-Tac – Freight and congestion relief (King)	TPA	Late	Jun-06	Tri-State Construction, Inc.	Sep-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 advertisement date. The original schedule update to the project list was not entered in the 2006 Legislative budget, though the ad date was updated to June 2006 in the 2007 Legislative budget.						
I-405/NE 10th St — Bridge crossing (King)	TPA	Early	Sep-06		Dec-09	
• I-405/NE 10th St Bridge crossing Stage 1 (King)	TPA		Sep-06	City of Bellevue	Apr-08	$9,772
• I-405/NE 10th St Bridge crossing Stage 2 (King)	TPA		Sep-07	Max J. Kuney Company	Dec-09	$13,866
I-405/I-90 to SE 8th St — Widening (King)	Nickel	Early	Oct-06	Guy F. Atkinson Construction LLC	Dec-09	$124,000
I-405/112th Ave SE to I-90 — Northbound widening (King)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 167/S 180th St to I-405 — Southbound widening (King)	TPA	Early	Feb-07	Tri-State Construction Inc	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	Tri-State Construction Inc	Jun-10	
• I-405/Springbrook Creek Wetland and Habitat Mitigation Bank (King)	TPA		Aug-06	Scarsella Bros., Inc.	Jun-09	$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	Sep-11	$9,988
The advertisement for the f yover ramp portion of this project has been delayed to January 2007 due to stormwater and wetland design changes. The f yover ramp is currently open to traffic and the widening portion of the project was advertised in October 2008.						
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
US 395/ North Spokane Corridor (NSC), Francis Ave to Farwell Rd — New alignment (Spokane)	Nickel	Late	Jan-04		Aug-09	
The advertisement delay on this project was due to delays in the Right-of-Way acquisition.						
• NSC-Farwell Road – Lowering	Nickel		Jan-04	Max J. Kuney Co.	Jul-05	$4,976
• NSC-Gerlach to Wandermere — Grading construction	Nickel		Nov-04	KLB Construction Inc.	Sep-06	$9,987
• NSC-Francis Avenue to US 2 Structures — Rebid	Nickel		May-06	Max J. Kuney Co.	Jul-08	$17,236
• US 395/NSC-Freya to Fairview vicinity — Grading and structures	Nickel		Jan-07	Steelman-Duff	Nov-08	$10,571
• US 395/NSC-Freya St to Farwell Rd — PCCP paving	Nickel		Feb-07	Acme Concrete Paving	Aug-09	$19,490
• US 395/NSC — BNSF rail tunnel	Nickel		Sep-07	Scarsella Bros. Inc.	Aug-09	$17,295

WSDOT's Capital Project Delivery Programs

Advertisement Record

81 Projects in construction phase as of June 30, 2009

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

Project description	Fund type*	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
Biennium to date (2007-09)						
SR 26/Othello vicinity — Roadside safety improvements (Adams)	TPA	√	Feb-09	Frank Gurney, Inc	Oct-09	$239
SR 26/Othello vicinity — Install lighting (Adams, Grant)	TPA	Early	Dec-07	Central Washington Asphalt, Inc.	Oct-09	$5,134
Advertisement date was advanced to construct a portion of this project as a part of a larger PEF program for construction efficiencies.						
SR 17/Othello vicinity to Soap Lake vicinity — Install lighting (Adams, Grant)	TPA	Early	*Combined with the project above for construction efficiencies.*			
Advertisement date was advanced to construct a portion of this project as a part of a larger PEF program for construction efficiencies.						
SR 240/Beloit Rd to Kingsgate Way — Widen roadway (Benton)	TPA	√	Feb-09		Nov-09	$6,764
US 395/Columbia Dr to SR 240 — Rebuild interchange (Benton)	TPA	√	Oct-08	KLB Construction, Inc	Nov-09	$11,520
SR 285/George Sellar Bridge — Additional eastbound lane (Chelan, Douglas)	TPA	Late	Jan-09		Jun-11	
Advertisement date was delayed one month to address additional bridge analysis, design, and detailing requirements and to purchase railroad easements.						
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 4 and SR 401 — Roadside safety improvements (Cowlitz, Pacific, Wahkiakum)	TPA	√	Mar-09	Peterson Brothers, Inc.	Dec-09	$266
US 2/S of Orondo — Add passing lane (Douglas)	TPA	Late	Mar-09	Central Washington Asphalt, Inc.	Sep-09	$3,547
Advertisement date was delayed due to environmental permitting and acquisition of right-of-way.						
SR 17/Moses Lake to Ephrata — Widening (Grant)	TPA	Late	Mar-09	Granite Northwest, Inc	Oct-09	$6,235
Advertisement date was delayed to accommodate a design alternative change that reduces the shoulder width from eight to four keeping the project on budget. These two SR 17 projects will be combined with a larger PEF program (SR 17/Grant County Airport North – Paving) for construction efficiencies.						
SR 17/N of Moses Lake — Add passing lane (Grant)	TPA	Late	*Combined with the project above for construction efficiencies.*			
Advertisement date was delayed to accommodate a design alternative change that reduces the shoulder width from eight to four keeping the project on budget. These two SR 17 projects will be combined with a larger PEF program (SR 17/Grant County Airport North – Paving) for construction efficiencies.						
US 101/W Fork Hoquiam River Bridge — Replace bridge 101/142 (Grays Harbor)	TPA	√	Mar-08	Ross Bros. & Company, Inc.	Aug-09	$3,545
The operationally complete date has been delayed due to problems at the contractor's end and their difficulties in obtaining materials.						
US 101/W Fork Hoquiam River Bridge — Replace bridge 101/145 (Grays Harbor)	TPA	√	*Combined with the project above for construction efficiencies.*			
The operationally complete date has been delayed due to problems at the contractor's end and their difficulties in obtaining materials.						
I-5/Boeing Access Rd vicinity to King/Snohomish county line — Pavement repair (King)	Nickel	√	Oct-08	Interstate Improvement, Inc.	Oct-09	$9,875
SR 522/University of Washington Bothell — Build interchange (King)	TPA	Late	Oct-07	Mowat Construction Co.	Oct-09	$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 constraints. The project was re-advertised in October 2007 and was awarded in January 2008.						
SR 900/SE 78th St vicinity to I-90 vicinity — Widening and HOV (King)	Nickel	√	May-08	Icon Materials, A Division of CPM	Oct-09	$19,354

Advertisement Record

81 Projects in construction phase as of June 30, 2009

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

Project description	Fund type*	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
Central King to South Snohomish Bridges — Seismic (King, Snohomish)	TPA	√	Jul-08	Granite Northwest, Inc. dba Wilder	Mar-10	$6,734
I-5/5th Ave NE to NE 92nd St — Noise Wall (King)	TPA	√	Feb-08	Wilder Construction Co.	Jun-10	$3,315
SR 519/ I-90 to SR 99 Intermodal Access Project — I/C Improvements (King)	Nickel	Early	Jun-08	Kiewit Pacific Co.	Jun-10	$66,969
I-90/I-5 to 12th Ave S — Seismic Retrofit (King)	TPA	√	Oct-08	PCL Construction Services, Inc.	Jun-10	$5,703
I-90/Eastside Bridges — Seismic (King)	TPA	√	Oct-08	Imco General Construction, Inc.	Sep-10	$5,999
SR 11, SR 525, and SR 900 — Roadside safety Improvements (King, Snohomish, Skagit)	TPA	√	Feb-08	Coral Construction Company	Dec-10	$1,463
I-405/SR 167 to SR 169 — Northbound widening (King)	TPA	√	Oct-08	I-405 Corridor Design Builders	Sep-11	$83,599
I-405/SR 167 to SR 169 — Add new southbound lane (King)	Nickel	√	*Combined with the project above for construction efficiencies.*			
I-405/SR 515 — New interchange (King)	TPA	√	*Combined with the project above for construction efficiencies.*			
I-405/NE 8th St to SR 520 braided ramps — Interchange improvements (King)	TPA	√	Mar-09		Dec-12	
SR 307/SR 104 safety corridor study — Spot improvements (Kitsap)	TPA	√	Nov-08	Peterson Brothers Inc.	Jul-09	$1,081
SR 160/SR 16 to Longlake Rd vicinity — Widening (Kitsap)	Nickel	√	Jan-09	RG Construction	Aug-09	$3,148
The operationally complete date has been delayed from 5/18/09 to 8/30/09; the earlier schedule (January 2009 advertisement date and May 2009 construction start date) was not feasible. Project increased due to the inclusion of local funds and inf ation.						
SR 16/Burley-Olalla Interchange — Build interchange (Kitsap)	Nickel	Late	Apr-08	Ceccanti, Inc.	Dec-09	$16,329
The two week delay allowed time to address continuing design review issues including temporary erosion control and utility boring designs.						
I-90/Snoqualmie Pass East, Hyak to Keechelus Dam — Corridor improvement (Kittitas)	TPA	Early	Feb-09	KLB Construction, Inc.	Oct-15	$3,298
SR 142/Roadside safety — Roadside improvements (Klickitat)	TPA	Early	Mar-08	Dirt and Aggregate Interchange	Oct-10	$300
Cost increase includes pooled funds from other roadside safety projects to address high benefit locations.						
SR 6/S Fork Chehalis River Bridge — Replace bridge (Lewis)	TPA	√	May-08	Scarcella Bros., Inc.	Dec-09	$7,854
US 101/Hoodsport vicinity — Stabilize slope (Mason)	TPA	Late	Dec-08	Active Construction Inc.	Aug-09	$180
Project missed the 2008 construction season due to Endangered Species Act (ESA) compliance and acquiring other state water quality permits.						
SR 20/W of Okanogan — Roadside safety improvements (Okanogan)	TPA	√	Dec-08	Central Washington Asphalt, Inc.	Aug-09	$5,733
SR 704/Cross Base Highway — New alignment (Pierce)	TPA	Early	Mar-08	Ceccanti, Inc	Sep-09	$7,350
Project advertised early to allow construction of the first stage of the project at the east end of the corridor and to finish right-of-way efforts within the 2007-09 biennium.						
I-5/SR 16 Interchange — Rebuild interchange (Pierce)	TPA	√	Jul-08	Guy F. Atkinson Construction, Llc	Dec-11	$119,925

WSDOT's Capital Project Delivery Programs

Advertisement Record

81 Projects in construction phase as of June 30, 2009

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

Project description	Fund type*	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
I-5/Fisher Creek vicinity — Stormwater drainage improvements (Skagit)	TPA	√	Mar-09	G.G. Excavation, Inc.	Dec-09	$398
I-5/Chuckanut Creek vicinity — Stormwater drainage improvements (Whatcom)	TPA	√	*Combined with the project above for construction efficiencies.*			
I-5/Padden Creek vicinity — Stormwater drainage improvements (Whatcom)	TPA	√	*Combined with the project above for construction efficiencies.*			
I-5/Squalicum Creek vicinity — Stormwater drainage improvements (Whatcom)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 92, SR 520, SR 530, and SR 534 — Roadside safety Improvements (Snohomish)	TPA	√	Feb-09	Coral Construction Company	Jan-10	$521
SR 9/176th St SE vicinity to SR 96 — Add signal and turn lanes (Snohomish)	Nickel	√	Jan-08	Scarsella Bros. Inc.	Mar-10	$18,878
SR 9/Marsh Rd Intersection — Safety improvements (Snohomish)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 9/SR 96 to Marsh Rd — Add lanes and improve intersections (Snohomish)	TPA	√	*Combined with the project above for construction efficiencies.*			
SR 9/Lake Stevens Way to 20th St SE — Improve Intersection (Snohomish) This is a WSDOT project administered by Snohomish County in order to coordinate more effectively with locally managed projects, and improve cost and construction efficiency.	TPA	√	Apr-08		Jun-10	
SR 20 and SR 530 — Roadside safety Improvements (Snohomish, Skagit)	TPA	√	Feb-09	Coral Construction Company	Oct-10	$521
I-5/172nd St NE (SR 531) Interchange — Rebuild Interchange (Snohomish)	TPA	√	Oct-08	Northwest Construction Inc.	Dec-10	$12,976
SR 532/270th St NW to 72nd Ave NW — Improve safety (Snohomish, Island) This is a design-build project. Advertisement was delayed to allow additional time needed to acquire environmental permits and right-of-way parcels.	TPA	Late	Oct-08	Parsons/Kuney Joint Venture	Dec-10	$50,416
SR 532/64th Ave NW to 12th Ave NW — Improve safety (Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 532/General Mark W. Clark Memorial Bridge — Improve safety (Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 532/General Mark W. Clark Memorial Bridge — Replace bridge (Snohomish)	TPA	Early	*Combined with the project above for construction efficiencies.*			
SR 532/Sunrise Blvd to Davis Slough — Improve safety (Island)	TPA	Early	*Combined with the project above for construction efficiencies.*			
North Stevens and Ferry counties — Roadside safety improvements (Stevens, Ferry) Advertisement date was delayed due to environmental permit issues.	TPA	Late	Feb-09	Frank Gurney, Inc.	Sep-09	$2,355
Spokane, Stevens, and Pend Oreille counties — Roadside safety improvements (Spokane, Stevens, Pend Oreille) Advertisement date was delayed two months; Region Traffic could not complete signing plans prior to advertisement date due to workforce constraints.	TPA	Late	*Combined with the project above for construction efficiencies.*			

Advertisement Record

81 Projects in construction phase as of June 30, 2009

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

Project description	Fund type*	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
US 395/North Spokane Corridor-US 2 to Wandermere and US 2 Lowering — New alignment (Spokane)	Nickel	√	Aug-08	Graham Construction and Management, Inc.	May-11	$42,849
I-5/Grand Mound to Maytown Stage 1 — Add lanes (Thurston)	Nickel	√	Dec-07	Scarsella Bros., Inc.	Jun-10	$61,495
US 12/Frenchtown vicinity to Walla Walla — Add lanes (Walla Walla)	TPA	√	Dec-07	Apollo, Inc	May-10	$33,733
I-5/Bakerview Rd to Nooksack River Bridge, Slater Rd interchange — Safety improvements (Whatcom)	Nickel	√	Oct-08	Penhall Company	Sep-09	$2,800
SR 539/Tenmile Road to SR 546 — Widening (Whatcom)	Nickel	√	Dec-07	Max J. Kuney Company	Oct-09	$53,987
SR 542/Nooksack River — Redirect river and realign roadway (Whatcom)	TPA	Late	Jan-09	Tapani Underground, Inc.	Oct-11	$395
Advertisement date delay due to additional time needed to reach a settlement on a privately owned right-of-way parcel that is required for the project. The project was advertised in May 2008 and then pulled from ad. Right-of-way certification requirements were not met prior to bid opening. Advertisement was rescheduled for January 2009 to keep the in-water construction work within the July 1 to September 30 fish passage window.						
Quarter ending June 30, 2009						
I-5/SR 501 Ridgefield interchange — Rebuild interchange (Clark)	TPA	Early	Jun-09		Nov-11	
This project has been identified to receive $10M in Federal Recovery Act stimulus funding.						
SR 4/Climbing lane to Coal Creek Rd vicinity — Upgrade guardrail (Cowlitz, Wahkiakum)	Nickel	√	May-09	Lakeside Industries	Nov-09	$6,499
US 101/Mosquito Creek tributary to North River — Fish passage (Grays Harbor)	TPA	√	May-09	Roglins, Inc.	Sep-09	$728
The construction estimate has increased due to the cost of shoring and excavation work that was underestimated.						
SR 122/Harmony Resort vicinity — Fish passage (Lewis)	TPA	√	May-09		Dec-09	
Cost increase is due to inf ation.						
I-5/Port of Tacoma Rd to King county line — Add HOV lanes (Pierce)	Nickel	Late	Jun-09		Nov-11	
Advertisement date was delayed due to design challenges associated with stormwater and f oodplain management; a formal consultation with US Fish & Wildlife Service and National Oceanic & Atmospheric Administration (NOAA) was required. Inf ation factor applied in early July 2008 added $6.6M to project cost estimate. This project has received Federal Recovery Act stimulus funds.						
I-5/Ardena Road Bridge — Upgrade bridge rail (Pierce)	Nickel	Late	*Combined with the project above for construction efficiencies.*			
I-405/NE 195th St to SR 527 — Northbound widening (Snohomish, King)	TPA	Early	May-09		Dec-10	
US 12/Tieton River west crossing — Replace bridge (Yakima)	TPA	Late	Apr-09	Scarsella Bros, Inc.	Oct-10	$6,547
The scheduled advertisement date was delayed due to the extended time obtaining the Joint Aquatic Resource permit from the county and local agencies.						
US 12/Tieton River east Crossing — Replace bridge (Yakima)	TPA	Late	*Combined with the project above for construction efficiencies.*			
The scheduled advertisement date was delayed due to the extended time obtaining the Joint Aquatic Resource permit from the county and local agencies.						

Source: WSDOT Project Control & Reporting Office.

WSDOT's Capital Project Delivery Programs

Advertisement Record

81 Projects in construction phase as of June 30, 2009

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

Advertisement Record summary	Percent on time advertised	Award amount
Totals current quarter (June 30, 2009)	**56%**	**$741,395**
3 Nickel projects	33%	$6,499
6 TPA projects	67%	$734,896
Totals biennium to date (2007-09)	**79%**	**$1,479,240**
15 Nickel projects	80%	$400,657
55 TPA projects	78%	$1,077,257
Totals cumulative to date (projects under way)	**78%**	**$1,842,072**
18 Nickel projects	75%	$635,468
61 TPA projects	79%	$1,205,278

Source: WSDOT Project Control and Reporting Office.

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

Projects To Be Advertised

21 Projects in delivery pipeline for July 1, 2009, through December 31, 2009

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

Project description	Fund type*	Original planned ad date	Current planned ad date	On schedule	Baseline estimated cost at completion	Current estimated cost at completion
SR 26/West of Othello — Add passing lane (Adams)	TPA	Nov-09	Dec-09	√	$1,678	$1,988
SR 150/W of Chelan — Install lighting (Chelan)	TPA	Nov-08	Dec-09	Delayed	$266	$304
Advertisement date delayed one year as part of the 2009-11 Transportation budget addressing current budget constraints.						
SR 971/S Lakeshore Rd — Install lighting (Chelan)	TPA	Nov-08	Dec-09	Delayed	$109	$122
Advertisement date delayed one year as part of the 2009-11 Transportation budget addressing current budget constraints.						
I-5/SR 432 Talley Way Interchanges — Rebuild interchanges (Cowlitz)	TPA	Jul-09	Sep-09	√	$45,022 $	$45,000
SR 28/Jct US 2 and US 97 to 9th Street, Stage 1 — New alignment (Douglas)	TPA	Oct-09	Sep-09	Advanced	$53,910	$58,122
Project advertised early to allow construction on the irrigation canal to take place during winter 2009/10, while the irrigation water is shut off.						
SR 99/SR 518 Interchange – Bridge crossing seismic retrofit (King)	TPA	Mar-11	Aug-09	Advanced	$9,461	$1,381
SR 203 — Corridor safety improvements (King, Snohomish)	TPA	Feb-09	Nov-09	Delayed	$600	$600
Advertisement date delayed to better coordinate construction and increase cost efficiencies by tying it to another safety project along the SR 203 corridor.						
SR 203/Corridor safety improvements (King)	TPA	Oct-09	Nov-09	√	$3,533	$3,533
Advertisement date delayed to better coordinate construction and increase cost efficiencies by tying it to another safety project along the SR 203 corridor.						
I-5/Ship Canal Bridge — Noise mitigation study (King)	TPA		Dec-09		$5,000	$7,000
SR 161/24th St E to Jovita — Add lanes (Pierce)	Nickel	Oct-09	Oct-09	√	$32,545	$38,920
SR 410/214th Ave E to 234th — Add lanes (Pierce)	TPA	Nov-08	Nov-09	Delayed	$29,340	$29,530
The advertisement and operationally complete dates have been delayed to allow time for continued environmental compliance issues. Right-of-way plans were revised for new pond sites, which required restarting the cultural resources process.						
SR 11/I-5 Interchange-Josh Wilson Rd — Rebuild interchange (Skagit)	TPA	Oct-09	Oct-09	√	$12,004	$12,843
SR 203/Corridor safety improvements (Snohomish)	TPA	Apr-09	Nov-09	Delayed	$3,101	$3,101
Advertisement date delayed to allow additional time to resolve shoreline permit issues with the county, and to better coordinate construction and increase cost efficiencies by tying it to another safety project along the SR 203 corridor.						
US 2/Colbert Rd Intersection — Intersection improvements (Spokane)	TPA	Jul-09	Jul-09	√	$1,052	$1,171
US 2/N Glen-Elk Chattaroy Rd Intersection — Intersection improvements (Spokane)	TPA	Jul-09	Aug-09	√	$1,055	$1,174
US 12/SR 124 Intersection — Build interchange (Walla Walla)	TPA	Oct-09	Oct-09	√	$26,767	$29,490
SR 27/Pine Creek Bridge — Replace bridge (Whitman)	TPA	Oct-09	Oct-09	√	$4,000	$4,000
SR 22/I-82 to Toppenish — Safety improvements (Yakima)	Nickel	Oct-09	Oct-09	√	$4,906	$5,390
SR 241/Dry Creek Bridge — Replace bridge (Yakima)	TPA	Oct-09	Oct-09	√	$2,210	$1,517
I-82/Valley Mall Blvd Interchange — Rebuild interchange (Yakima)	TPA	Oct-09	Nov-09	√	$34,313	$38,555
SR 823/Selah vicinity — Reroute highway (Yakima)	TPA	Oct-09	Dec-09	√	$8,569	$11,600

WSDOT's Capital Project Delivery Programs

Projects To Be Advertised

21 Projects in delivery pipeline for July 1, 2009, through December 31, 2009

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

Projects to be advertised summary	Percent advertised on schedule	Baseline estimated cost at completion	Current estimated cost at completion
Total (July 1, 2009, through December 31, 2009)	**76%**	**$279,441**	**$295,343**
2 Nickel projects	100%	$37,452	$44,310
19 TPA projects	74%	$241,989	$251,033

Source: WSDOT Project Control and Reporting Office.

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

Project Milestones: Nickel projects

Schedule milestone tracking for Nickel projects

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

Milestone	Scheduled milestones to date	Scheduled milestones achieved to date	Scheduled milestones not achieved	Scheduled achievement rate**	Milestones achieved ahead of schedule
Project definition complete					
Biennium to date (2007-09)	6	8	0	133%	1
Cumulative to date	143	152	1	106%	10
Begin preliminary engineering					
Biennium to date (2007-09)	8	8	0	100%	0
Cumulative to date	148	153	0	103%	5
Environmental documentation complete					
Biennium to date (2007-09)	25	23	3	92%	1
Cumulative to date	136	133	4	98%	1
Right-of-way certification					
Biennium to date (2007-09)	23	20	2	87%	0
Cumulative to date	78	79	3	101%	4
Advertisement date*					
Biennium to date (2007-09)	26	22	2	85%	0
Cumulative to date	133	131	2	98%	0
Operationally complete					
Biennium to date (2007-09)	41	41	1	100%	6
Cumulative to date	103	110	1	107%	8

Source: WSDOT Project Control and Reporting Office.

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

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

Project definition complete

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

Begin preliminary engineering

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

Environmental documentation complete

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

Right-of-way certification

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

Advertisement date

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

Operationally complete

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

WSDOT's Capital Project Delivery Programs

Project Milestones: Transportation Partnership Account (TPA) projects

Schedule milestone tracking for TPA projects

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

Milestone	Scheduled milestones to date	Scheduled milestones achieved to date	Scheduled milestones not achieved	Scheduled achievement rate**	Milestones achieved ahead of schedule
Project definition complete					
Biennium to date (2007-09)	45	56	7	124%	4
Cumulative to date	216	226	9	105%	19
Begin preliminary engineering					
Biennium to date (2007-09)	47	48	3	102%	2
Cumulative to date	214	226	4	106%	16
Environmental documentation complete					
Biennium to date (2007-09)	116	110	15	95%	5
Cumulative to date	186	177	17	95%	8
Right-of-way certification					
Biennium to date (2007-09)	82	60	25	73%	6
Cumulative to date	110	96	25	87%	11
Advertisement date*					
Biennium to date (2007-09)	105	94	15	90%	6
Cumulative to date	155	146	15	94%	6
Operationally complete					
Biennium to date (2007-09)	71	59	9	83%	5
Cumulative to date	85	82	9	96%	6

Source: WSDOT Project Control and Reporting Office.

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

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

Project definition complete

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

Begin preliminary engineering

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

Environmental documentation complete

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

Right-of-way certification

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

Advertisement date

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

Operationally complete

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

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

Revenue Forecast Update

The following information incorporates the June 2009 transportation revenue forecast projections. The accompanying charts compare the current projected revenue forecast to the baseline forecast used in the budget making process when the 2003 Funding Package was adopted. The 2003 Funding Package was developed as a ten-year plan from 2003 through 2013. Due to timing and funding issues, the 2007 Legislature moved projects beyond 2013. Both cumulative ten-year totals and individual biennial amounts are shown in the chart below.

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

The June 2009 forecast for gas tax receipts and licenses, permits, and fees for the Transportation 2003 (Nickel) Account is lower than the baseline forecast for the ten-year outlook by 10.3%. This reduction is due to continued lower gasoline consumption. Because Washington State's gas tax is based on gallonage rather than price, reduced consumption results in reduced revenues.

2003 Transportation Funding Package highlights

Deposited into the Transportation 2003 (Nickel) Account

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

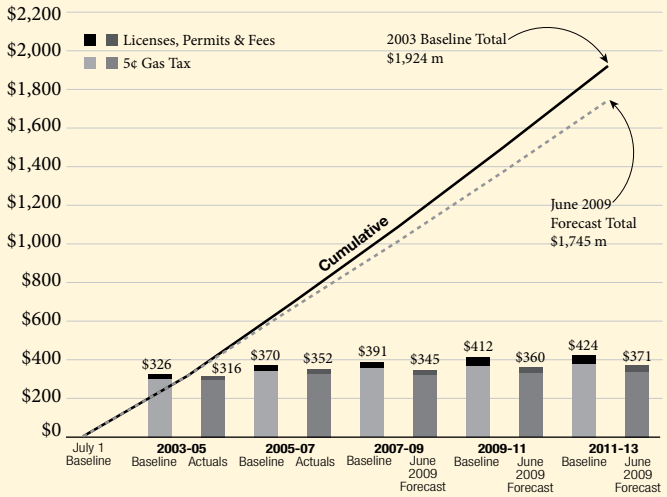
Deposited into the Multimodal Account (established in 2000)

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

Multimodal Account projections for the vehicle sales tax are lower than the baseline forecast resulting in a decrease of 14.0% in the ten-year outlook. This decrease is due to the decline in vehicle sales.

Transportation 2003 (Nickel) account revenue forecast

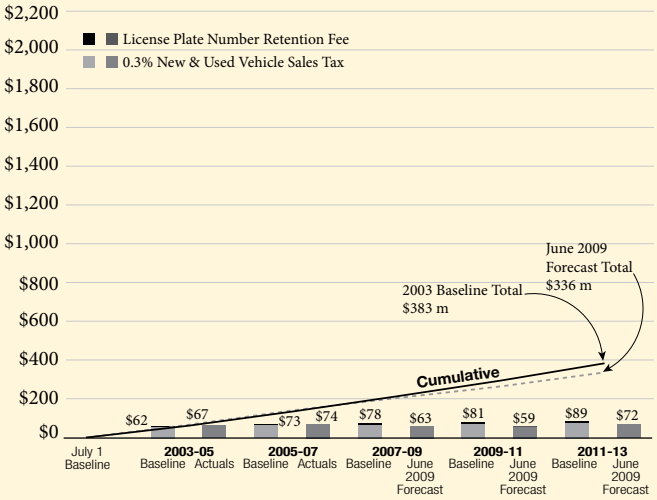
March 2003 Legislative baseline compared to the June 2009 Transportation Revenue Forecast Council



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

Multimodal Account (2003 Package) revenue forecast

March 2003 Legislative baseline compared to the June 2009 Transportation Revenue Forecast Council



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

WSDOT's Capital Project Delivery Programs

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

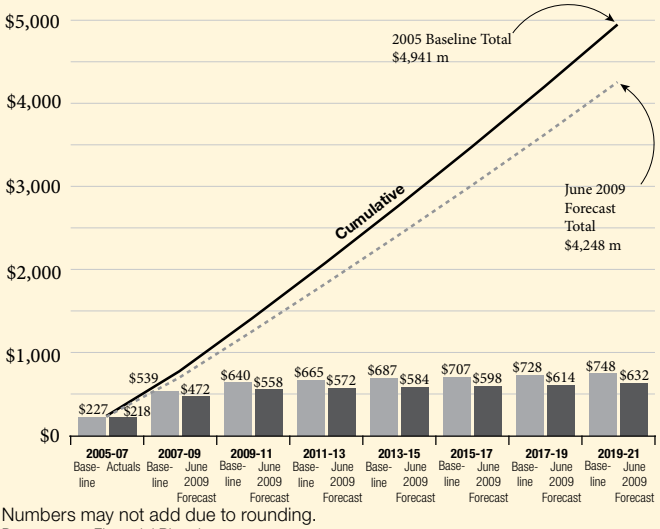
Revenue Forecast Update

The accompanying chart compares the current June 2009 revenue forecast to the baseline forecast used in the budget making process when the 2005 Funding Package was adopted. The 2005 Funding Package was developed as a 16-year plan extending from 2005 through 2021.

The June 2009 forecast for gas tax receipts over the 16-year period decreased by 16.3% from the baseline forecast. This reduction is due to continued lower gasoline consumption. Because Washington State's gas tax is based on gallonage rather than price, reduced consumption results in reduced revenues.

Transportation Partnership Account (TPA) gas tax revenue forecast

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



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

2005 Transportation Funding Package revenue sources

- 9.5¢ increase to the gas tax phased in over four years.
  - 3.0¢ in July 2005
  - 3.0¢ in July 2006
  - 2.0¢ in July 2007
  - 1.5¢ in July 2008
- New vehicle weight fees on passenger cars.
  - $10 for cars under 4,000 pounds
  - $20 for cars between 4,000 and 6,000 pounds
  - $30 for cars between 6,000 and 8,000 pounds
- Increased combined license fees for light trucks
  - $10 for trucks under 4,000 pounds
  - $20 for trucks between 4,000 and 6,000 pounds
  - $30 for trucks between 6,000 and 8,000 pounds
- Farm vehicles are exempt from the increase
- A $75 fee for all motor homes
- Fee increases to various driver's license services
  - Original and Renewal License Application increased to $20 (previously $10)
  - Identicards, Driver Permits and Agricultural Permits increased to $20 (previously $15)
  - Commercial Driver License and Renewal increased to $30 (previously $20)
  - License Reinstatement Fee Increased to $75 (previously $20)
- DUI Hearing increased to $200 (previously $100)
- Fee increases to various license plate charges
  - Reflectorized Plate Fee increased to $2 per plate (previously 50¢)
  - Replacement Plates increased to $10 (previously $3).

Completed Projects: Delivering performance and system benefits

Between March 31 and June 30, 2009, WSDOT completed seven projects that rebuilt bridges, improved safety features, installed sound walls, restored pavement, and increased capacity. Each of these projects improved travel by making roads safer, trips faster and more reliable, and helping the environment and the economy. Each project also faced unique challenges in being delivered both on time and on budget.

Building upon the principles of performance journalism, WSDOT publishes a brief report on each project completed in a quarter, organized by county. These close-out summaries are intended to provide a better sense of the project delivery process, WSDOT's efforts to use tax dollars as efficiently as possible, and the benefits citizens can expect to see from completed projects.

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

More information on completed projects is available online at http://www.wsdot.wa.gov/projects. For completed Recovery Act projects, see the Special Update: Stimulus Reporting article on page 48.

I-5/Boston to Shelby, southbound I-5, westside (King)

This project constructed walls to reduce the noise generated by I-5 traffic in the vicinity of the I-5/SR 520 interchange, near the Seattle neighborhoods of Eastlake and Roanoke Park/ Portage Bay.

Project's benefits: Noise wall projects are designed to noticeably reduce freeway noise in the adjacent communities. The nearby neighborhoods rated as high priorities on the statewide retrofit list because the construction of I-5 did not originally consider noise impacts.

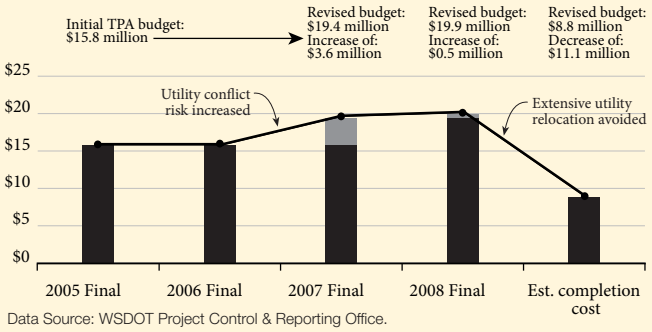
Project's highlights and challenges: As originally designed, the noise walls would have required extensive relocation of utilities and street repairs related to moving the utilities. An agreement with the City of Seattle that avoided relocation of utilities reduced the estimated project cost by $9.4 million.

Budget performance: The final project cost is estimated at $8.8 million, which is $11.1 million below the last Legislative expectation and $7 million below the original 2005 enacted budget of $15.8 million due to the savings from the utility agreement.

Schedule performance: The operationally complete date was delayed due to difficulties in constructing the somewhat unusual foundation design. The project was completed late, on June 30, 2009.

I-5/Boston to Shelby, southbound I-5, Westside

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



Data Source: WSDOT Project Control & Reporting Office.

A steel cage is used for the foundation of the new noise wall. Crews position the cage in place over the foundation

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

SR 509/SR 518 interchange – Signalization and channelization (King)

This project expands the SR 509 interchange with SR 518 to improve access to and from SR 509, including rebuilding the ramps.

Project benef ts: This project will improve traffic flow on a heavily congested route between SeaTac Airport and the I-5/ I-405 Interchange. The project is also designed to reduce the frequency and severity of vehicle collision in a high accident location and high accident corridor.

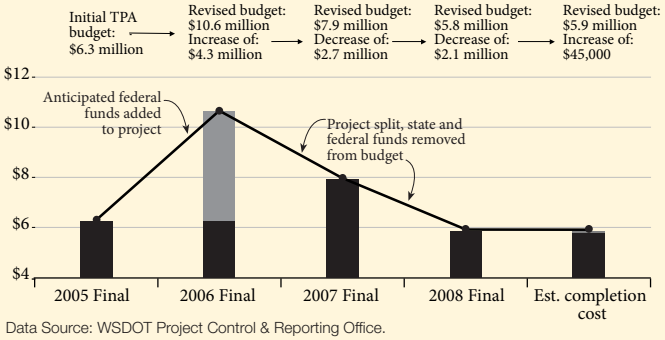
Project highlights and challenges: This project was combined with the SR 518/ SeaTac Airport to I-5/I-405 Interchange project for efficiencies. Together, the projects work to improve mobility to and from the airport and reduce merging delays.

Budget performance: The final project cost $5,887,000, which is $45,000 above the last approved budget and $363,000 below the 2005 enacted budget of $6.25 million. Additional federal funds were added to the project and then split off to another project.

Schedule performance: The project was completed in June.

SR 509/SR 518 interchange – Signalization and channelization

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



Data Source: WSDOT Project Control & Reporting Office.

SR 518/SeaTac Airport to I-5/I-405 (King)

This project widens SR 518 from SeaTac Airport to I-5 and I-405 by adding a third eastbound lane from the North Airport Expressway to the I-5/I-405 interchange.

Project benef ts: The project will expand capacity and improve traffic flow on a heavily congested route between SeaTac Airport and the I-5/I-405 interchange, and should reduce the frequency and severity of vehicle collisions in a high accident corridor. The project also provides for further regional improvements, including Sound Transit's Link light rail line extension to the airport and the airport's own traffic and parking enhancements, both of which depend on the SR 518 improvements.

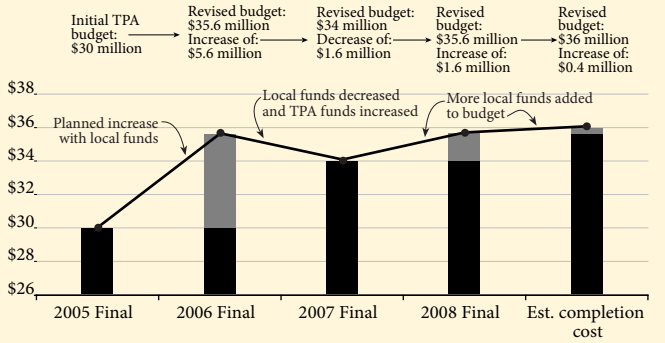
Project highlights and challenges: To promote construction efficiencies, the project was combined with work at the SR 509/SR 518 interchange. Unsuitable soils and a slide area found at the site meant that a different installation method was needed for Wall 1 and that Wall 3 was deleted from the project altogether.

Budget performance: The project included $10 million from the Port of Seattle and $5.6 million in federal funds. Final estimated cost is $35.6 million, which is $310,000 above the last approved budget and nearly $6 million above the 2005 enacted budget of $30 million. The initial increase was a revised estimate based on a "Cost Estimated Validation Process" review.

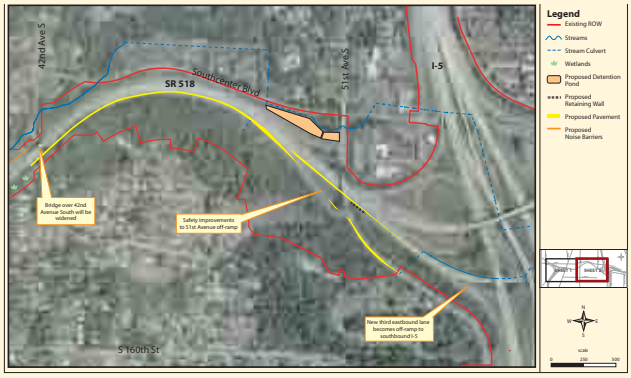
Schedule performance: The project was completed in June, which was XX months late.

SR 518/SeaTac Airport to I-5/I-405 interchange

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



Data Source: WSDOT Project Control & Reporting Office.



Completed Projects: Delivering performance and system benefits

I-5/Rush Road to 13th Street – Add lanes (Lewis)

This project expanded Interstate 5 to six lanes between Rush Road and 13th Street in Lewis County by 3.7 miles. The project also includes a new interchange at LaBree Road.

Project benefits: This project will improve traffic flow and help move people and freight through the I-5 corridor by expanding capacity. The new interchange at LaBree Road is estimated to improve travel times by seven minutes to and from the Port of Chehalis.

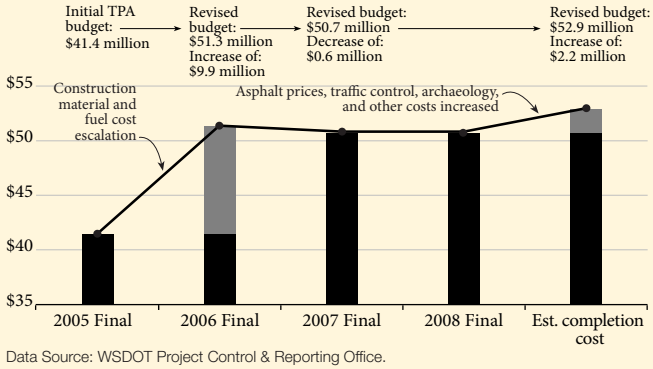
Project challenges and highlights: This project is the first of several projects that will widen I-5 to three lanes both northbound and southbound between the Toutle River Safety Rest Area in Cowlitz County and Grand Mound Road in Thurston County.

Budget performance: The project was completed for $52.9 million, $2.2 million more than the last Legislative expectation but within the 5% budget tolerance; it was about $11.4 million more than the original 2003 budget. The higher completion cost was due to construction material cost escalation for asphalt and concrete.

Schedule performance: This project was completed in May, one season ahead of the anticipated schedule.

I-5/Rush Road to 13th Street – Add lanes

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



Data Source: WSDOT Project Control & Reporting Office.

US 101/Sol Duc River Bridge – Upgrade bridge rail (Clallam)

This project upgraded the bridge rail on the US 101 bridge over the Sol Duc River near Forks. The project replaced rail that did not meet current safety standards to withstand a 10,000-pound impact.

Project benefits: This project will reduce the likelihood of vehicles penetrating through the bridge rail, and is part of an effort to improve highway bridge rail statewide.

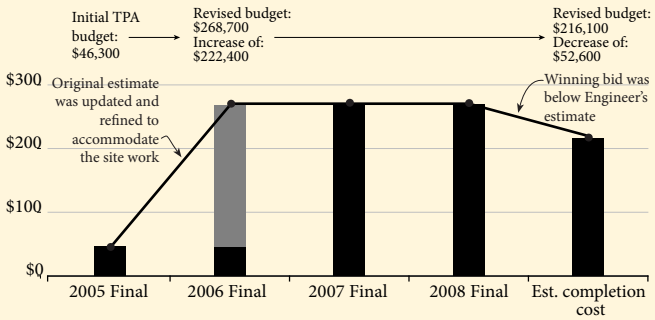
Project challenges and highlights: The original estimate was updated to reflect the site-related costs of the bridge work. The low bid for the project was 30% under the engineer's estimate.

Budget performance: This project was completed for an estimated cost of $216,100, $52,600 below the last Legislative budget, and $169,800 more than the original 2005 budget. The original estimate was updated to reflect the cost of the work.

Schedule performance: This project was completed in June, more than four months ahead of the schedule expected in the last enacted budget.

US 101/Sol Duc River Bridge – Upgrade bridge rail

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



Data Source: WSDOT Project Control & Reporting Office.

WSDOT's Capital Project Delivery Programs

Completed Projects: Delivering performance and system benefits

SR 3/Jct US 101 to Mill Creek – Safety (Mason)

This project installed centerline rumble strips, new signs, roadway striping, and guardrail on a very busy one-mile stretch of SR 3 south of Shelton.

Project benefits: This project is designed to reduce the severity and frequency of collisions in this section of highway.

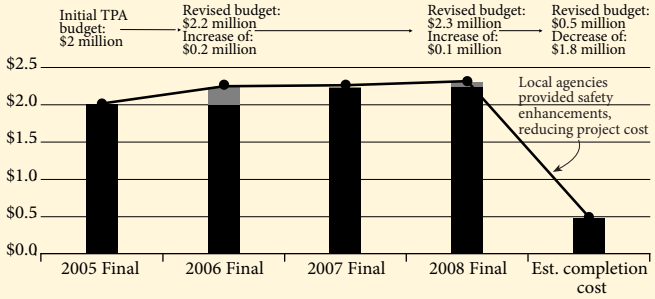
Project challenges and highlights: This project was a high priority for the state and for the affected local governments. Local agencies completed many of the safety enhancements in advance, reducing the cost of the work WSDOT completed.

Budget performance: The project cost $478,400, which is $1.8 million below the last Legislative expectation and $1.5 million below the original 2005 budget of $2 million. Enhancements provided by local agencies reduced the cost of the project.

Schedule performance: The project was awarded in May and completed in June, 2009, which was early against the most recent Legislative expectation.

SR 3/Junction US 101 to Mill Creek – Safety

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



Data Source: WSDOT Project Control & Reporting Office.

I-5/Guardrail retrofit– Safety (King)

This project is part of a statewide campaign to retrofit guardrail that no longer complies with modern standards. It also improved visibility at several locations by updating lighting fixtures, and added extra guardrail to close off gaps.

Project benefits: This project replaced sections of existing 40-year-old guardrail at key ramps. The steep and exposed location of the ramp pictured at right made it a priority location.

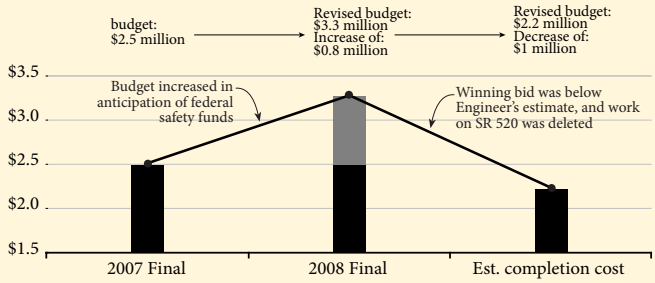
Project challenges and highlights: In addition to requiring new rail and posts, this site called for steel I-beam sunk into the slope to further reinforce the timber.

Budget performance: This project cost $2.2 million, which is roughly $1 million less than the last Legislative expectation and $277,000 below the original 2007 enacted budget. The budget was increased in 2008 to allow for the possible addition of federal safety dollars to the project, but was later reduced due to a net project savings from the deferral of work on SR 520 (which will be included in a separate project), and a bid 22% below the engineer's estimate.

Schedule performance: The project was completed early.

I-5/Guardrail retrofit – Safety

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



Data Source: WSDOT Project Control & Reporting Office.

Special Report: US 395 – North Spokane Corridor

The North Spokane Corridor (NSC) is a two-phase, multiple-project program that will construct a major, limited-access highway from the existing US 395 in the north to I-90 at its southern terminus. The corridor is expected to handle about 150,000 vehicles daily, accommodating Spokane County's growing population, which is expected to grow by 125,000 people by 2025. The new corridor and its related elements will help to promote several of WSDOT's strategic goals:

- *Safety*. Re-directs commercial motor vehicle (CMV) traffic (see p. 33) off city streets and onto the new corridor, provides dedicated bicycle and pedestrian pathways and facilities, and integrates the latest safety design and engineering features.
- *Mobility* Relieves congestion by creating new highway capacity, reduces travel time to an estimated 12 minutes, adds new park-and-ride facilities to support increased transit and vanpool use in the area, and supports the growing use of US 395 as a freight corridor.
- *Environment*: An estimated 1.7 million gallons of fuel and 2.4 million pounds of carbon monoxide will be eliminated with more efficient highway-cruising speeds.

Project development and construction.

Both NSC phases have completed their initial designs and the necessary environmental reviews. Phase I projects will construct the corridor running from the Wandemere/US 395 terminus, going south to the Spokane River. Phase II will construct a series of projects from the Spokane River south to I-90 in downtown Spokane.

Phase I projects were primarily financed through the 2003 Nickel package. In early 2009, these projects received additional funding through the American Recovery and Reinvestment Act (also known as the federal stimulus). The 2005 Transportation Partnership Account provided for additional funding for final design and right-of-way acquisitions for Phase II projects, but no funding for construction has been dedicated yet. For more information on the North Spokane Corridor program, visit www.nscfreeway.com.

North Spokane Corridor Highlights

Spokane's Division Street is the current route for both US 2 and US 395 through the city.

The future corridor is ranked 19th of 80 on the Congressional 'High Priority Corridor' list of the national highway system.

The existing US 395 carries 7.2 million pounds of freight valued at $13.5 billion through Spokane.

The first drivable link, Francis/Freya to Farwell Road, is expected to open to traffic in August, 2009. The second link is expected to open in 2011.

US 395 – North Spokane Corridor Phase I projects

Project	Description	Completed	Construction	Advertised
Farwell Road lowering	Lowered and paved Farwell Rd between US 2 and Wilson St, built four bridges, and retaining walls.	√		
Gerlach to Wandermere	A temporary detour of US 2 constructed and earthwork preparation for freeway construction between US 2 and US 395 vicinity was completed.	√		
Francis to US 2 structures	Six bridges constructed between Fairview Rd and Perry St.	√		
Freya to Fairview grading, structures	Constructs bridges at Lincoln and Gerlach roads, completes earthwork and realignment between Freya St and Fairview Rd, and improves intersections	√		
Freya to Farwell PCC paving	Constructs northbound lanes between Freya St and Farwell Rd.		√	
BNSF Railroad Tunnel	Constructs concrete arch tunnel over existing BNSF tracks, US 395 overcrossing will rest above new tunnel.		√	
US 2 Lowering	Lowers US 2 between Farwell Rd and Deadman Creek, constructs six bridges, retaining walls, and paving		√	
US 2 to Wandermere lowering	Paves previously graded section, constructs two bridges, and constructs US 395/Wandermere interchange			√

Data Source: WSDOT Project Control & Reporting Office.

Special Report: New Ferry Construction

Project Highlights

The contract to construct Washington State Ferries' first new vessel since 1999 was awarded to Todd Pacific Shipyards in December 2008. The 'Notice to Proceed' was issued January 5, 2009.

The winning bid amount was $65.5 million for one 64-car ferry.

Construction highlights to date:
May: Nichols Brothers Boat Builders began cutting aluminum for the vessel's pilothouse;
June: Everett Shipyard began construction of steel modules;
June 2009: steel for hull construction delivered to Todd Pacific Shipyard.

For more information, please visit the project page online at www.wsdot.wa.gov/Projects/Ferries/64CarFerries.

Washington State Ferries (WSF) is moving forward to build new ferries to replace its aging fleet. Nine of WSF's 20 auto-passenger ferries are between 40 and 60 years old, and must be replaced in the next 20 years. Furthermore, WSF has been without a state-owned ferry to serve the challenging Port Townsend/Keystone route since November 2007, and has been leasing a ferry from Pierce County since January 2008. The narrow, shallow Keystone Harbor prevents the use of a larger ferry, but the new 64-car ferry design is very maneuverable for its size, making it well suited for operations on this route. The new ferry should reduce the number of weather cancellations and ensure safe, reliable service for our customers on the Port Townsend/Keystone route.

Background to the construction project

In fall 2008, WSDOT advertised for bids for a contract for construction and delivery of one or two 64-car ferries, receiving only one bid, from Todd Pacific Shipyards (TPS) of Seattle. Todd's proposed bid price was $124.5 million for two ferries and $65.5 million for one ferry. The contract was awarded in December 2008 to TPS to build one 64-car ferry for $65.5 million; the Notice to Proceed was sent to TPS on January 5. The vessel is on an 18-month construction timeline, and construction is scheduled to be complete in summer 2010.

Construction processes and next steps

Todd's main construction subcontractors for the project are Everett Shipyard (for the steel superstructure) and Nichols Brothers Boat Builders of Freeland (for the aluminum pilothouse). The vessel's hull will be constructed at Todd's yard on Harbor Island in Seattle. Nichols Bros. began cutting aluminum in May to begin construction of the pilothouse of the vessel. Everett Shipyard began construction of the steel modules above the car deck in June. Steel for hull construction was delivered to Todd in early June and crews began assembling vessel hull components. The hull of the vessel will begin to take shape in July when the first two keel modules are joined.

The simultaneous construction of the pilothouse, steel superstructure, and hull will continue over the next several months. In early 2010, Todd will roll the hull out of the construction facility into a drydock. The aluminum pilothouse will be transported from Nichols Bros. by barge and attached to the hull.

Then the vessel will be towed to Everett Shipyard for final outfitting. In spring 2010, Todd will spend several weeks testing the vessel, performing dock trials and sea trials. The vessel is scheduled to be delivered to WSF in summer 2010, when WSF will conduct several weeks of crew training and the agency's own sea trials. The vessel will begin service on the Port Townsend/Keystone route in summer 2010.

On July 8, crews placed the first section of the new 64-car ferry's keel into the jig (device that holds the hull during construction). This is the "Number one end" of the new ferry, under construction at Todd Pacific Shipyards in Seattle.

Special Report: Tacoma/Pierce County HOV Program Quarterly Update

I-5/SR 16 Westbound Nalley Valley construction underway

Work on the *I-5/SR 16 Westbound Nalley Valley* project in Tacoma continued this quarter, with work shifting from demolition of the Sprague Avenue ramps and bridges to new roadway construction. WSDOT crews are building a temporary eastbound SR 16 bridge over Nalley Valley to keep traffic moving during viaduct construction.

Progress on I-5/SR 16 Westbound Nalley Valley, since January 2009

14 drilled shaft foundations	380,000 pounds of steel reinforcing bar used
2 bridges demolished	2,000 cubic yards of concrete placed
3 bridge abutments constructed	1,000 tons of hot mix asphalt placed
6 pier caps constructed	5 temporary stormwater treatment ponds constructed
90,000 cubic yards of soil excavated	7,000 linear feet of temporary barrier placed
1,000 linear feet of storm sewer pipe installed	23,000 linear feet of temporary paint line placed
102 piles driven	112 concrete girders fabricated

I-5: Port of Tacoma Road to King County Line HOV project advertised

On June 1, the *Port of Tacoma Road to King County Line HOV* project was advertised, seven weeks ahead of schedule. Bid opening is July 1. The two year construction project will build 5.8 HOV lane-miles in the north/southbound highway median, and pave mainline I-5 between Wapato Creek and the King County line.

Tacoma Nature Center project advertised

This environmental mitigation project was also advertised this quarter. The project will restore wetlands within the Tacoma Nature Center boundaries near Snake Lake in Tacoma, and fulfill WSDOT's environmental mitigation commitments for two construction projects, *SR 16 Union to Jackson Avenue* and *I-5/SR 16 Westbound Nalley Valley*. The project will take about six weeks to complete over the summer. The Tacoma community as well as Nature Center and Metro Parks staff has shown support and interest in this project.

2009 Transportation budget delays construction

The 2009 – 2011 transportation budget has delayed construction of the *I-5: M Street to Portland Avenue – HOV* and I-*5: Portland Avenue to Port of Tacoma Road – Northbound HOV* projects by one biennium each. Due to $70 million in Recovery Act funds for the Tacoma/Pierce County HOV Program, construction of the *I-5/SR 16: Eastbound Nalley Valley* project will remain on schedule. Design work is underway and construction is scheduled to begin immediately after the Westbound Nalley Valley project is complete in 2011.

Progress on the temporary eastbound SR 16 bridge over Nalley Valley.

Project Highlights

Work on the Westbound Nalley Valley project made significant progress this quarter, with construction on a temporary bridge beginning.

The Tacoma Nature Center project will restore wetlands and fulfill WSDOT environmental mitigation commitments for two construction projects.

For more information: www.tacomatraffic.com.

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

Project Highlights

The Hood Canal Bridge replacement project was 97% complete as of June 30, 2009.

Work on the closure phase of the project began May 1 and was complete more than one week ahead of schedule with the bridge reopening to the public June 3.

The total budget for this project is $499 million with an additional $7 million being requested due to unanticipated cost increases.

For more information on this project, visit: www.HoodCanalBridge.com.

WSDOT construction activities at the Hood Canal Bridge are nearing completion. The rebuilt bridge features a wider roadway and state-of-the-art draw span components to improve safety, reliability, and reduce congestion. The bridge closed May 1, 2009 for WSDOT to replace the entire east-half, and the east and west trusses. The closure was originally scheduled for 42 days, three additional days were added due to weather. WSDOT reopened the bridge June 3, more than a week ahead of schedule. West-half electrical retrofitting, not requiring lengthy bridge closures, will be complete by December 2009.

Overall project completion reaches 97%

As of June 30, 2009, the bridge project was 97% complete. The closure phase of the project required careful planning and coordination. Work began May 1 at 12:01 a.m. By May 11, WSDOT had removed the four old east-half pontoon sections and east and west trusses. By May 23, WSDOT had installed and connected three new east-half pontoon sections – some measuring more than three football fields in length – and placed two new trusses, which weigh more than 1.6 million pounds each. WSDOT then set transition spans, and completed electrical connections, post-tensioning and grouting work needed for the required draw span testing.

June 3, WSDOT completed 20 consecutive, error-free cycles of the electrical, mechanical, and hydraulic systems that raise and lower three 100-foot-long steel roadway sections, and retract and extend the bridge's 495-foot-long draw span pontoons. The operation mirrors that of the existing west half: as the lift spans are raised, the draw span is retracted underneath them to create a gap in the bridge. After the vessel has passed, the draw span extends, and the lift spans lower to become a roadway for motorists. The bridge reopened to the public shortly after tests were complete.

Getting around during the temporary bridge closure

Every portion of the Hood Canal Bridge project, from design to construction, has focused on keeping the closure as short as possible. Instead of closing the bridge for the 42-month construction cycle, WSDOT only closed it for five weeks.

WSDOT provided travelers options during the closure. WSDOT's Ferries Division (WSF), helped drivers and businesses by offering a Sunday-Thursday night ferry run between Edmonds and Port Townsend and providing crews for fare-free water shuttles across the Hood Canal. Fare-free transit in Kitsap, Jefferson, and Clallam counties also transported travelers between water shuttle docks, park and rides, and various communities. About 70,000 people used the service during the closure. WSDOT also provided regular project updates and information via a call center, which handled more than 11,000 calls, and the Hood Canal Bridge project web site and blog, which had 510,000 and 110,000 visits, respectively.

Project budget

The Hood Canal Bridge project, including state and federal funds, is budgeted at $499 million. An additional $7 million has been requested due to unanticipated increases in shipyard lease costs, and labor and material costs for construction of pontoons, machinery installation, superstructure work. Increases for electrical work occurred due to labor and overtime costs, and changes to the electrical design. Float-in experienced significant cost increases for additional dive support, equipment, tug support, survey support, and planning operations. Additional efforts by the contractor leading up to and during float-in reduced costs in Closure Mitigation by $2 million.

Watch List: Projects with schedule or budget concerns

WSDOT is committed to frequent and accurate "no surprises" reporting of project performance, emphasizing rigorous analysis while communicating in plain language, unencumbered by jargon or insider terminology. As part of that commitment, WSDOT regularly addresses issues that do, or potentially could, affect a project's schedule and budget: they are outlined here in the Watch List. When these issues are resolved, which may take more than one quarter, the project is removed from the Watch List. If new issues arise, an update to the project will be provided in the Update to Watch List section.

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

The summary on pages 88-89 lists projects currently facing schedule or budget concerns with a reference to these over-arching descriptions; a more detailed description of the precise problem or its resolution appears on the following pages. Still more information is presented on the individual project pages on the WSDOT website at www.wsdot.wa.gov/projects. Projects paid for through Pre-Existing Funds are discussed on page 99.

It is important to note that while the number of projects appearing on the Watch List has grown over time, so have the number of projects under way (we report on the project whether it is under construction or in planning and design phases). By tracking problem projects more closely on the Watch List, WSDOT can keep all its stakeholders informed while evaluating possible solutions.

Environmental

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

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

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

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

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

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

Coordination

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

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

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

Design

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

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

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

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

Utilities

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

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

Right-of-Way

Design changes: Project revisions that may require additional land.

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

Land appreciation: Property value increases that exceed projections.

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

Construction

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

Cost increase of materials: Unit costs may increase beyond the set budget due to fuctuations 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.

WSDOT's Capital Project Delivery Programs

Watch List: Projects with schedule or budget concerns

Watch List summary

Projects with budget and/or schedule concerns

Added to Watch List	Project type	Watch List issue
SR 530/Sauk River Bank Erosion — Realign roadway (Skagit) • SR 530/Sauk River (Site #2) — Stabilize river bank (Skagit)	Highway	Design: alternatives
SR 522/Snohomish River Bridge to US 2 — Add lanes (Snohomish)	Highway	Design: alternatives
Updates to Watch List	**Project type**	**Watch List issue**
SR 285/West end of George Sellar Bridge — Intersection improvements (Chelan)	Highways	Design: increased cost of materials; Right-of-way: land acquisition
US 101/W Fork Hoquiam River Bridge – Replace bridges 101/142, 101/145 (Grays Harbor) (101/145 is 310134B)	Highways	Construction: contractor issues, cost increase of materials
SR 532 Corridor Improvements — Design-build contracts (Island, Snohomish) • SR 532/270th St NW to 72nd Ave NW — Improve safety • SR 532/Sunrise Blvd to Davis Slough — Improve safety • SR 532/General Mark W. Clark Memorial Bridge — Improve safety • SR 532/64th Ave NW to 12th Ave NW — Improve safety • SR 532/General Mark W. Clark Memorial Bridge — Replace bridge	Highways	Environmental: permitting; Right-of-way: land acquisition
SR 305/Unnamed Tributary to Liberty Bay — Fish Passage (Jefferson)	Highway	Coordination: Local concerns
SR 823/Selah vicinity – Reroute highway (Yakima)	Highways	Right-of-way: land acquisition
Stanwood –Siding upgrade (Snohomish)	Rail	Environmental: permitting
New 144-Auto Ferries (King, Kitsap, San Juan)	Ferries	Design: alternatives
Removed from Watch List	**Project type**	**Watch List issue**
SR 285/George Sellar Bridge — Additional eastbound lane (Chelan, Douglas)	Highways	Construction: cost increase of materials
SR 14/ Camas Washougal — Add lanes and build interchange (Clark)	Highways	Environmental: geological, permitting; Design: alternatives
I-5/SR 432 Talley Way interchanges — Build interchanges (Cowlitz)	Highways	Design: design element changes
I-5/Mellen to Grand Mound — Widening, interchange reconstruction (Lewis, Thurston) • I-5/Blakeslee Junction railroad crossing to Grand Mound interchange — Add lanes • I-5/Mellen Street to Blakeslee Junction — Add lanes, interchange improvements • I-5/Mellen Street interchange — Interchange improvements	Highways	Design: alternatives
SR 167/15th Street SW to 15th Street NW — Add HOV lanes (King)	Highways	Construction: weather, contractor issues
SR 167/8th St E vicinity to S 277th St vicinity — Southbound managed lane (King, Pierce)	Highway	Design: design element change, cost increase of materials
I-405/SR 181 to SR 167 — Widening Stage 1 (King) • I-405/I-5 to SR 181 — Widening • SR 167/S 180th St to I-405 — SB Widening	Highway	Construction: timing problems
I-405 / NE 8th St to SR 520 braided ramps — Interchange improvements (King)	Highways	Design: cost increase of materials
I-405/SR 520 to SR 527 — Widening Stage 2 (King)	Highways	Design: alternatives

Watch List: Projects with schedule or budget concerns

Watch List summary

Projects with budget and/or schedule concerns

Removed from Watch List	Project type	Watch List issue
• I-405/NE 124th St to SR 522 — Northbound widening • I-405/NE 132nd St — Bridge replacement • I-405/NE 195th St to SR 527 — Northbound widening		
SR 522 / University of Washington Bothell — Build interchange (King)	Highways	Construction: timing problems
SR 16 Burley-Olalla interchange — Build interchange (Kitsap)	Highways	Construction: timing problems
SR 3 / Belfair area — Widening and safety improvements (Mason)	Highways	Design: alternatives
SR 161/24th Street E to Jovita – Add lanes (Pierce)	Highways	Right-of-way: Land acquisition; Utilities: utility relocation; coordination
SR 9 /212th Street SE to 176th Street SE, Stage 3 — Add lanes (Snohomish)	Highways	Environmental: mitigation; Design: cost increase of materials
SR 9/Lundeen Parkway to SR 92 — Add lanes and improve intersections (Snohomish)	Highways	Environmental: mitigation
SR 203/Corridor safety improvements (Snohomish) • SR 203/Roadside safety improvements • SR 203/Corridor Safety Improvements (King)	Highways	Environmental: permitting
I-5/Grand Mound to Maytown Stage One — Add lanes (Thurston)	Highways	Construction: cost increase of materials, timing problems
US 12/SR 124 intersection — Build interchange (Walla Walla)	Highways	Right-of-way: land acquistion
Vancouver — Rail Bypass and West 39th Street Bridge (Clark)	Rail	Right-of-way: land acquisition
Mount Vernon — Siding improvements (Skagit)	Rail	Design: alternatives
Everett — Curve realignment and storage tracks (Snohomish)	Rail	Environmental: mitigation, permitting
Tacoma — Bypass of Pt. Defiance (Pierce)	Rail	Right-of-way: land acquisition; Design: redesign
Blaine — Custom facility siding (Whatcom)	Rail	Environmental: permitting

Source: WSDOT Project Control & Reporting Office.

Added to Watch List

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

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

This project on the Sauk River, where erosion threatened SR 530, was scheduled in two phases. Phase 1 realigns and moves the roadway away from the river; Phase 2 (SR 530/Sauk River Site #2) stabilizes and restores the riverbank and fish habitat by removing remnants of earlier emergency repairs. The realignment portion was budgeted for $3.7 million, the restoration budgeted for $3.3 million. WSDOT originally planned both phases for advertisement as a single contract, estimated at $7 million, in January 2010.

Phase 2 was accelerated due to an urgent need to preserve the roadway from recurrent flooding (see the *Gray Notebooks* for December 2007, page 20, and March 2008, page 28). This phase was operationally complete in October 2008 at a cost of about $3.3 million (previously reported as $4.5 million in the March 2009 *Gray Notebook*, due to a potential risk to the budget). Phase 2 is now operationally complete and on budget, as the budget risk did not occur. (See pages 44-46 and 78-79 in the December 2008, *Gray Notebook* 32.)

However, both the budget and schedule of the Phase 1 'realign roadway' project are at risk. The current estimated cost is about $7.5 million, $3.8 million more than the $3.7 million remaining in the budget after the completion of Phase 2. This is in part due to a Value Engineering (VE) study, conducted in June 2008, which recommended that WSDOT study the interactions of the roadway and the Sauk River for the entire SR 530 corridor, and craft an alternative design that relocated the roadway away from the river's channel migration zone.

Although the additional funding was requested in the 2009-2011 Legislative budget, the amount was not approved, as the results of the corridor-wide study were not yet known.

Watch List: Projects with schedule or budget concerns

WSDOT proposes to transfer $788,000 from construction to preliminary engineering and right-of-way in order to complete the remaining design and property acquisitions needed to keep the project on track. Additional construction funding will be requested in the 2010 Supplemental budget in order to advertise the project in fall 2010.

The schedule is also at risk. To allow adequate time for the corridor study, the advertisement date for the realignment work has been delayed from January 2010 to October 2010, in turn delaying the operationally complete date from March 2011 to July 2012. WSDOT expects to complete the study in December 2009.

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

This project, originally budgeted for $176.5 million, will construct two new traffic lanes, including five new bridges, to form a four-lane divided highway. The project will improve motorist safety and reduce congestion by doubling capacity from the existing two-lane roadway.

The project is roughly half-way through the design and preliminary engineering phases; the budget and schedule are at risk. WSDOT reported in the December 2008 *Gray Notebook* 32 that risks identified around this complex project included soil liquefaction, impact on wetlands, and potential schedule delays to accommodate fish spawning season, and concluded that the design could not be altered to bring the total cost back within budget while maintaining the project's functional intent. It was then estimated at $3.2 million over-budget.

The current total estimated cost to complete the project is now $204 million, $27.5 million more than originally estimated. In consideration of reduced revenue projections, WSDOT had recommended deferring construction to 2016 in the Governor's 2009-2011 proposed budget. The 2009 Legislature decided not to defer the project and revised the budget to $182.4 million, $21.6 million less than the current project cost estimate. To deliver the project within the 2009 budget, WSDOT will evaluate the current cost-to-complete estimate and prioritize improvements.

The schedule is also at risk. Design work has been curtailed since late 2008 due to limited funding, as well as the assumption that the advertisement date would be delayed to 2016 for budget balancing. WSDOT will need additional time to fully resume design and right-of-way acquisition efforts, and will delay the advertisement date from December 2009 to December 2010. The operationally complete date will be delayed from July 2012 to November 2014.

Updates to Watch List

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

This project, originally budgeted for $16.2 million, will modify the intersection of SR 285 and Mission Street, a major traffic bottleneck. The project will increase the flow through the intersection, reducing travel time and congestion-related collisions on SR 285 and the local road network.

This project is in the design phase; both the budget and schedule have been at risk. As reported in the September 2008 *Gray Notebook* 31, the project's budget was at risk due to rising costs for materials and right-of-way purchases, which were projected to cost $2.3 million more than the budget allocation. The 2009 Legislature approved the increase, increasing the total budget to $18.46 million.

However, the budget continues to be at risk. Right-of-way costs may increase substantially due to right-of-way acquisitions and possible relocations to up to 26 business and residential properties. The full cost of the property impacts will not be completely known until the actual right-of-way negotiations begin for the properties in September 2009.

The schedule adjustment requested and approved by the Legislature delays the advertisement date from October 2010 to October 2011, and the operationally complete date from November 2011 to 2012.

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

This project, budgeted for $5.3 million, replaces two aging bridges that cross the West Fork of the Hoquiam River. The timber bridges were constructed in 1934; they are now structurally deficient due to rot damage and severe weathering.

This project is in the construction phase; the schedule and budget are at risk. Work has not progressed according to the contractor's original schedule because workers and equipment are only available for one bridge site at a time; deliveries of construction materials such as gravel have also been delayed. The budget is at risk due to increased site excavation, construction of temporary retaining walls, and increased materials costs.

The operationally complete date has been further delayed to September 2009. The regional office is monitoring the contractor's progress closely.

Watch List: Projects with schedule or budget concerns

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

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

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

This project is in the construction phase. The schedule and budget are at risk due to ongoing right-of-way acquisition, the environmental permitting process, and utility relocation, although at present, the project remains on schedule to be operationally complete in December 2010.

Design revisions have reduced the number of right-of-way acquisitions needed from 45 to 36; 19 have been acquired, eight are nearing completion, and the remaining nine are in negotiations. The contractor plans to begin construction on sections of the project (on Camano Island, in Snohomish County, and on the bridge) that avoid any incomplete right-of-way parcels to maintain progress.

Work for this project includes several elements that could affect waterways in the vicinity of Stanwood and at the bridge site. To proceed, WSDOT requires permits for in-water work required for bridge footings; a wetland mitigation site is also required. Ongoing coordination with the resource agencies is taking place to ensure the permits for WSDOT's in-water work and the Stillaguamish wetland mitigation site are issued in time for a July 1, 2009, construction start.

The Snohomish County Public Utility District #1 has begun relocating high tension power lines along the north side of the Mark W. Clark Bridge. Relocation of the high tension line and other utilities is expected to be completed by July 1, 2009.

SR 823/Selah vicinity – Re-route highway (Yakima)

This project, originally budgeted for $8.6 million, will provide an alternative route for traffic and commercial trucks around the downtown Selah business district where SR 823 experiences congestion during peak commuting times. The project will also install new traffic signals at the Naches Ave and Fremont Ave intersections and reconstruct Railroad Avenue to improve the freight infrastructure for Selah's fruit processing industries.

This project is in the design phase; both the budget and schedule are at risk. Additional funds were needed to address construction cost inflation and right-of-way costs because the original estimate did not anticipate eliminating parking for commercial and residential properties near the site. The 2009 Legislature addressed the budget risk and increased the project budget by $3 million to $11.6 million.

In addition to requesting an increase to the budget, WSDOT proposed revising the project scope from four lanes to three (two lanes with a central, two-way turn lane), which was also approved by the 2009 Legislature.

WSDOT may delay the advertisement date to allow more time to complete right of way acquisitions, but construction will still begin in spring 2010 as originally planned; the improvements should be open to traffic by summer 2011.

Ferries updates to Watch List

New 144-Auto Ferry

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

This project is in the design phase. The first part of the two-part contract with Todd's Pacific Shipyard (TPS) – to develop a preliminary design technical proposal – was submitted on December 12, 2008. WSDOT's Ferries Division completed the review of the technical proposal on March 20, 2009. As reported in the March 2009 *Gray Notebook* 33, TPS requested delaying the submission of Part 2 – the master construction schedule and price proposal – until after the 2009 Legislative session.

The 2009-2011 budget did not provide funding for Part 2 of the contract. As a result, the overall project schedule is on hold until adequate funds become available to proceed with detailed design and construction. The timing of funding will dictate the project schedule. WSDOT is exploring funding options to allow detailed design to proceed and keep the project moving forward.

The 2009-2011 budget did provide funding to store and maintain the owner-furnished equipment that has been manufactured for the 144-car vessel. The 16-year plan accompanying the budget anticipates starting construction as early as the 2011–13 biennium, if funding is available.

Rail updates to Watch List

Stanwood – New station, siding upgrade (Snohomish)

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

Watch List: Projects with schedule or budget concerns

This project is in the design phase. Construction start and operationally complete dates for the siding extension are at risk. As reported in the March 2009 *Gray Notebook* 33, construction on the siding extension depends on a local road closure and the approval of environmental permits.

Burlington Northern Santa Fe Railroad's (BNSF) petition to close Logan Road was heard by the Washington Utilities and Transportation Commission (WUTC) in March, but the WUTC will not issue a decision until the environmental documentation, including issuance of permits, is completed for the siding extension.

BNSF submitted the wetland permits application to the United States Army Corps of Engineers (USACE), and Washington State Department of Ecology in November 2008. The cultural resource survey completed in January 2009 did not indicate any cultural artifacts. However, the USACE permits have not been issued, which continues to delay construction of the siding extension.

As for the new station, BNSF has agreed to allow construction to begin, but will not allow Amtrak to serve it until the crossing closure is approved and construction of the siding extension can move forward. The station project was awarded in March 2009, but the discovery of contaminated soil on the project site and negotiations with BNSF regarding a shoring plan have caused delays which could affect the September 2009 scheduled completion date.

Since the station will be constructed before the siding extension, WSDOT plans to work with BNSF to allow service at the new station while the siding extension is in design and construction.

Removed from Watch List

SR 285/George Sellar Bridge – Additional eastbound lane (Chelan, Douglas)

This project, originally budgeted for $13.5 million, will add an additional eastbound lane to the George Sellar Bridge that will increase traffic flow on and off the bridge, reducing travel time and associated congestion-related collisions.

The project is now under construction. As last reported in the September 2008 *Gray Notebook* 31, the project's estimated preliminary engineering costs had increased due to more extensive and detailed bridge design than had been anticipated; construction costs had increased due to rising prices for steel and inflation. The advertisement date was delayed to January 2009, which allowed extra time for additional design work, and to purchase railroad easements.

The project was advertised in January 2009 and was awarded to Max J. Kuney Company for $12.9 million, $2.3 million above the engineer's estimate. In June, the 2009 Legislature passed an increase to the budget to cover higher expenses for design, steel, and inflation. Crews began construction on May 11, 2009.

Additional risks to the budget will be managed with $1.4 million in risk reserve savings. The project is back on schedule to be operationally complete in fall 2010.

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

This project, budgeted for $57 million, is intended to improve safety and relieve congestion on SR 14 from 6th Avenue to east of Union Street (SR 500).

The project is in the design phase. As reported in the September 2008 *Gray Notebook* 31, the schedule was at risk due to additional design time and environmental documentation required; the discovery of seismic retrofit and soil liquefaction issues at bridge locations also placed the budget at risk. As part of its Legislative budget approval process, WSDOT presented schedule and scope changes that included design modifications that would reduce project costs, require less construction, and simplify traffic patterns. The modifications nonetheless provided all of the intended safety improvements and 20 years of mobility needs (full details are available on line at http://www.wsdot.wa.gov/projects/sr14/camaswashougal/).

The proposed design and schedule changes were approved by the 2009 Legislature during the transportation budget review, and this project's budget and schedule issues have been resolved. The project is on schedule for its January 2010 advertisement date.

Talley Way Interchanges – Rebuild interchanges (Cowlitz)

This project, budgeted for $45 million, will reconstruct two closely spaced I-5 interchanges, at SR 432 and adjacent Talley Way, which experience congestion and operational problems. The project will improve safety, create improved connections between two existing roads, and decrease congestion.

The project is in the design phase and the project schedule has been at risk. The current design includes private access road work that would be required as part of a proposed adjacent development. WSDOT expects to finalize an agreement with the developer of the adjacent property before the end of the next quarter. The environmental concerns have been addressed and resolved so that permits can be updated to include the

Watch List: Projects with schedule or budget concerns

additional access road work. The permitting updates could take up to six months to be reviewed and approved; the advertisement date may be delayed from July 2009 to September 2009. An update will be provided if necessary.

SR 305/Unnamed Tributary to Liberty Bay – Fish passage (Jefferson)

This project, budgeted for $1.8 million, replaces an existing drainage structure at milepost 9.6 on SR 305 that restricts the passage of fish at spawning season.

This project is in the design and planning phase; it is at risk for a schedule delay and a cost increase. For construction efficiencies, it will be combined with another fish-passage remediation project at milepost 9.8, which is funded through pre-existing funds (PEF).

The original construction plan for this project was to close SR 305 and replace the drainage system under the road with open cut construction. The City of Poulsbo is concerned about closing SR 305 during the summer, which might also affect city and county roads that will be used as detours for highway traffic.

The 2009 Legislature has directed WSDOT to evaluate a bore construction method for the fish passage project at milepost 9.8, and to consider other safety and congestion improvements that might be made at the same time. To allow time to study the new requirements on the linked project, the advertisement for this project will be delayed until 2010.

I-5/Mellen Street to Grand Mound (Lewis, Thurston)

Related projects:

I-5/Blakeslee Junction Railroad Crossing to Grand Mound interchange – Add lanes (Lewis, Thurston)

I-5/Mellen Street to Blakeslee Junction – Add lanes (Lewis)

I-5/Mellen Street Interchange – Interchange improvement (Lewis)

This project, originally budgeted for $197 million, will improve safety and traffic flow by adding lanes and reconstructing interchanges on I-5. It is in the design phase, and will be delivered as three projects. The risks to the overall project schedule noted in the September 2008 *Gray Notebook* 31 have been resolved.

Design changes to the 'Mellen Street to Blakeslee Junction' segment, proposed to the 2009 Legislature, have been approved. These changes mean that WSDOT will construct a separate 'collector distributor' lane between the existing Mellen Street and Harrison Avenue interchanges instead of adding an additional general purpose lane in each direction. However, north of Harrison Avenue, I-5 will be widened from two lanes to three lanes in each direction.

In addition, advertisement and construction on the first phase – 'Blakeslee Junction to Grand Mound' – will be moved from 2009 to 2010. The benefits of this delay include eliminating a construction overlap with the ongoing 'I-5/Grand Mound to Maytown' widening project to the north of this project and allowing more time for negotiations and property acquisitions with railroads, tribes, and private parties. Advertising earlier in the calendar year will allow more work to be completed in the first construction season.

SR 167/15th St SW to 15th St NW – Add HOV lanes (King)

This project, budgeted for $42.3 million, built substantial improvements to SR 167 between the cities of Auburn and Renton. Improvements are intended to relieve congestion, increase capacity, and provide a travel time advantage to transit and HOV traffic.

This project was operationally complete in October 2007. As reported in the March 2009 *Gray Notebook* 33, the budget was at risk due to contractor claims. WSDOT has now paid an equitable adjustment of $2 million to the contractor for cost impacts from schedule delays and the fragmentation of contract work. An approved project change request of $1.8 million, combined with $200,000 in project savings, paid for the $2 million equitable settlement increase. The final cost of the project is $44.1 million.

SR 167/8th St East vicinity to South 277th St vicinity – Southbound managed lanes (King, Pierce)

This project, budgeted for $80 million, will construct a southbound high occupancy vehicle (HOV) lane from where it currently ends in the vicinity of Auburn to Pierce County, construct an auxiliary lane, and install ramp meters and signals. A drop lane will be constructed from the vicinity of 3rd Avenue SW to the 8th St E interchange. This project will improve mobility, traffic operation, and safety by and reducing congestion on SR 167.

The project is in the design phase. As reported in the September 2008 *Gray Notebook* 31, WSDOT requested an increase in the 2009 budget to cover rising costs for construction materials and a scope change to construct a southbound High Occupancy Toll (HOT) lane instead of an HOV lane. Although the request was for a $3.5 million increase, the Legislature approved a $2 million budget increase, and continuing construction was made contingent upon the success of the SR 167 HOT Lane Pilot project.

In February 2009, a performance update of the HOT Lane Pilot Project was delivered to the Washington State Transportation

Watch List: Projects with schedule or budget concerns

Commission, with monitoring and evaluation to continue through 2009; an annual report will be delivered at the end of July. WSDOT will continue to monitor the ridership and toll usage of that project.

I-405/SR 181 to SR 167 – Widening Stage 1 (King)

Related projects:
I-405/I-5 to SR 181 – Widening
SR 167/S 180th St to I-405 - Southbound widening

This project, budgeted for $180 million, will construct one lane on I-405 in both directions from I-5 to SR 167, one lane southbound on SR 167 from I-405 to SW 41st Street, and extend the southbound SR 167 High Occupancy Vehicle Lane (HOV) to I-405. This project includes construction elements from several different projects, which when completed will relieve congestion and increase safety by reducing traffic weaves.

This project is in the construction phase. As reported in the September 2008 *Gray Notebook* 31, the contractor has implemented an aggressive construction schedule, intending to complete the majority of construction work in spring 2009. Due to a very rainy spring, the contractor did not meet that schedule but is now back on track to complete in fall 2009, nearly one year earlier than originally planned. As a result, $13.5 million of expenditures will be advanced from the 2010 construction season to the 2007-2009 biennium. This cost increase was included in the 2009 Transportation budget passed by the Legislature.

I-405/NE 8th St to SR 520 – Braided ramps (King)

This project, originally budgeted for $255 million, will construct on- and off-ramps on I-405 northbound to relieve traffic weaving and congestion in the vicinity of downtown Bellevue and the I-405/SR 520 interchange. When completed, the project will improve safety by reducing congestion on the ramp weaves and improving vertical clearance at the NE 12th Street bridge.

The project is in the design phase. The September 2008 *Gray Notebook* 31 reported a $22 million cost increase due to higher design and construction costs for retaining walls and structures to meet new national seismic design criteria. Other causes included larger stormwater detention facilities, right-of-way acquisition, and higher inflation cost projections.

In March, the project received $30 million in Recovery Act funding, which allowed the project to advertise for construction bids on March 30, 2009. Without this funding, the project would have been delayed one year due to budget constraints. The project is scheduled to be operationally complete in December 2012.

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

Related projects::
I-405/NE 124th St to SR 522 – Northbound widening
I-405/NE 132nd St – Bridge replacement
I-405/NE 195th St to SR 527 – Northbound widening

The project, originally 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 add a northbound lane 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 in the design phase. As reported in the September 2008 *Gray Notebook* 31, the project schedule and budget were at risk due to higher construction costs for retaining walls and bridge design revisions required to meet the new national seismic design criteria.

After receiving $40 million of American Recovery and Reinvestment Act (Recovery Act) funds, WSDOT was able to separate out and advance the "I-405 /NE 195 to SR 527 Northbound Widening" project as a stand-alone project. It was advertised on May 6, 2009 with construction expected to begin in August 2009; and the planned operationally complete date is December 2010. Without the Recovery Act funding, this project would have been delayed at least two years.

To balance statewide needs with available revenue, the 2009 budget, passed by the Legislature, delayed construction of the remaining Kirkland Stage 2 projects by two years and provided funding needed for the projects. WSDOT will continue design modifications and look for further opportunities to reduce construction costs and bring the total project cost within the 2009-2011 biennial budget.

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

This project, budgeted for $47.1 million will construct a new interchange on SR 522 to provide access to the new University of Washington Bothell/Cascadia Community College joint campus. The work includes a new signalized intersection at Woodinville Drive at Brackett's Landing, a new bridge over this intersection and a wider off-ramp (two lanes) to westbound SR 522. The project will improve motorist safety and address increased traffic volumes.

This project is in the construction phase. The $11.6 million 2007-2009 spending increase reported in the September 2008 *Gray Notebook* 31 was approved in the 2009 budget. An

Watch List: Projects with schedule or budget concerns

additional $7.3 million of construction work will be advanced from 2009-2011 to 2007-2009. WSDOT has reported this change in spending to OFM and will include it in the 2010 Supplemental Budget. The project is expected to be operationally complete in October 2009, eight months ahead of schedule.

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

This project, budgeted at $24.2 million, constructs a new interchange on SR 16 to improve safety at this high accident location.

This project is in the construction phase; the budget is at risk. The contractor has worked faster than anticipated to provide a detour for the traffic on SR 16. To resolve the budget issue, Nickel funds in the amount of $3.7 million have been advanced into the 2007-2009 biennium. The request will be incorporated in the 2010 Supplemental budget.

Because the construction of the overpass structure occurs in the median, this project can be completed in one construction season. The project remains on schedule.

SR3/Belfair area – Widening and safety improvements (Mason)

This project, budgeted at $18.6 million, will relieve congestion and enhance motorist/pedestrian safety with continuation of the two-way left-turn lane from the vicinity of SR3 and Romance Hill Road to SR 3 and SR 106. Other improvements include pedestrian and bicycle facilities, and stormwater management and mitigation requirements.

This project is in the design phase; the budget is at risk. As reported in the September 2008 *Gray Notebook* 31, WSDOT conducted a cost risk assessment in July 2008 and determined the project required about $7 million in additional funds to complete the project as originally defined, for a total of $25.4 million.

As an alternative to the $25.4 million project, WSDOT proposed reducing the project scope, that would complete all the two-way left-turn lane construction as described in the original scope; reducing the project length from 2.2 miles to 1.4 miles; and deferring the pedestrian/bicycle work to a future still-undefined project. The advertisement date would move to July 2012, with construction in the 2011-2013 biennium. This proposal will be included in the 2010 Supplemental budget.

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

This project, budgeted for $32.5 million dollars, will improve mobility in a busy section of SR161 in the City of Edgewood. WSDOT will widen the roadway to five lanes (including a two-way left-turn lane) and add a new traffic signal at 16th Street East. WSDOT will also work with the City of Edgewood's proposed enhancements, which include wider sidewalks with plants, lighting, and city gateway signing. When completed, it will reduce congestion and allow safer, more efficient movement of people and vehicles.

The project is in the design phase. The budget and the schedule are at risk. Several items jeopardizing the budget and schedule include right-of-way acquisition which may include multiple condemnations and a $4.6 million increase, multiple utility relocations, and incorporating City of Edgewood's streetscape enhancements. The advertisement for October 2009 may be delayed. WSDOT is working toward resolution with local stakeholders and further updates will be provided when more information becomes available.

SR 9/212th St SE to 176th St SE, Stage 3 – Add lanes (Snohomish)

This project, originally budgeted for $81.6 million, will widen SR 9 from two lanes to four lanes, including a raised median; sidewalks will be constructed at selected locations on both sides of SR 9. When completed, this project will reduce congestion and improve safety in a High Accident Corridor.

The project is in the design phase. The September 2008 *Gray Notebook* 31 reported that both the budget and the schedule were at risk, and listed many of the recommendations made in an August 2008 value engineering study to reduce its total cost. After implementing the value engineering recommendations and working with Snohomish County to resolve wetland mitigation site issues, the cost increase was reduced to $5.6 million over budget, primarily due to rising prices for construction material and fuel. The cost increase was included in the 2009 Transportation Budget passed by the 2009 Legislature.

The Legislature also approved delaying the project's advertisement and operationally complete dates, to allow WSDOT more time to find a suitable wetland mitigation site and acquire right-of-way parcels. The ad date has been delayed four months, from November 2010 to March 2011, with the planned completion date delayed two months, from June to August 2013.

SR 9/Lundeen Parkway to SR 92 - Add lanes and improve intersections (Snohomish)

This project, budgeted for $34 million, will add new north and southbound through lanes to SR 9 between Lundeen Parkway and SR 92, adding turn lanes as needed, and upgrading traffic signals and lighting at three intersections. When completed, it will improve safety and traffic flow.

The project is in the design phase; schedule and budget risks

Watch List: Projects with schedule or budget concerns

reported in the March 2009 *Gray Notebook* 33 have been resolved.

To reduce disruptions to the nesting activities of protected migratory bird species, WSDOT is giving highest priority to acquiring the right-of-way for land within the project site. This will allow WSDOT to advertise the project early to ensure the contractor has enough time to remove trees from the construction site by April 1, 2010. If the project is not ready to advertise early, WSDOT will form a separate small contract to speed land clearance.

The owner of the Snohomish Mitigation Bank (see page 93, *GNB* 33) is addressing compliance issues with the regulatory team that suspended wetland mitigation credits. WSDOT expects the wetland mitigation credits will be available in time for the environmental permits to be issued prior to advertisement.

SR 203/Corridor safety improvements (Snohomish, King)

Related projects:
SR 203 Roadside Safety Improvements (Snohomish, King)
SR 203/Corridor safety improvements (King)

This project, budgeted for $3.1 million, will address safety improvements along more than six miles of SR 203 between the King County line and Monroe in Snohomish County. Project elements include intersection improvements, removing fixed objects, as well as installing new guardrail, shoulder rumble strips, pavement markings, lighting, and signage. These improvements will enhance motorist safety by reducing the number and severity of collisions on this section of roadway.

This project is in the design phase. The seven-month advertisement delay reported in the March 2009 *Gray Notebook* 32 due to permit approval issues was approved by the Legislature and is reflected in the 2009 Transportation Budget.

I-5/Grand Mound to Maytown Stage One – Add lanes (Thurston)

This project, budgeted at $95 million, will construct one additional northbound lane and southbound lane from south of the US 12 at Grand Mound Interchange to the interchange at Maytown. Work will include replacing several bridges and extending both on- and off-ramps for improved safety.

This project is in the construction phase; the budget has been at risk. As reported in the March 2009 Gray Notebook 33, earlier reports anticipated escalation in oil costs, affecting fuel and oil for asphalt, might increase project costs by $3 to $4 million. Only part of this risk has been realized, since fuel prices are lower this year.

The contractor continues to make good progress and has planned on an accelerated construction schedule through 2009.

US 12/SR 124 Intersection – Build interchange (Walla Walla)

This project, originally budgeted for $26.8 million, will build a new interchange and bridge to replace two existing intersections. Removing the signal-controlled intersections will improve safety by minimizing conflicts between high-speed through traffic and local traffic, reduce congestion, and enhance the area's economic vitality.

As reported in the September 2008 *Gray Notebook* 31, WSDOT was engaged in evaluating and acquiring land for exchange with McNary National Wildlife Refuge. WSDOT has now acquired a parcel that meets the needs of the Refuge and is working on the land exchange with U.S. Fish & Wildlife Service. Negotiations on other parcels of land needed for the project are proceeding and no further problems are anticipated.

The 2009 Transportation Budget increased funding for this project by $2.7 million to $29.5 million to cover inflation and additional expenses associated with the land exchange purchase.

Rail projects removed from Watch List

Vancouver – Rail bypass and West 39th St Bridge (Clark)

This project, originally budgeted for $115 million, is in two stages. The first, new passing tracks, will allow passenger trains to bypass freight trains, reducing congestion and improving schedule reliability. The second, a bridge over the railroad tracks at West 39th Street, will enhance vehicle and pedestrian safety. As last reported in the September 2008 *Gray Notebook* 31, the project's budget and schedule were at risk.

The first stage of the rail project, a $20 million contract constructing passing tracks on the west side of the mainline, is now under way. The contract for the second stage was awarded April 13 and began construction in May, with an estimated completion date of summer 2011. The 2009 Legislature added an additional $35.3 million to the previous budget of $115 million to cover increases in the cost of construction materials, most notably steel and earthwork, for a total revised budget of $150 million; however, not all funds are allocated for the 2009-2011 biennium.

In order to balance the budget with available revenues, the 2009 Legislature deferred some funding from the 2009-11 biennium to the 2011-13 biennium, resulting in an additional nine month delay. The department is applying for Recovery Act high speed passenger rail funds, to accelerate work on the project and mitigate the delay.

This delay has affected the schedule: the advertisement date for the bridge has been delayed to January 2009 to obtain the

Watch List: Projects with schedule or budget concerns

necessary construction and maintenance agreement with BNSF. The remaining rail work, which must be completed after the bridge is constructed, will not be completed until spring 2013 unless Recovery Act funds are received, which may allow completion as early as summer 2012.

Mount Vernon – Siding improvements (Skagit)

This project, budgeted for $3.8 million, extends an existing Burlington Northern Santa Fe (BNSF) rail siding to avoid rail traffic conflicts, allowing the southbound train from Bellingham to depart earlier in the day.

This project is in the design phase; as reported in previous Gray Notebooks, the budget and schedule have been at risk. In 2008, BNSF estimated the project cost at $4.8 million, which is $1 million over budget due to increased signal costs. To work within available funds, current plans are to construct only the Hickox Road crossing closure during the 2009-2011 biennium, which will cost $400,000. The remaining work is scheduled to be completed during the 2011-2013 biennium, which will give BNSF time to secure the additional funding to complete the project.

Everett – Curve realignment and storage tracks (Snohomish)

This project, budgeted for $14 million, will realign curves to improve speeds for passenger service on the Seattle–Vancouver, B.C., route.

This project is in the design phase; as reported in previous *Gray Notebooks*, the budget and schedule have been at risk. Both BNSF and WSDOT met on May 11, 2009, and agreed to proceed with the construction of this project with the current authorized budget. Due to the anticipated length of negotiation, this project will not have an 'Industry Standard Performance Agreement' applied to the contract.

WSDOT requested $2.2 million, but received $1.2 million, from the 2009 Legislature to cover the potential risk involving adverse soil conditions or contamination. Due to the nature of the risk, WSDOT will request $1.0 million in the 2010 Supplemental budget.

In order to complete this project, BNSF will need to fill wetlands on their property. All necessary permits have been received for this project to move forward.

Tacoma –Bypass of Point Defiance (Pierce)

This project, originally 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* schedule between Seattle and Portland by six minutes.

As last reported in the September 2008 *Gray Notebook* 31, this project's budget and schedule have been at risk. As part of its budget request, WSDOT proposed deferring the completion date of the project from 2013 to 2015. Due to inflation, the approved 2009 Transportation Budget allows $99.9 million. The 2009 Legislature also decided to extend the project schedule to 2019 to balance to available revenue.

WSDOT will also apply for federal Recovery Act high speed passenger rail funds. If the project is funded this way, WSDOT believes the project can be completed by 2013 for about $75 million. The Pacific Avenue grade-separated crossing will also apply for Recovery Act funds.

A portion of this project, budgeted at $9.2 million and constructed in conjunction with Sound Transit, began work in June. This related project constructs the track needed for Amtrak *Cascades* service in the vicinity of the Sound Transit's station in Lakewood; it will reduce the need to reconstruct track in the future when the state project moves forward.

Blaine – Custom facility siding (Whatcom)

This project, budgeted for $6 million, will construct additional rail line capacity to accommodate customs and security needs, while reducing congestion and delays for freight and passenger trains on the main line.

The project is in the construction phase, its schedule and budget have been at risk. As reported in the March 2009 *Gray Notebook* 33, BNSF and WSDOT were negotiating possible changes to the project's scope to remain within budget. The original plan was to construct a new main line east of the existing main line, shifting the exiting east side siding, and converting the existing main line into a second siding. BNSF has now adjusted its design plans to complete construction on three tracks, but not to construct the new main line until additional funding is provided. Other design changes have reduced the wetland mitigation needed for the project. All permits needed for construction of the sidings have now been received.

BNSF advertised for contract bids shortly after receiving the construction task order from WSDOT, allowing construction to begin in May; depending on the contractors' schedules, work may be completed sooner than the anticipated April 2010 completion date.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF) Programmatic Reporting

The Pre-Existing Funds (PEF) program funds a wide variety of capital projects to improve the safety, functionality, and longevity of the state highway system. Unlike Nickel and Transportation Partnership Account (TPA) projects, which are fixed lists of projects set by the Legislature and funded with a line item budget for each individual project, PEF projects are funded at the program level. Funding is aligned to commitments to address set priorities such as preserving pavement each biennium. Each biennium, new PEF projects are programmed based on prioritized needs and available funds, and the list of PEF projects changes each biennium.

Examples of PEF projects include: pavement preservation and repaving, bridge repairs and replacement, slope stabilization, safety projects such as cable median barriers and rumble strips, environmental retrofit to improve fish passage and stormwater management, and preservation of facilities associated with the highway system such as rest areas.

PEF performance is reported at two levels

Six individually tracked projects

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

All other projects

WSDOT reports on:

- Achievement of project milestones by type of project, see page 99.
- Actual versus planned cash flow for the overall PEF program, see page 100.
- Before & After results for selected types of projects. Examples include highway safety (see pages 5-11) and highway corridor safety projects (pages 12-14).

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

Project description	First legislative budget & *year*	Baseline current legislative approved & *year*	Scheduled date to begin preliminary engineering		Scheduled date for advertisement		Scheduled or actual date to be operationally complete
			Date	On time	Date	On time	
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 vicinity to SR 204 vicinity – Bridge rehabilitation		$10.8 *2007*	Jul-06		Feb-07		Sep-07
• 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	√	Nov-08
SR 28/E End of the George Sellar Bridge — Construct bypass (Douglas)	$9.4 *2004*	$22.9 *2007*	May-04	√	Jul-10	Late	Dec-11
The construction phase has been delayed to balance the financial plan for the 2009-11 biennium budget process.							
US 101/Purdy Creek Bridge — Replace bridge (Mason)	$6.0 *2004*	$15.1 *2007*	Aug-04	√	May-08	Late	Sep-09
Advertisement delayed due to additional design needed to bring plans up to WSDOT Standards when they were returned from the consultant.							
SR 303/Manette Bridge Bremerton vicinity — Replace bridge (Kitsap)	$25.5 *2002*	$69.0 *2007*	Sep-96	√	Mar-10	√	Jun-13
Construction phase has been delayed to balance the financial plan 07-09 biennium Legislative book.							

Source: WSDOT Project Control and Reporting Office.

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

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

Number of projects with these milestones, 2007-09 biennium to date (June 30, 2009); dollars in millions

	Begin engineering		Advertised for bids		Operationally complete		Expenditures	
Programmatic categories*	**Planned**	**Actual**	**Planned**	**Actual**	**Planned**	**Actual**	**Planned**	**Actual**
Pavement preservation	85	91	127	133	154	143	$239	$223
Bridges (preservation/replacement)	30	29	46	36	35	33	$127	$89
Slope stabilization	13	16	19	19	20	22	$34	$33
Safety (roadside, rumble strips, median cross-over, etc.)	31	33	47	44	59	53	$103	$91
Environmental retrofit (fish passage improvement, stormwater runoff)	8	8	9	7	8	9	$14	$12
Other facilities (rest area, weigh stations, etc.)	7	9	23	19	39	38	$258	$184
Totals	**174**	**186**	**271**	**258**	**315**	**298**	**$774**	**$631**

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.

Watch List concerns for the six individually tracked PEF projects

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

This project, one of three involving the George Sellar Bridge, is budgeted for $22.9 million. It will construct a bypass route for southbound traffic, to improve capacity overall and reduce accidents at the east end of George Sellar Bridge.

The project also includes funding for a pedestrian tunnel to reach Columbia River amenities.

The project is in the design phase; as reported in the December 2008 *Gray Notebook*, the budget and schedule were at risk. The budget increase of $6.4 million and the nine month advertisement delay were included and approved in the 2009 Transportation Budget.

WSDOT's Capital Project Delivery Programs

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

261 PEF projects advertised as of June 30, 2009

The 2007-09 Highway Construction Program includes a commitment to advertise 276 Pre-Existing Funds (PEF) projects in the current biennium. Of the 276 PEF advertisements planned through the eight quarters ending June 30, 2009, 261 projects were advertised, 42 were deferred to future biennia and one project was deleted.

Of the 31 planned PEF advertisements scheduled for this quarter, 14 were advertised as scheduled. Twelve have been deferred to a future biennium, and none were deleted. In addition, 19 emergent, 10 previously delayed, and three advanced projects were advertised in the quarter.

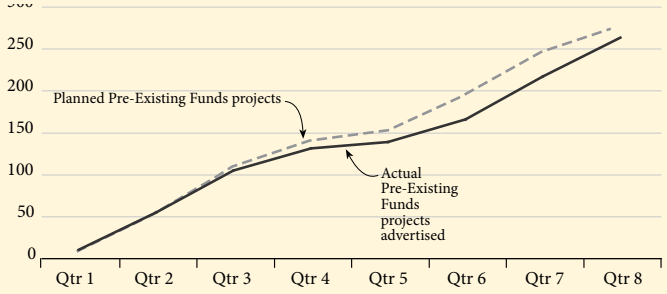
Pre-Existing Funds projects: Biennial progress
July 1, 2007 through June 30, 2009; dollars in millions

WSDOT total award estimate*:	$486.7
Actual total award amount*:	**$416**
Projects advertised (see page 103 for definitions)	
As scheduled	191
Early	18
Late	27
Emergent	25
Total projects advertised 2007-June 30, 2009	**261**
Projects delayed (delayed within the biennium)	0
Projects deferred (delayed out of the biennium)	42
Projects deleted	1

Data Source: WSDOT Project Control & Reporting Office.

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

Pre-Existing Funds projects construction program
Planned vs. actual number of projects advertised
2007-2009 biennium, quarter ending June 30, 2009



Data Source: WSDOT Project Control and Reporting Office.

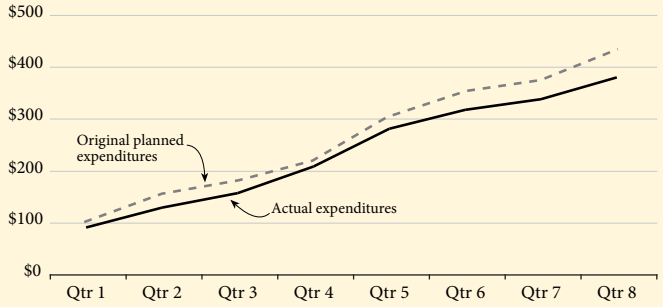
Paying for the Projects: Financial Information

WSDOT submitted an expenditure plan to the Legislature for the eighth quarter of the biennium totaling approximately $774 million. As of June 30, 2009, actual expenditures totaled $631 million, a variance of about $143 million, or 19%, from the biennium plan. The variance for the Highway Construction Program was divided between the Improvement and Preservation programs.

The Preservation Program planned cash flow was $430 million, and actual expenditures were $377 million. This was $53 million under plan, or 12%.

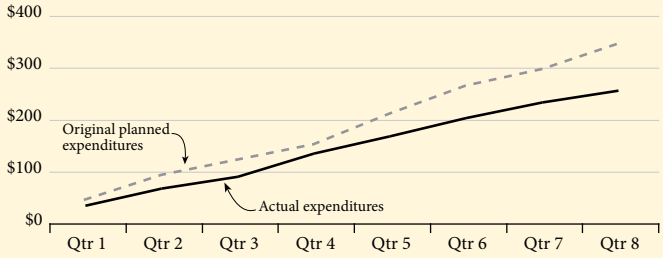
The Improvement Program planned cash flow was $344 million, and actual expenditures were $254 million. This was approximately $90 million under plan, or 26%.

Pre-Existing Funds preservation program cash f ow
Planned vs. actual expenditures
2007-2009 biennium, quarter ending June 30, 2009
Dollars in millions



Data Source: WSDOT Project Control and Reporting Office.
Note: As of quarter five (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 f ow
Planned vs. actual expenditures
2007-2009 biennium, quarter ending June 30, 2009
Dollars in millions



Data Source: WSDOT Project Control and Reporting Office.
Note: As of quarter five (July 1 - Sept 31, 2006), Original Planned Cash Flow values have been updated based on the 2006 Supplemental Budget.

Pre-Existing Funds (PEF) Projects: Advertisement record

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

April 1 – June 30, 2009

Project description	Advertised as scheduled
I-5/Chamber Way vicinity to Harrison Ave vicinity — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-5/Downtown Seattle area sign structure replacement The construction has been deferred to balance the financial plan for the 2009-11 biennium budget process.	Deferred
I-5/Kalama River Road vicinity to SR 432 — Safety improvements	Deferred
I-5/Koontz Rd to Chamber Way vicinity — Paving	√
I-5/Koontz Rd to Chamber Way vicinity — Safety	Deferred
I-5/Martin Way — Bike lanes	√
I-5/Marysville to Stillaguamish River — Intelligent Transportation System work (ITS) Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-5/Marysville to Stillaguamish River vicinity — Median barrier	√
I-5/North Kelso to Castle Rock — Concrete pavement rehabilitation	√
I-5/North Kelso to Castle Rock Stage 2 — Concrete pavement rehabilitation Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-5/Puyallup River Bridge to King county line — Paving Project was tied with I-5 HOV widening project; hence this paving project will be completed last.	Late
I-5/SR 532 vicinity to Starbird Road vicinity — Concrete pavement rehabilitation Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-5/Todd Rd to Kelso Weigh Station vicinity – Paving	Deferred
I-5/Tumwater Blvd Northbound on ramp intersection — Safety	√
I-82/Granger to W Grandview — Westbound dowel bar retrofit and concrete pavement rehabilitation Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-82/Naches River Bridge — Bridge structure repair Project added to repair bridge trusses damaged after an over-height load on a truck struck them.	Emergent
I-90/Lake Easton vicinity to Bullfrog Rd I/C vicinity westbound — Replace concrete Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-90/Moses Lake — Paving Project has been advanced as part of the American Recovery and Reinvestment Act.	Advanced
I-90/Snoqualmie Summit to Hyak westbound — Dowel bar retrofit and concrete pavement rehabilitation Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
I-90/Spokane Viaduct to Sprague Ave I/C — PCCP (concrete pavement) rehabilitation	Early
I-90/Urban Ramp Project — Paving	Early
I-90/Urban Ramp Project — Safety improvements	Early
SR 100/SR 100 Including Spur — Chip seal Advertisement date deferred two years to offset construction cost escalation and keep budget in balance.	Deferred
SR 103/Jct US 101 to Stackpole Road — Paving	Early
SR 107/Chehalis River Bridge — Bridge scour Extent and cost for this project allowed WSDOT to assign the work to state forces.	Late
SR 122/US 12 to Mossyrock — Chip seal	Deferred
SR 14/Cliffs Rd vicinity to Chamberlain/Goodnoe Rd — Chip seal Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
SR 155/Omak Eastward — 2009 Seal, Stage 2 Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds (PEF) Projects: Advertisement record

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

April 1 – June 30, 2009

Project description	Advertised as scheduled
SR 16/Tacoma Narrows Bridge Phase 1 — Electrical Advertisement date changed to wait to coincide with the old bridge closure; date to be determined.	Deferred
SR 18/Green River (Neely) Bridge — Painting The construction has been deferred to balance the financial plan for the 2009-11 biennium budget process.	Deferred
SR 2/Monroe City Limit to Sultan — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
SR 206/Jct US 2 to Bruce Rd — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
SR 21/Curlew Creek — Culvert Replacement WSDOT has reprioritized and deferred the project.	Deferred
SR 243/Mattawa vicinity — 2009 Seal, Stage 2 Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
SR 26/Reynolds Road — Intersection improvements Project added to construct left turn channelization to reduce accidents at intersection.	Emergent
SR 262/Potholes Reservoir Area — 2009 Seal, Stage 2 Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
SR 4/Skamokawa to Coal Creek Rd — Paving	√
SR 410/Clay Creek — Outfall washout repair Project advertisement is delayed due to challenges with obtaining tribal concurrence for scope of work and needed environmental mitigation.	Late
SR 509/City Waterway Bridge — Turnback agreement Project has been delayed to allow the city of Tacoma time to secure funds to rehabilitate the bridge rather than remove it.	√
SR 509/F B Hoit Bridge — Bridge painting	√
SR 509/Joes Creek Bridge — Bridge painting	√
SR 542/North Fork Nooksack River Bridge — Painting	√
SR 7/Morton to Nisqually River Bridge — Chip seal with paving	Deferred
SR 8/Elma Rest Area — Paving	Late
SR 8/S of Mox Chehalis Rd E to N of Cooper Rd — Chip seal	Late
SR 9/Snohomish River Bridge — Painting The construction has been deferred to balance the financial plan for the 2009-11 biennium budget process.	Deferred
US 101/ Astoria-Megler Bridge – North end painting	Late
US 101/Crosby Blvd/Cooper Point Rd interchange — Widen roadway	Early
US 101/Lost Lake Bridge — Seismic retrofit	Deferred
US 101/SR 6 to Grays Harbor county line — Paving	√
US 12/3rd St Elma vicinity — Seismic retrofit	√
US 12/Naches to PP&L Spillway — Paving	Advanced
US 12/Naches vicinity — Paving	Advanced
US 12/Touchet River Bridge at Touchet	√
US 195/Jct SR 271 to Cornwall Rd — Centerline rumble strips	Late

Project was originally delayed to combine with another project for the benefits of economy of scale. After the Recovery Act funds were made available, the project was delayed to combine two Recovery-Act funded sections for expected better bids from a larger project and administration efficiencies from having one contract rather than four separate contracts.

Pre-Existing Funds (PEF) Projects: Advertisement record

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

April 1 – June 30, 2009

Project description	Advertised as scheduled
US 2/Jct SR 211 to Newport — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
US 2/Wilbur pedestrian improvements — Safety As costs escalated, the project was put on hold until the City of Wilber could provide additional funds. ARRA funds were made available for the funding shortfall, and the project went on Ad seven months late.	Late
US 395/Jct SR 292 to Colville — Centerline rumble strips	√
US 395/Loon Lake to Immel Rd — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
US 395/Spokane county line to Loon Lake — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
US 97/Centerville Rd vicinity to Bickleton Rd Br & Satus Pass vicinity — Paving Emergent project added as part of the American Recovery and Reinvestment Act.	Emergent
Olympic Region Centerline Rumble Strips 2008 — Safety	Late
Southwest Region Chip Seal — Roadway preservation	Late

Source: WSDOT Project Control and Reporting Office.

A glossary of PEF advertisement terms

Advertisement date
The date that WSDOT schedules to publicly advertise a project for bids from contractors. When a project is advertised, it has a completed set of plans and specifications, along with a construction cost estimate.
A √ mark in the Advertisement record indicates that a project advertised on time within the quarter.

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

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

Late
A project that was advertised in the period being reported but which missed the original ad date.

Emergent
A new project that addresses unexpected needs such as emergency landslide repair.

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

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

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

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

Cross Cutting Management Issues

Utilities

Utilities Highlights

Between January 1 and June 30, 2009, 29 Nickel and TPA-funded projects were advertised.

Twenty-two of the 29 projects were assigned Risk Level 1, the lowest possible rating.

Of the Nickel and TPA-funded projects, one projects was assigned Risk Level 2, and six projects were assigned Risk Level 3.

In addition, five PEF-funded projects were assigned a Risk Level higher then 1: one Risk Level 2 and four Risk Level 3.

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 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.

WSDOT tracks utility risks for all Nickel, Transportation Partnership Account (TPA) and Pre-existing Funds (PEF) projects. The three risk levels are described in the table below There were 29 Nickel and TPA-funded projects advertised between January 1 and June 30, 2009. Of these projects, 22 were assigned the lowest utilities risk, Risk Level 1, the same number in the previous six month report (See page 100 of the December 30, 2009 *Gray Notebook*). The remaining seven projects include one assigned Risk Level 2, and six assigned Risk Level 3.

In addition, five PEF projects were advertised in the six month reporting period with Risk Levels 2 and 3: one with Risk Level 2 and four with Risk Level 3. For more information about PEF advertisements, please see pages XX.

Utilities risk levels for advertised Nickel and TPA projects

Level	Description	Jul-Dec 2008	Jan-Jun 2009
1	Low - Utilities have been relocated, and/or are clear of construction	22	22
2	Moderate - Utility companies are actively pursuing relocation and the department has assurances the utilities will be clear by the date bids are opened.	1	1
3	High - 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.	4	6
	Total	**27**	**29**

Data Source: WSDOT Utilities Office.

Utility crews work on lowering phone and cable lines below the construction work near I-205 in Clark County

Utilities

Projects with utility impacts advertised at Risk Level 2 and Risk Level 3 (January 1, 2009 to June 30, 2009)

Nickel

I-5 Port of Tacoma Road to King County Line - HOV (Risk Level 3)

This project widens I-5 for HOV lanes in each direction between the Port of Tacoma Road and the King/Pierce County line. Six bridges will be widened. New traffic cameras will be added to monitor traffic flow on WSDOT's traffic-camera websites. Ramp metering signals will be installed and on-ramps will also be widened at specific location for HOV traffic to bypass the ramp metering signals. The utility agreement with Pierce County for mitigation work on the county's sanitary sewer line was not executed by the advertisement date (June 1). The Department of Transportation had received verbal concurrence from the county of the agreement language for this work, and the agreement was signed and executed on June 2, 2009. This project also contains Recovery Act funds (see page XX).

SR 160 SR 16 to Long Lake Road (Risk Level 3)

State Route (SR) 160 is the primary route from SR 16 to the Southworth ferry terminal. The project will provide for a safer, smoother-flowing corridor with increased visibility and turning-sight distance. Added left turn lanes at key intersections will also help to reduce collisions. Several utilities were not relocated prior to the January 26, 2009, advertisement date. The contract's special provisions address the relocation work not being completed until June 1, 2009. However, all utility relocations were completed on June 2, 2009.

SR 16 Tacoma Nature Center Wetland Mitigation (Risk Level 3)

This project removes contaminated soil from and re-vegetates an existing wetland as mitigation for SR 16 construction projects that affected wetlands. It restores the function of a stream channel and plants an adjacent riparian wetland. Tacoma Power has an overhead transmission line that must be relocated for the work to be completed on this project. Tacoma Power's relocation schedule shows the relocations being completed by June 1, 2009. The advertisement date for this project was May 26, 2009 and the relocation was completed on May 29, 2009.

Transportation Partnership Account (TPA)

SR 285/George Sellar Bridge (Risk Level 2)

This project will increase the capacity of the local intersections immediately adjacent to the west end of the George Sellar Bridge, bringing this area up to current design standards, and improving the maximum traffic flow across the bridge. The Chelan County Public Utilities District had an anchor that was not relocated by the advertisement date, however it was adjusted prior to bid opening.

I-5 - SR 501 Ridgefield Interchange (Risk Level 3)

Stage 1 will improve safety and mobility by replacing the existing I-5 interchange at SR 501 in Ridgefield, widening SR 501 to two lanes in each direction, adding new turn lanes at the interchange, and sidewalks for pedestrian and bicycle travel. Most of the utility relocation will be completed prior to the project's advertisement. The City of Ridgefield's water and sewer line will be completed during the contract since those will be going over the new structure. Some relocation will be done after award and execution, and will not impact the first season of work. Since the bridge is first priority, those utilities have committed to completing the work by mid-November 2009. This project also has Recovery Act and local funds.

39th Street Railroad Structure (Risk Level 3)

The Vancouver rail yard serves as a major hub for both freight and passenger trains. This project will reduce congestion, increase safety, and help Amtrak's on-time performance. The utility companies could not start the relocation process until the project was executed and the contractor did the clearing and grubbing. To address this, WSDOT's specialists advised the utility owners they would have 90 days to complete their work.

Nickel & Transportation Partnership Account funding

SR 99 Alaska Way Viaduct (Risk Level 3)

The project replaces the viaduct's central waterfront section with a bored tunnel beneath downtown Seattle, creating a new waterfront surface street; it includes transit investments, as well as downtown waterfront and city street improvements. WSDOT, King, and Seattle transportation departments are working together to implement the proposed bored tunnel and related projects. The project advertised with utility agreements pending, but those agreements were executed by the end of the quarter and pose no threat to the project.

Cross Cutting Management Issues

Utilities

Pre-Existing Funds (PEF)

I-5 Martin Way Over-crossing Bike Lanes (Risk Level 3)

This project constructs bike lanes under I-5 at Martin Way, allowing bicyclists and pedestrians to have an uninterrupted route across I-5. The utilities provider Puget Sound Energy has underground power lines under the existing sidewalk that will be removed by this contract. These power lines require vertical relocation that will be completed in conjunction with the WSDOT contract after the sidewalk is removed. Contract special provisions have been included to address this issue.

SR 106 Cross Tributary -Skokomish Fish Passage (Risk Level 3)

This project will replace the existing drainage structure that restricts fish passage. The replacement structure will allow passage for migratory fish at this location. The utilities provider Hood Canal Communications will relocate their fiber line after the advertisement date but before bid opening to coincide with a planned outage with the Skokomish Tribe. The relocation was completed prior to the April 29, 2009 bid opening.

SR 104 West of the Hood Canal Bridge - Fish Passage (Risk Level 3)

Replacing the culvert allows migratory fish to access additional upstream habitat for spawning. The new culvert improves fish passage and water flow. Risk Level 3 Issue: The utility was not able to accomplish their relocation prior to the advertisement (January 12, 2009). The utility placed temporary, above ground wire around the work site prior to the beginning of contract work. Relocations were completed by March 31, 2009.

SR 7 304th/Kapowsin Highway Signal (Risk Level 3)

This project will reduce the accident rate and severity by installing a signal at the intersection of SR 7 and 304th/ Kapowsin. The existing overhead utilities must raise their facilities to maintain clearance over the new signal system. These relocations were completed by June 30, 2009 which was addressed in the contract's special provisions.

SR 531 Cougar Creek Culvert Replacement (Risk Level 2)

This project will remove the existing cross culvert and replace it with a new structure that provides for both hydrological flow and fish passage needs. This project includes guardrail and roadside restoration. There were conflicts with coordination to do the work ahead of and during construction the phase. The contractor will work around the utility's cable and will remove and replace city waterline.

Right-of-Way

Right-of-Way certifications

Before a project is advertised for bidding, WSDOT must certify that all rights necessary to construct, operate and maintain the project have been acquired. WSDOT's business practices regarding acquiring real estate are strictly guided by state and federal regulations (such as Title 8 and Title 47 RCW, Title 468 WAC, 23 and 49 CFR, and Title 23 USC: the Uniform Relocation Assistnace and Real Property Acquisition Policies Act of 1970 (as amended). WSDOT's goal is to deliver 100% on-time certification for all projects; it is one of the six milestones tracked for all Nickel and TPA projects.

Certification is considered to be on-time if it occurs within the scheduled quarter. Fifteen projects with a right-of-way phase were scheduled to be certified between January 1 and June 30, 2009. All were certified on-time.

Acquisition trends

There were 219 total parcel acquisitions for between January 1 and June 30, 2009, compared with 204 parcel acquisitions for the same six month reporting period in 2008, and 185 total parcel acquisitions for the last six months of 2008. While 2008 saw a trend where total acquisitions declined (overall), 2009 shows a slow rise in total acquisitions in the first six months of the year.

Right-of-Way condemnations

Condemnation involves legal action to acquire property by operation of law. Of the 16 open condemnation cases, three are new cases opened between January 1 and June 30, 2009 There have been 15 Judgment and Decrees issued in this six month period of 2009. There were 30 Judgement and Decrees for all of 2008.

Right-of-Way Highlights

100% of right-of-way certifications were completed on-time in the first six months of 2009.

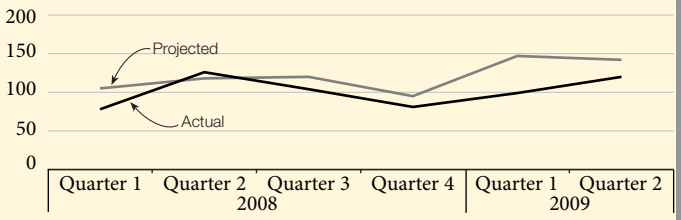
On-time Right-of-Way certification results

	Jan-June 2008	July-Dec 2008	Jan-June 2009
Projects with a right-of-way phase	49	24	15
Projects with certification delay	3	0	0
Percent of projects with an on-time certification	94%	100%	100%

Data Source: WSDOT Real Estate Services.

Acquisitions for all Nickel, TPA, and PEF projects

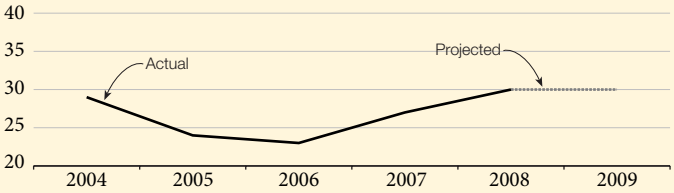
January 1, 2008 - June 30, 2009, actuals vs. projections



Data Source: WSDOT Real Estate Services.

Condemnations for all Nickel, TPA, and PEF projects

January 1, 2005 - December 31, 2008 actuals, 2009-YTD projections



Data Source: WSDOT Real Estate Services.

Cross Cutting Management Issues

Construction Cost Trends

Construction Cost Trends Highlights

- WSDOT's Construction Cost Index (CCI) has risen 6.5% in the first two quarters of 2009.
- From 2006 - 2009 (YTD) the CCI increased 13%, vs. 57% from 2003 - 2006.
- The rapid rise in construction costs has outpaced the original inf ation rates budgeted in the 2003 Nickel and 2005 Transportation Partnership Account programs.
- Materials for projects have seen an average 85% inf ation increase since the 2003 Nickel program began and a 51% increase since the 2005 Transportation Partnership Account began.

WSDOT tracks construction cost information to calculate its Construction Cost Index (CCI), a weighted average of low unit bid prices for the seven most common work activities that the agency solicits contractors to perform. The bids for these seven activities include the cost of the materials, labor, and equipment needed to complete the activity.

Like other contracting entities, WSDOT prepares estimates for its projects using bid price information and inflates the cost to construct projects in the future using rates provided by leading global forecasters. The forecast is constantly adjusted, and as time passes, the rate of inflation that was actually experienced is added to the forecast as historical data. WSDOT's CCI allows the agency to compare inflation on its project bids to actual inflation rates experienced in its program and to the rates used to predict inflation.

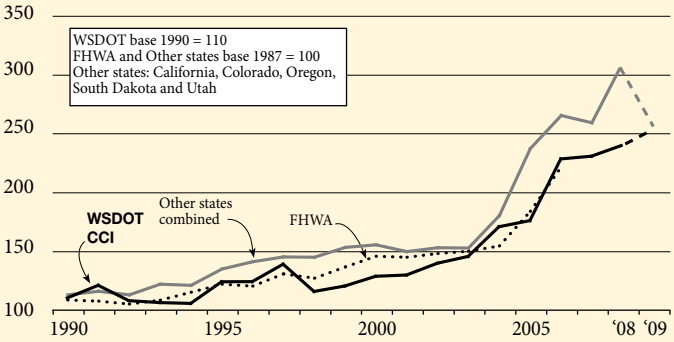
In 2003 and again in 2005, the Legislature passed two funding packages, the Nickel and Transportation Partnership Account (respectively), enabling WSDOT to move forward with a number of capital construction projects. The majority of the Nickel and TPA projects were originally budgeted in the 2003 and 2005 legislation, but with the projects going to advertisement and construction during the next ten fiscal biennia. Unfortunately, the inflation rates used in 2003 and 2005 to budget the projects were much lower than the rate of inflation actually experienced since. This resulted in a noticeably large impact on WSDOT's ability to meet the Governor's goal of delivering its capital construction program both on-time and on-budget 90% of the time (see page 57 for more information). Many factors – including record crude oil prices; huge international, national, and local building programs; changes in the production and supply of construction materials; and increases in labor costs – contributed to pushing actual construction inflation far above predictions from 2003 to 2007.

Construction Cost Index increased 6.5% in first half of 2009

Construction cost inflation has slowed significantly during the past two and a half years. From 2003 through 2006, WSDOT's CCI recorded a 57% increase in construction costs. Since that time, the CCI rose just 13% - on track with WSDOT's forecast of inflation as well as the rate of general inflation. The data is illustrated in the graph to the left, that plots the past 19 years of CCI data for Washington state. It also plots the CCI of the Federal Highway Administration (FHWA) and the combined-averages of the CCI data for several western states: California, Colorado, Oregon, South Dakota and Utah. The graph clearly shows that other states as well as the FHWA experienced price increases similar to that captured in WSDOT's CCI.

The CCI increased 6.5% during the first half of 2009. This rate of increase is closer to WSDOT's forecast, and is better news compared with the inflationary rates experienced between 2003 and 2006. However, construction costs have only increased during the past few years and this recent increase comes on top of large gains. Again, it is important to note that many of the projects WSDOT is awarding today were originally budgeted in 2003 or 2005

Construction Cost Indices
Washington state, FHWA, and selected western states
1990 - 2009 (YTD)



Data Sources: WSDOT 2009 index is for calendar year quarters 1 & 2.
FHWA index discontinued in 2007.
Other states 2009 data is the average of California, Colorado, Oregon, South Dakota, and Utah 1st quarter indices.
Note: 2003 and 2004 WSDOT CCI data points adjusted to correct for spiking bid prices on structural steel.

Construction Cost Trends

(using figures from 2002 and 2004 to create estimates) and construction costs have since increased 85% and 51%, respectively. These higher construction costs are causing many of the project delivery challenges that are occurring locally, such as higher than expected bids for projects, increases in the cost to complete a project, project delays and funding gaps in WSDOT's program.

WSDOT and the six Western states' CCIs diverge

Readers frequently ask why WSDOT's CCI shows construction costs increasing during a time when bids are coming in below WSDOT's estimates as they are now. Readers also ask why costs are increasing in WSDOT's CCI when news agencies report material prices easing. There are a number of factors currently causing this . First, the agency constantly adjusts project estimates to keep pace with inflation. For years, costs were escalating and bids came in higher than estimates. In response, the agency secured more funding and increased its estimates. During 2007, bids came in very close to estimates. In the current market, contractors are cutting profit margins in order to secure more jobs. WSDOT could not foresee the affect of such conditions on pricing, and the estimates used are much higher than bids received. More information about the agency's estimating goals and a comparison of contract estimates to bids can be found in the Construction Contracts annual report on pages 108-111.

Second, WSDOT awarded most of its 2008 construction work early in the year, several months *before* prices for asphalt, oil and steel rose steeply in the summer: thus the 2008 CCI did not reflect the price spike. The other states used for comparison in the graph on page 108 awarded much of their program *during* the summer price spike, when costs were extremely high: as prices have dropped, these states are currently on a downward trend on the construction cost index.

Since WSDOT did not award contracts at the high prices, the change in WSDOT's CCI represents current costs compared to those contracted before the spike and the CCI therefore posts a moderate increase. Both scenarios illustrate how difficult it is for agencies like WSDOT to manage estimates and costs in a volatile market. When the market quickly shifts from one extreme to the other, it will continue to be challenging to deliver projects that were budgeted long in advance of construction without also facing budget, schedule, or scope changes.

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.

A hot mix asphalt (HMA) pour on the SR 539 Ten Mile Road project in April, 2009. HMA accounts for nearly half of WSDOT's CCI.

Structural concrete being poured on the new bridge deck of the SR 104 Hood Canal Bridge in May, 2009.

Construction Contracts Annual Report

Award Amount to Engineer's Estimate

Construction Contracts Highlights

- In FY 2009, 150 of 172 contracts (87.3%) were awarded below the engineer's estimate.
- The total final cost of contracts completed in FY 2009 exceeded the total award amount by 8.4%.
- WSDOT completed 163 highway and ferry contracts in FY 2009, a 24.2% increase from FY 2008.
- Final contract costs for FY 2009 were above engineer's estimates by 6.6%, a 2.6% increase from FY 2008.

WSDOT engineers prepare cost estimates for construction contracts that the agency plans to advertise for competitive bids. When bids are opened, WSDOT determines the lowest bidder and reviews the bids. The contract is then awarded to the lowest qualified bidder.

WSDOT's goal is to have the lowest bid received on each contract be no greater than the engineer's estimate. The engineer's estimate is compared to the contract award amount as an indicator of estimating accuracy. This analysis is used by cost estimators to continually update estimating guidance to ensure accuracy. WSDOT tracks contract payments throughout construction and compares the final cost upon completion to the contract award amount and the engineer's estimate. Contract completion occurs when contract files are closed prior to federal acceptance rather than when a project is operationally complete and open to traffic.

15.4% Increase in number of construction contracts awarded in FY 2009

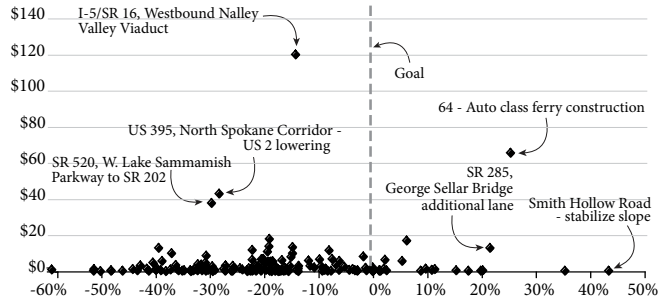
WSDOT awarded 172 highway construction and ferry contracts during fiscal year 2009. This represents a 15.4% increase from the number of contracts awarded in FY 2008. This increase is due in part to the passage of the Recovery Act. Eighteen of the 172 contracts (10.5%) awarded were at least partially funded by this act.

For every contract awarded, WSDOT tracks the difference between the contract award amount and the engineer's estimate. The total award amount of all contracts for FY 2009 was $677.8 million, which was 17.0% below the total engineers' estimates of $816.2 million. Increases in the percentage that contract awards were below estimate builds on the recent trend of low bids. Bids were especially low throughout FY 2009 as the recession forced contractors cut profit margins to compete for work in order to keep their equipment and crews busy. Though estimating guidance is continually updated, WSDOT estimates were unable to anticipate the effects of the recent increase in the number of bidders on award amounts.

The scatter plot shows the award value for each contract and the total percent above or below the engineer's estimate. One hundred and fifty contracts (87.2%) were awarded below the engineer's estimate. The remaining 22 contracts were awarded at a cost greater than the engineer's estimate.

Individual contracts: award amount to engineer's estimate, FY 2009

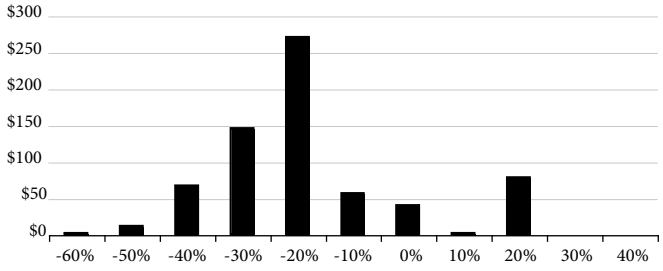
Percent award amount above or below engineer's estimate
Dollars in millions



Data Source: WSDOT Construction Office.

Distribution of contract value over/under: award amount to engineer's estimate, FY 2009

Percent award amount above or below engineer's estimate
Dollars in millions



Data Source: WSDOT Construction Office.

Contract Final Costs to Award Amount

Highway construction contracts awarded: year-to-year comparison[1]

Dollars in millions

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Number of contracts awarded	155	135	160	149	172
Total award amount for these contracts	$506.3	$386.0	$539.0	$544.4	$677.8
Total engineer's estimate for these contracts	$518.1	$370.3	$533.1	$605.4	$816.2
Avg. % total awards were above/below the total estimate value	1.9%	1.7%	0.4%	-5.9%	-17.0%
% Total award is above/below the engineer's estimate	-2.3%	4.2%	1.1%	-10.1%	-17.0%
Combined contract value awarded below the estimate	74.4%	32.6%	35.5%	77.8%	82.8%
Number of contracts awarded below the estimate	86	64	77	99	150
% of contracts awarded below the estimate	55.5%	47.4%	48.1%	66.4%	87.2%

Data Source: WSDOT Construction Office.

[1] Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or ferry vessel repair contracts. Ferry Terminal contracts were added in 2008.

Significant cost overruns: award to estimate

SR 285, George Sellar Bridge Additional Lane (Chelan)

The contract totaled $12.9 million, 22% above the engineer's estimate due to high bid costs for four major contract work items associated with adding a lane to the bridge. All bids for these items were high. It was determined that the strengthening and modification this project required was not accounted for in the engineer's estimate. Re-advertisement would not have resulted in lower bids.

64 - Auto Class Ferry Construction (King)

The awarded contract totaled $65.5 million, 25% above the engineer's estimate. Bids were higher than expected due to the aggressive construction schedule required in order to have the new vessel delivered prior to the termination of the lease on the Steilacoom II. Re-bidding the contract would have resulted in further delay and higher prices.

24.4% more construction contracts completed in FY 2009 compared to FY 2008

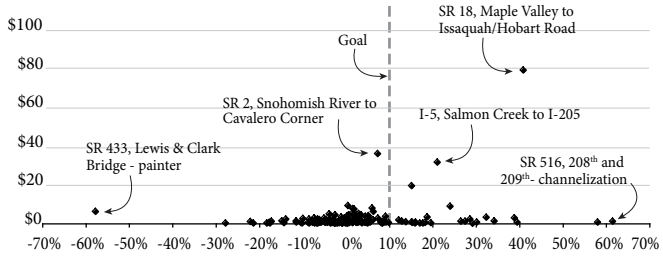
WSDOT completed 163 highway and ferry contracts in FY 2009, representing a 24.4% increase from FY 2008 when 131 contracts were completed. The increase in the number of contracts completed is due to the agency's continued delivery of Nickel and TPA projects. For every contract completed, WSDOT tracks 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 no more than 10% greater than the contract award amount.

The total final cost of the contracts completed in FY 2009 was $404.1 million. This exceeds the total contract award cost of $372.6 million by 8.4%, an increase from FY 2008 when total final costs exceeded total contract awards by 5.0%.

The scatter plot shows the final cost of each contract and the percent above or below the contract award amount. The final cost for 136 contracts (83.4%) was less than 10% above the award amount. The remaining 27 contracts cost 10% or greater than the contract award amount when completed. On average, completed contracts cost 2.7% more than the contract award amount, within the building industries, this is an excellent average.

Individual contracts: final costs to award amount

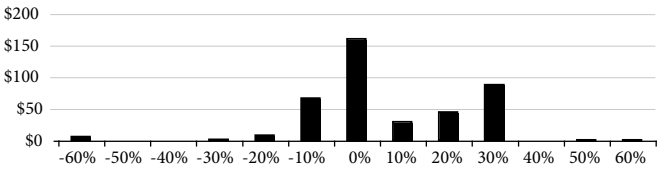
Percent f nal cost above or below award amount, FY 2009
Dollars in millions



Data Source: WSDOT Construction Office.

Distribution of contract value over/under: final costs to award amount

Percent f nal cost above or below award amount, FY 2009
Dollars in millions



Data Source: WSDOT Construction Office.

Contract Final Costs to Engineer's Estimate

Completed contracts: Final costs to award amount[1]
Dollars in millions

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Number of contracts completed	165	125	136	131	163
Total final cost for these contracts (without sales tax)	$305.3	$231.3	$290.7	$310.2	$404.1
Total award amount for these contracts	$290.7	$207.0	$273.2	$295.4	$372.6
Average % final costs exceeded award amount	4.1%	3.6%	3.2%	2.7%	2.7%
% final cost exceeded award amount	5.0%	11.7%	6.4%	5.0%	8.4%
% of contract values less than 10% above award	76.7%	54.7%	66.7%	75.8%	59.7%
Number of contracts less than 10% above award	128	100	109	112	136
% of contracts less than 10% above award	77.6%	80.0%	80.1%	85.5%	83.4%

Data Source: WSDOT Construction Office.

[1] Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or ferry vessel repair contracts. Ferry Terminal contracts were added in 2008.

One large contract with exceptionally large cost overruns significantly affected the statewide average. SR 18, Maple Valley to Issaquah/Hobart Road had a final cost that was 41% greater than the contract award amount, a $22.9 million overrun (see gray box). If this contract were removed from the report, total final costs would have exceeded total awards by just 2.7%, an average of 2.5% on each contract.

Significant cost overruns: final costs to award

SR 18, Maple Valley to Issaquah/Hobart Road (King)

The final cost was $78.8 million, 41% above the contract award amount of $55.9 million. This project took place in a difficult work area and faced numerous challenges. The level of erosion control necessary to meet water quality permit requirements was not anticipated by the agency and both the contractor and WSDOT received environmental citations shutting down work for four months. Record heavy rainfall required the use of costly erosion control measures not included in the contract estimate. Additionally, material excavated from the area could not be re-used and had to be hauled off and replaced with less moisture sensitive material. Despite these challenges, the project was completed within schedule and served as a lesson learned to WSDOT and the contractor in how to meet environmental commitments when constructing projects in sensitive areas. Knowledge gained has prepared WSDOT to better anticipate erosion control measures needed on similar jobs and their costs.

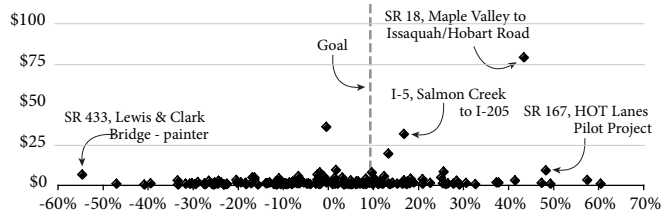
Final contract costs for FY 2009 above engineer's estimates by 6.6%

The final contract costs in FY 2009 totaled $404.1 million. This exceeded the total engineer's estimate of $379.1 million by 6.6%. This is an increase from previous years. By comparison, in FY 2008, contract final costs exceeded estimates by 4.0%.

If the SR 18/Maple Valley to Issaquah Hobart Road project (see gray box at left) is excluded from the report, total final costs would have exceeded estimates by just 0.3%, an average of 1.6% on each contract.

The scatter plot shows the final cost of each contract and the percent it was above or below the engineer's estimate. The final cost for 116 construction contracts (71.2%) met WSDOT's goal of final costs less than 10% higher than the engineer's estimate. The remaining 47 contracts (28.8%) cost 10% or greater than the engineer's estimate when completed.

Individual contracts: final costs to engineer's estimate, FY 2009
Percent f nal cost above or below engineer's estimate
Dollars in millions



Data Source: WSDOT Construction Office.

Contract Final Costs /Overview of Contracting Process

Completed contracts: Final costs to engineer's estimate[1]

Dollars in millions

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Number of contracts completed	165	125	136	131	163
Total of construction contract estimates completed	$303.3	$228.9	$287.0	$298.2	$379.1
Total final cost for construction contracts[2]	$305.3	$231.3	$290.7	$310.2	$404.1
% total contract values cost above/below estimate	0.7%	1.0%	1.3%	4.0%	6.6%
% of contract value less than 10% above estimate	72.6%	64.5%	63.5%	63.8%	49.6%
Number of contracts less than 10% above estimate	125	93	96	89	116
% of contracts less than 10% above estimate	75.8%	74.4%	70.6%	67.9%	71.2%

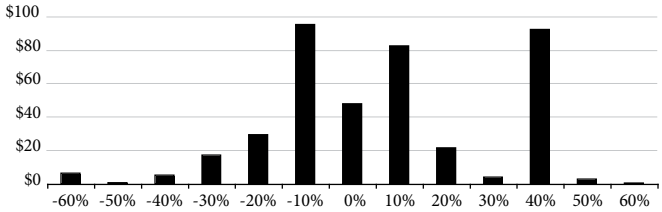
Data Source: WSDOT Construction Office.

[1] Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or ferry vessel repair contracts. Ferry Terminal contracts were added in 2008.

[2] Without sales tax.

Distribution of contract value over/under: final costs to engineer's estimate, FY 2009

Percent f nal cost above or below engineer's estimate
Dollars in millions



Data Source: WSDOT Construction Office.

Significant cost overruns: final costs to estimate

I-5, Salmon Creek to I-205 (Clark)

The final contract cost was $31.4 million, 17% above the award amount due to numerous changes and overruns resulting from unforeseen conditions associated with underground springs, a high water table, and a creek on the job site changing course. Additionally, a legislative mandate to construct a noise wall increased the contract amount by almost $750,000. WSDOT chose the most cost effective options when design changes occurred. The unanticipated conditions were documented and will be considered in future projects in the area.

SR 167, HOT Lanes Pilot Project (King)

The final cost totaled $8.8 million, 48% above the engineer's estimate due to higher than anticipated traffic control costs. This pilot project was the first of its kind constructed by WSDOT so data was not available for use in calculating potential traffic control costs. As a result, traffic control was underestimated. This experience will inform future estimates and plans for the construction of similar projects.

Detailed overview of the contracting process

Prior to soliciting bids for a construction contract, WSDOT prepares a cost estimate for the job which is also updated during the design phase to keep pace with inflation and to reflect any changes that have been made to the work. The final estimate is calculated just before advertising the contract; this is the engineer's estimate. WSDOT compares this estimate to bids to ensure that they are reasonable.

When bidding on WSDOT projects, contractors submit unit bid prices for each item of work in the contract which are then multiplied by the number of units that WSDOT estimates it will take to complete the work. This total represents the cost of the contractor's bid for the entire contract.

The final cost WSDOT pays for a project is based on the actual amount of each item that was used in the project. WSDOT pays the contractor the unit price they submitted for the amounts of materials used, rather than the expected amount from the original estimate. Final contract costs are also affected by changes including unforeseen conditions and other items that could not be estimated or controlled for in advance.

Whether cost differences are due to changes in quantities or unforeseen conditions, it is cost effective for WSDOT to take financial responsibility for these changes. The additional design work needed to obtain more accurate item quantities would likely cost more than paying the difference to the contractor. WSDOT takes responsibility for items like varying site conditions to prevent contractors from adding worst-case scenario costs into their bids. Because risk is fairly allocated, WSDOT receives more and better overall bids for its construction contracts.

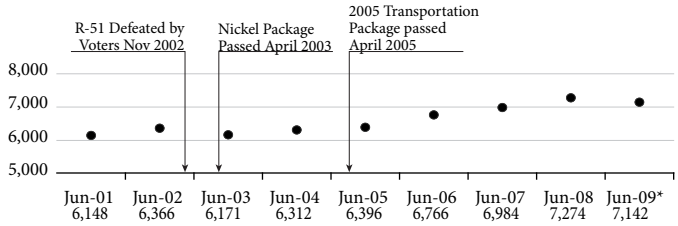
Workforce Level and Training

Workforce Level and Training Highlights

WSDOT employed 132 fewer workers on June 30, 2009, than at the same time in 2008.

This quarter, WSDOT employed 7,142 permanent full-time employees on June 30, 2009, 10 more employees than the previous quarter ending March 31, 2009. The slight increase between the end of the first quarter and the end of the second quarter is due to staffing for seasonal summer ferry ridership and/or projects. Following Governor Gregoire's August 2008 institution of a statewide hiring freeze, WSDOT employed 132 fewer permanent full-time employees on June 30, 2009, than on June 30, 2008. The employee level has declined for nine consecutive months until posting a slight increase in May. The chart below shows the number of permanent full-time employees since June 30, 2001. The total number of full-time equivalencies (FTEs) will generally exceed the number of permanent full-time employees as seasonal, permanent part-time, and non-permanent/on-call workers are funded from FTE allocations.

Number of WSDOT permanent full-time employees
From June 2001 to June 2009



Data Source: Dept. of Personnel Data Warehouse, HRMS, WSDOT and the ferry system payroll. *During the month of June 2009 there were 107 non-employees (42 perm and 65 non-perm) at Ferries Division coded as being employed for settlement pay purposes only. The 107 are not included in the workforce number listed above for June 2009.

Workforce training compliance improves in five of six mandatory courses for all employees

Training compliance increased for five of six mandatory training courses for all employees and remained level for the sixth. WSDOT is changing delivery of training to improve compliance by holding a smaller number of large classes. The effort has increased compliance despite a smaller training staff and will continue in FY 2010. WSDOT's goal is to reach 90% compliance for mandatory training for all WSDOT employees.

Larger classes allow WSDOT to increase compliance with fewer training staff.

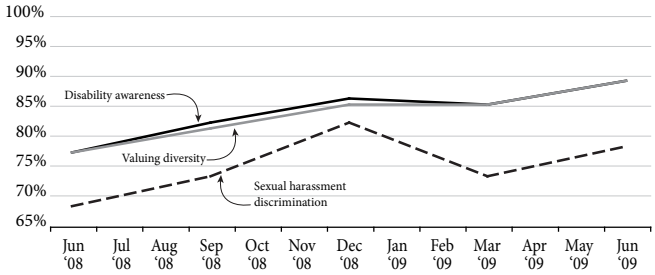
Five-year refresher training requirement under review for two diversity courses.

Safety and maintenance compliance remained level at 84% from prior quarter.

In an effort to improve visibility of compliance performance over a full year, this data will be presented in a new format. Formerly, the statewide table identified compliance for the six mandatory courses. Now, the data will be displayed in two line graphs that show training compliance over the past five quarters. The statewide table will now appear on an annual basis at the end of each calendar year.

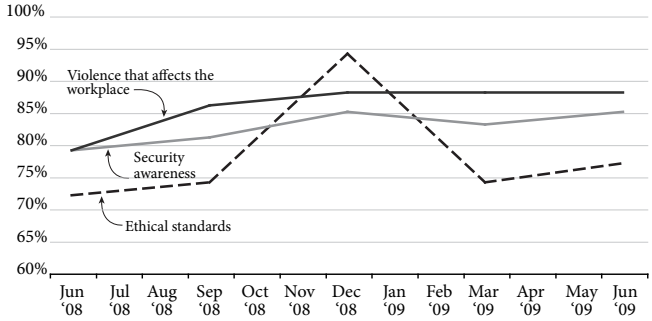
Training compliance increased for all three diversity courses. Disability Awareness and Valuing Diversity training compliance rose from 85% in March to 89% in June. Sexual Harassment Discrimination training compliance rose from 73% in March to 78% in June. Policy training compliance increased in Ethical Standards from 74% in March to 77% in June, and Security Awareness, from 83% in March to 85% in June. Violence that Affects the Workplace training compliance remained level at 88%.

Mandatory diversity training for all WSDOT employees
By percentage of employees in compliance



Data Source: WSDOT Human Resources Office, Staff Development.

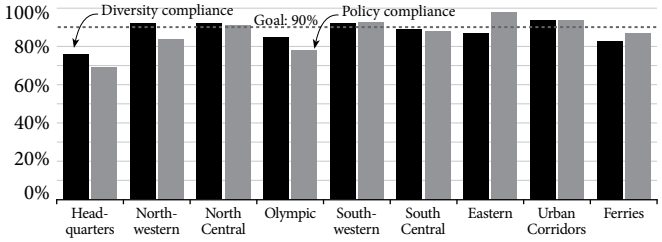
Mandatory policy training for all WSDOT employees
By percentage of employees in compliance



Data Source: WSDOT Human Resources Office, Staff Development.

Mandatory training compliance for FY 2009

Average compliance with mandatory diversity and policy courses[1] by region and by percentage of employees in compliance
Goal is 90% compliance



Data Source: WSDOT Office of Equal Opportunity and Human Resources.

1 Diversity training courses (black bar) include Disability Awareness, Sexual Harassment/Discrimination, and Valuing Diversity. Policy courses (gray bar) include Ethical Standards, Security Awareness, and Violence that Affects the Workplace.

Office of Equal Opportunity, Staff Development, and Maintenance and Safety trainers are working together to coordinate training to increase compliance. WSDOT is preparing to provide computerized classes for refresher training.

Refresher change under consideration

The Office of Equal Opportunity is reviewing an alternative to the current requirement of five-year refresher training for the Valuing Diversity and Disability Awareness courses. In place of instructor-led refresher training, WSDOT will frequently distribute resource information and updates to inform all employees of changes related to diversity workforce issues. New employees would be provided instructor-led basic diversity training for all OEO courses. Sexual Harassment and Discrimination refresher training would continue every three years as legislatively mandated for supervisors and managers and every five years for all other employees.

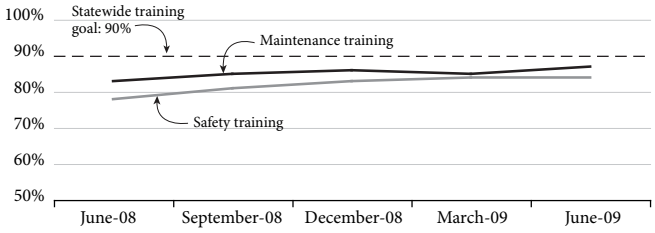
Compliance for statutorily required maintenance and safety training improves

Statutorily required maintenance and safety training compliance for WSDOT employees remained at 84% this quarter, no increase over last quarter. The safety training compliance was 84% on June 30, 2009, no change from March 31, 2009, while the maintenance training compliance was 87%, a 2% increase from the prior quarter.

WSDOT's goal is to reach 90% compliance for statutorily required maintenance and safety employee training. Regional maintenance and safety trainers are utilizing multiple approaches to increase compliance rates, including providing computerized training and coordinating workshops that provide multiple training courses on the same day.

Maintenance and safety training compliance

June 2008-June 2009



Data Source: WSDOT Office of Human Resources, Staff Development.

Compliance is annually highest in the fall and winter when more employees are available for training. Supervisors and trainers balance maintenance workloads to ensure training occurs continually while maintaining roadways safely.

Two regions achieve 90% goal

WSDOT tracks statutorily required training compliance for its maintenance workers by region. The table below documents each region's compliance with all the courses above as a single measure. (For a full list of all required maintenance- and safety-related training courses, see the gray box on page 116.)

For the fourth quarter, two regions met the 90% goal for safety and maintenance training compliance. Training compliance increased in three regions, decreased in three regions and remained steady in one region during the second quarter of 2009. Two regions, the Eastern and Southwest regions, continued to exceed the 90% compliance goal.

Required training for maintenance employees by WSDOT region

Region	Current quarter percent in compliance	Percent change from last quarter	Current biennium (2007-09) average	Goal met
Northwest	77%	-1%	76%	
North Central	89%	8%	81%	
Olympic	86%	3%	78%	
Southwest	95%	-1%	94%	√
South Central	87%	-1%	84%	
Eastern	93%	2%	92%	√
Headquarters	74%	0%	74%	

Data Source: WSDOT Office of Human Resources, Staff Development.

Workforce Level and Training

Statutorily required maintenance & safety courses

Maintenance courses
Aerial lift
Bucket truck
Drug & alcohol certification
Excavation, trenching & shoring
Emissions certification
Forklift
Hazardous materials awareness
Railway work certification

Safety courses
Blood-borne pathogens
Confined space entry
Drug free workplace
Electrical safety awareness
Fall protection
Fire extinguisher
First aid
Hearing conservation
Lead exposure control
Flagging & traffic control
Lockout/tagout
Personal protective equipment
Respirator protection
Supervisor return to work
Proper lifting
Hazard communications

WSDOT drivers test their skills on a course marked by cones.

Eversafe driver training compliance is 97%

Before 2004, WSDOT conducted a voluntary driver-skills class offering safety training to employees who drove WSDOT vehicles. In 2005, the Office of Financial Management (OFM) instituted a mandatory driver safety training program for all state employees that drive a high number of miles while operating state-owned vehicles, and also for employees that have frequent accidents while operating state-owned vehicles. OFM further required reporting of an agency's level of compliance.

WSDOT then implemented the Eversafe program, a course designed to emphasize driving preparation and defensive driving techniques. WSDOT managers and supervisors are responsible for identifying drivers who must participate in the Eversafe program, and ensuring that they are trained.

WSDOT's goal is to reach 90% compliance with required driver safety training. As of the second quarter of 2007, WSDOT identified 1,100 employees that are candidates for Eversafe training; of those, 1,062 (97%) had completed the training. All six regions met their Eversafe training compliance goals.

Eversafe driver safety training compliance by region

As of June 30, 2009, Goal is 90%

Region	Employees requiring training	Training completed to date	Percent in compliance	Goal met
Northwest	339	321	95%	√
North Central	146	137	94%	√
Olympic	152	151	99%	√
Southwest	181	179	99%	√
South Central	105	104	99%	√
Eastern	158	156	99%	√
Headquarters	19	14	74%	
Total	1,100	1,062	97%	√

Data Source: WSDOT Office of Human Resources, Staff Development.

Transportation Research Special Report

An Introduction to WSDOT's Research Program

Transportation research improves WSDOT's performance in delivering transportation projects and operating a safe and efficient transportation system. New ideas and innovations are investigated through research and used to build better roads and bridges, create a safer experience for travelers, efficiently move people and vehicles, and promote our stewardship of Washington's rich natural resources. Many aspects of transportation has benefited from research including highway construction, maintenance, pavements, structures, materials, design, hydraulics, right of way, environment, ferries, airports, transit, traffic, and planning. WSDOT research produces knowledge and ideas to help make wiser decisions about transportation that benefit all of Washington's citizens.

Transportation Research Program Highlights

167 research projects completed, continued, or started during the 2007-2009 biennium.

Making effective use of research partnerships

WSDOT partners with other transportation agencies, universities, national organizations, private companies, and local, state, and federal agencies to identify areas of research and conduct studies. Among these are:

Washington Transportation Center (TRAC)

In 1983, WSDOT, the University of Washington, and Washington State University formed a partnership to establish the Washington Transportation Center (TRAC). TRAC is a link between government, university researchers and the private sector. This partnership brings knowledgeable and innovative researchers together with transportation managers to develop ways to address complex transportation challenges.

Transportation Research Board (TRB)

TRB is a division of the National Research Council, a private, non-profit institution within the National Academies. Since 1921, the U. S. Congress has made regular appropriations to fund transportation research. TRB provides innovation and progress in transportation by funding and publishing national research projects and sponsoring expert panels on a wide variety of transportation topics. As of July 2009, 92 WSDOT employees serve on 171 TRB groups that will conduct research on topics such as bridges, materials and pavements, traffic management, transit, security, and environmental concerns.

WSDOT's 2007-09 research project activities

Projects completed, continued, or started,2007-09

Total research projects completed, continued, or started during the 2007-09 biennium	167
State Planning and Research funded projects	47
Client-sponsored research projects	36
Transportation Pooled Fund projects	38
Student studies projects	15
Synthesis projects	31

Source: WSDOT Research Office.

Number of WSDOT research projects planned

Projects with State Planning & Research funding only, planned for the 2007-09 biennium[1]

Research projects planned for the biennium	**50**
Research projects continued from previous biennium	12
Research projects started[2]	33
Research projects completed	14
Research projects cancelled	4
Research projects on schedule	31
Research projects on budget	100%

Source: WSDOT Research Office.

1 SP&R projects which are 80% federal/20% state funded.
2 18 on-going projects will continue into the 2009-11 biennium.

TRB Cooperative Research Programs (CRP)

Programs managed by CRP are organized on the following topics: Highways, Transit, Airports, Freight, Environment, Hazardous Materials, Commercial Bus, and the Strategic Highway Research Program 2. States voluntarily commit a portion of their federal research funding to the national cooperative highway applied research program (NCHRP) to develop near-term, practical solutions to problems facing highway agencies. Fifty-eight professional WSDOT staff were selected to serve on 94 committees that will guide and direct national research activities.

More information on WSDOT's research projects is available on the web at http://www.wsdot.wa.gov/Research/

Transportation Research Special Report

How Research Is Funded / Case Studies

Transportation Pooled Fund (TPF) Program

The Federal Highway Administration (FHWA) facilitates the TPF Program as a way for states and other organizations to partner on research of shared interest. WSDOT leverages about $10 for every one dollar it contributes to these studies. Currently, WSDOT is participating in 38 TPF studies and serving as the lead state in 13 studies relating to pavements, snow and ice control, noise, structures, GIS, design safety, landslide and slope stabilization, and safe routes to schools.

University Transportation Centers

WSDOT also works with University Transportation Centers (UTC). Nationally, 67 UTCs are partially funded by the U.S. Department of Transportation. WSDOT is collaborating on research projects with UTCs loacted in Washington, Alaska, Oregon, Idaho, California, Montana, Florida, and Texas.

Federal and State Agencies

Many research inquiries require collaboration with federal and state agencies such as the Federal Highway Administration (FHWA), U.S. Fish and Wildlife Service (USFWS), Washington Department of Fish and Wildlife, and the Washington Traffic Safety Commission. Agency experts conduct research studies to assist in project delivery. For example, the USFWS research has identified fish migration patterns in Lake Washington so that mitigation measures can be developed for the new Lake Washington SR520 Bridge.

Research funding and activities wrap up

In the 2007-2009 biennium, WSDOT received about $4.02 million in state funding. For the 2009-2011 biennium, the Research Executive Committee approved 23 new projects representing roughly $2 million in new state-sponsored research.

WSDOT always seeks to maximize its funding dollars, leveraging the money received from Washington State by partnering with other research entities. Without some investment from the state, this would not be possible. WSDOT's research program receives most of its funding from federal sources; studies are also conducted with "client-sponsored" funding, which come from their own programs and budgets. Clients may include the U. S. Congress, the state Legislature, WSDOT programs, regional organizations, cities, counties, state or federal agencies and private companies.

Managing WSDOT's transportation research

The WSDOT Research Executive Committee directs the transportation research program. Other managers are appointed to one of four standing Research Advisory Committees: Project Delivery, Operations, Multimodal and Information and Finance. Every two years, the committees solicit research ideas and discuss emerging issues and priorities with staff, university professors, and others, so that research problem statements can be proposed and considered for funding.

2007-09 Biennium research projects, total value by funding source

2008 f scal year

State Planning & Research Fund	$4,020,827
Client-sponsored research	$6,638,840
Transportation Pooled Fund	$1,519,000
Total all funding sources	**$12,178,667**

Source: WSDOT Research Office.

2007-09 Biennium funding for approved State Planning & Research projects

Funding distribution by strategic transportation goals

Safety	$535,960
Preservation	$954,209
Mobility	$1,138,398
Environment	$1,135,185
Stewardship	$257,075
Total all funded projects	**$4,020,827**

Source: WSDOT Research Office.

Case studies: Current and ongoing research

Transportation research helps WSDOT achieve its Strategic Plan and supports the 'Moving Washington' plan. The following case studies explore projects that supported the five transportation policy goals (see page vi for more information).

Safety

Transportation research seeks ways to increase the safety of Washington's roads by preventing accidents, improving driver and pedestrian behaviors, and reducing the severity of incidents that do occur.

Two-lane Rural Highway Safety

Two-lane rural roads in Washington account for less than a quarter of the total yearly miles traveled but account for 56% of the fatal and disabling accidents each year. Expenditures on rural roadways tend to target pavement preservation and minor safety improvements. This research project identifies cost-effective solutions such as signage or rumble strips to reduce the frequency and severity of crashes on rural two-lane roadways, and will be used as a basis to prioritize safety project funding. (See pages 5-11 for more on highway safety projects.)

Case Studies

Improving Designs for Roadside Safety Features

Research helps to improve safety for the traveling public by testing and analyzing the performance of roadside features such as guardrails, median barriers, slopes, signage, and curves. WSDOT has partnered with seven other states – Alaska, California, Texas, Tennessee, Minnesota, Pennsylvania, and Louisiana – and pooled research funding to conduct testing on more than 20 different roadside features at the Texas Transportation Institute crash test facility located in College Station, Texas.

Preservation

The miles of WSDOT-maintained pavement that are in fair or better condition has steadily increased over the past decade, from about 86% in 1991 to around 93% in 2008. This improvement is not attributed to an increase in pavement preservation or maintenance funding, nor a decrease in vehicle miles traveled or number of lane-miles. This improvement can be directly attributed to pavement and materials research: roughly $500,000 is spent annually on research in pavement and materials, which has led to the development of longer lasting pavements and the preservation of transportation system infrastructure.

Bituminous Surface Treatment Protocol

Bituminous Surface Treatments (BSTs) are usually used for low volume roadways, but a recent research project questioned the definition of low volume and whether WSDOT could use BSTs on higher volume roadways. BSTs cost about a quarter of a typical hot mix asphalt (HMA) overlay: using BSTs could result in significant savings. Based on the completed research, WSDOT now places BSTs on routes with an average daily traffic of up to 5,000 vehicles instead of 2,000, and has rewritten the standard specifications to improve their use. This research will continue to look at the most effective ways to use BSTs in conjunction with HMA overlays to optimize flexible pavement preservation over time.

WSDOT research examined the potential expansion of BST applications on higher volume roadways.

Long-Term Corrosion Impacts from Highway Snow- and Ice-Control Chemicals

Several different types of snow- and ice-control chemicals are available for WSDOT's use to improve wintertime road safety. While the short-term operational costs of using different chemicals are fairly easy to identify, information regarding the long-term costs of corrosion from chemical use was lacking. Of particular concern was corrosion affecting motor vehicles, bridge structures, and steel rebar in pavements and bridge decks. The research project's results help WSDOT select the snow and ice chemicals that are cost effective in the short-term, but also the best choice to protect the highway infrastructure over time. This research specifically investigated corrosion in bridge decks and pavements to determine the various chemicals' impacts; the next steps will be to determine if changes in anti-icing and deicing chemicals need to be made based on the results.

Mobility

Over the past 25 years, research into the mobility of people and vehicles has greatly improved the efficiency of the existing transportation system and helped to devise strategies to manage the increasing demand for capacity on our highways. Research results have improved traffic flows with technology such as ramp meters, message signs, and web-based traveler information systems. Research also helps to understand the effects of congestion on our economy and our lifestyles.

2007-2008 Storm-Related Closures of I-5 and I-90: Freight Transportation Economic Impact Assessment

From November 2007 to February 2008, WSDOT was forced to close major sections of I-5 and I-90 for up to five days as a result of severe weather, which disrupted the movement of freight and people across the state and the west coast. Research was conducted on the economic impact of closing these vital highway corridors. Designing new economic assessment tools resulted in a better understanding of the economic impact to the state's freight industry and economy. The total loss identified due to the two corridor closures was conservatively estimated at almost $75 million.

Exploring Transportation Applications of Small Unmanned Aircraft

Small unmanned aircraft is a recent technology that could provide many uses for avalanche control and highway

Case Studies

Radio controlled unmanned aircraft may help WSDOT collect data and survey traffic conditions while minimizing risk to employees.

operations. An experiment found that such aircraft have the potential to minimize risks to employees and could improve the capabilities to survey traffic conditions, collect data, perform security inspections, and observe other highway operations. This research explored the feasibility of using such aircraft, identified the cost/benefits, and examined the operational and institutional issues in using the new technology.

Environment

WSDOT investments in environmental research have lessened transportation impacts to natural resources. Research has improved construction methods, created new highway stormwater management methods; identified ways to reduce barriers to fish passage; provided ways to protect fish and other species habitats; and found new methods that can help animals migrate safely across highways.

Radio-tagged collars allow researchers to track the movements of these cougar kittens as they mature and establish their range.

Connecting Habitats and Improving Safety

Animal activity around highways causes more than 3,000 accidents a year. WSDOT is working with Washington Department of Fish and Wildlife to understand the migration patterns of deer, elk, and cougars and to identify where they cross major highways. Cougar movements across 1-90 were identified by placing radio collars on the animals, so researchers could monitor and map their migratory patterns. The research led to the siting and designing of crossing structures on I-90 that would help keep animals and vehicles apart.

Evaluating the Effectiveness of a Compost-amended Bioswale for Removing Metals from Highways

For the past 30 years, WSDOT has conducted research on highway stormwater runoff, constantly seeking better ways to protect water quality. Past research has found that compost-amended soils and compost blankets can prevent erosion and improve water quality. Recently, concern has been raised about the metal content of the highway water runoff. WSDOT has established a field test to evaluate whether compost-amended soils can increase a site's capacity to remove dissolved metals from stormwater.

Stewardship

Stewardship of valuable transportation resources – people, funding, and assets – requires research to develop effective strategies that allow WSDOT to deliver a capital program efficiently, prioritize available resources to the highest needs, meet workforce needs, assess risks, and analyze information to make informed decisions.

Performance Analysis and Forecasting for WSDOT Highway Projects

WSDOT evaluates construction contractors by comparing the completed work to the planned work using units of work measured. Payment is made as work progresses, but it can be difficult to document the progress and scheduled completion as it relates to the overall contract. This research project used historical data to develop statistically valid benchmarks for construction management. As a result, new analytical tools were created to better manage transportation construction projects.

Improving Transportation Project Scoping

Project scoping involves identifying the purpose and need for the project, its characteristics, a predicted schedule, and an estimated cost. Research examined ways to accurately scope projects using a process that aligns the critical path of the project with the processes of programming and funding. Project risks are also quantified so that cost estimates are more reliable.

For the quarter ending June 30, 2009

Project starts, updates, or completions

Project starts

I-5/SR 532 to Starbird Road (Snohomish & Skagit)

Construction began on May 4 to repair broken concrete panels and smooth out bumps along northbound I-5 near Stanwood. Construction work will stretch for more than seven miles, from south of SR 532 in Snohomish County to north of Starbird Road in Skagit County. The six month, $4.7 million project will also level and tie uneven concrete panels together, and grind the rough driving surfaces smooth. The road is rutted and cracked due to its age and high traffic volumes: an average of 59,000 vehicles use this stretch of I-5 daily.

SR 519 Intermodal Access Project (King)

WSDOT began work on March 30 to build a bridge over the railroad tracks on S. Royal Brougham Way and a new westbound off-ramp from I-90 and I-5 to the existing S. Atlantic Street overpass. Work focused on moving underground utilities that were in the way of piers that will support the new structures. In mid-April, crews began drilling pier shafts as deep as 92 feet for the S. Royal Brougham Way bridge. When completed, the improvements will make the corridor safer for drivers, pedestrians, and bicyclists, as well as enhance traffic flow for freight traveling to the Port of Seattle, ferry commuters traveling to Colman Dock, and sports fans heading to the stadiums. The $90.8 million SR 519 Intermodal Access Project is funded primarily through the 2003 Nickel gas tax.

Project updates

US 395, North Spokane Corridor (Spokane County)

A major phase of US 395 North Spokane Corridor freeway construction resumed after a winter break. This project will lower US 2 between Farwell Road and Deadman Creek to provide more clearance under North Spokane Corridor freeway. The project includes building six bridges and multiple retaining walls along US 2. Additionally, this project will build a new wildlife-friendly arch culvert for Deadman Creek underneath US 2. This $43 million project completes the North Spokane Corridor/US 2/Shady Slope Road Interchange. Project completion is scheduled for 2011.

Other work under way includes finishing the remaining 15% of the 1,600 foot BNSF railroad tunnel that will carry freight rail under the North Spokane Corridor. Also, the concrete paving project on a 4.5–mile segment of the corridor is nearly complete. When the tunnel and the paving jobs are finished, in late summer 2009, WSDOT will open the first section to traffic, including a three-lane portion for northbound and interim southbound traffic from the vicinity of Francis and Freya to Farwell Road.

A tunnel will carry trains under the North Spokane Corridor, eliminating conflicts and delays for both freight rail and vehicle traffic.

SR 433 Lewis & Clark Bridge (Cowlitz)

On April 7, WSDOT kicked off the second phase of the Lewis and Clark Bridge painting project by starting to paint the underside of the SR 433, Lewis and Clark Bridge. The contract was awarded in late February to Certified Coatings Company Inc. of Concord, California, with a winning bid of $5.1 million. The first phase of the project, completed in February 2008, cleaned and painted piers in the Columbia River. The second phase will clean and paint the remaining piers, as well as some of the bridge towers on the Washington side.

SR 539 Guide Meridian (Whatcom)

WSDOT crews began laying the final layer of asphalt on a half-mile stretch of SR 539 (Guide Meridian) between Axton and Smith roads on April 15. This is the final stage on the southern portion of the $66.3 million Guide widening project between Horton and Ten Mile road. Once paving is finished, this section of the widened roadway will be complete.

Highlights of Program Activities

For the quarter ending June 30, 2009

Project completions

I-5 Chehalis (Lewis)

WSDOT delivered the first of five I-5 improvement projects in Lewis County ahead of schedule. The I-5 Rush Road to 13th Street Widening and Interchange project provides direct access from the Port of Chehalis to I-5. The project improves safety and reduces congestion at LaBree Road by moving truck traffic from the local roadways back onto the interstate, which helps reduce conflicts between pedestrians, passenger vehicles, and freight traffic. This $52 million project began in July 2007 and was complete in late May 2009, a full season ahead of schedule.

I-5 SR 20 Burlington Interchange (Skagit)

On May 26, WSDOT opened a new, elevated southbound off-ramp at the I-5/SR 20 interchange . This is a major milestone for crews working to improve a five-mile stretch of SR 20 between Memorial Highway and I-5. Southbound I-5 drivers exiting the freeway on the new ramp will now have a direct connection to SR 20 at the new Garrett Road intersection. WSDOT will remove the temporary off-ramp near Goldenrod Road and finish building the new southbound I-5 on-ramp. Drivers will also have access the new on-ramp directly from SR 20. The new off- and on-ramps are part of a $118 million project that began in 2007.

I-90 Floating Bridge (King)

WSDOT reopened the I-90 express lanes on May 16 after major construction to install new expansion joints on the floating bridge. Good weather and efficient WSDOT crews allowed the I-90 floating bridge express lanes to reopen a week ahead of schedule. Work on the I-90 express lanes was crucial for keeping the floating bridge safe for drivers. The 20 year-old joints, were cracked and needed to be replaced. The I-90 express lanes closed May 3 giving crews fewer than three weeks to chip concrete and cut free two massive steel expansion joints and replace them with new stronger joints. Work will continue on the $8.3 million project, two more joints will be installed July 5-28 on the westbound I-90 mainline across the bridge.

SR 104 Hood Canal Bridge (Jefferson, Kitsap)

WSDOT reopened the SR 104 Hood Canal Bridge to vehicle traffic on June 3, culminating the replacement of the bridge's east half and nearly six years of construction work on the $500 million project. The new SR 104 Hood Canal Bridge east-half reopened after the project contractor, Kiewit General, and the WSDOT project team completed 20 test openings of the floating bridge's center draw span. Barges will still be working near the bridge, installing new anchor cables, until the end of September. Additionally, west-half electrical and mechanical upgrades will occur mainly inside the pontoon cells but also require limited night time closures to facilitate new equipment testing. An official ribbon-cutting ceremony was held at Salsbury Point County Park, near SR 104 on Saturday, June 6, followed by an Olympic Peninsula-wide bridge opening bash hosted in Port Townsend.

SR 518 SeaTac (King)

In late June, WSDOT added a new eastbound lane on SR 518 from Seattle-Tacoma International Airport to I-405 and I-5. It is the latest of several airport access improvements that WSDOT, the Port of Seattle and Sound Transit are pooling resources to complete. WSDOT crews also rebuilt and separated two closely situated on-ramps from North Airport Expressway and International Boulevard (Highway 99) to improve safety and reduce delays for traffic merging onto SR 518. Link light rail is expected to further relieve traffic congestion when it begins service from Seattle to Tukwila and opens its Tukwila Station in July. The project was funded with $10 million from Port of Seattle which owns and operates Sea-Tac Airport, $20 million from the 2005 gas tax package, and $5.6 million from the Federal Highway Administration.

Ferries

ORCA Smart Card launched April 20

WSDOT Ferries Division (WSF) is one of seven regional transit providers participating in the ORCA (One Regional Card for All) project, which is a simplified fare collection program. An ORCA card is a payment alternative for customers who travel on ferries, buses, and trains. For some ferry customers, depending on the types of fares used, Wave2Go will continue to be a preferred option. Equipment testing and troubleshooting continued during the April 20 "soft launch." The full launch of the ORCA project was in June.

WSDOT Ferries Division sells Steel Electric class vessels to California recycler

In November 2007, Secretary of Transportation Paula Hammond ordered the Quinault, Illahee, Nisqually, and Klickitat removed from service due to safety concerns. In 2008, the Washington state Legislature directed WSDOT to sell the vessels. WSF sold all four 1927-built Steel Electric class vessels to Eco Planet Recycling, Inc. of Chula Vista, California for $200,000. The Washington State Department of General Administration approved the sale, completed the signature process, and receipt of payment was confirmed on June 19.

For the quarter ending June 30, 2009

The ferries are tied up in Bainbridge Island at the ferry terminal and Eagle Harbor Maintenance Facility. They are scheduled to be towed to Ensenada, Mexico to be recycled beginning in mid to late-July, pending weather conditions and completion of towing preparation.

Rail

WSDOT begins rail improvements on West 39th St. Bridge in Vancouver

In May, construction began on a new West 39th St. bridge. The Vancouver Rail Bypass and West 39th Street Bridge project increase safety and mobility for rail and local traffic by building new bypass tracks in the Vancouver rail yard and a new bridge, suitable for pedestrians, cyclists, and vehicles, over nine sets of railroad tracks. The project was awarded to Vancouver-based Cascade Bridge, LLC, with a winning bid of $11.65 million. The bridge is expected to open to traffic in summer 2011, and the entire project will be complete in spring 2012.

Traveler Information and Safety

New signs remind drivers to stay safe on US 2

WSDOT unveiled a new electronic sign May 27 on US 2 outside of Monroe. The sign, which is part of the US 2 Traffic Safety Corridor project, will provide drivers with real-time reminders of the importance of driving safely. The signs feature an electronic display that automatically counts the number of days since a serious collision. If a fatal or serious injury collision occurs, troopers from the Washington State Patrol will reset the sign to zero.

A new sign on US 2 near Monroe reminds motorists to drive safely on this corridor.

New Olympia on-line traffic cameras go live

WSDOT turned on several new traffic cameras in the Olympia area this week, providing Thurston County drivers with a new tool to plan their commutes. Four of the new cameras are on I-5 at Custer Way, Eastside Street, Sleater-Kinney Road, and Martin Way. The other three cameras are located on surface streets at the intersections of Union Avenue and Plum Street, Martin Way and Sleater-Kinney, and Martin Way and College Street. The new cameras are available on WSDOT's Olympia area traffic flow map: www.wsdot.wa.gov/traffic/olympia/.

Announcements, awards, and events

Washington remains the nation's "Most Bicycling Friendly State"

Washington has been rated by the League of American Bicyclists as the nation's number one "Bicycle Friendly State" for the second year in a row. States that apply for a Bicycle Friendly State award designation can receive national recognition and promotion of their efforts as well as feedback, technical assistance, training from national experts to improve their bicycle legislation projects and programs.

In 2008, Washington was named the first recipient of this now annual ranking of all 50 states. The Bicycle Friendly State Program ranks a state's bike-friendliness and recognizes states that actively support bicycling as a way of addressing climate change, traffic congestion, obesity, and high fuel prices. Ratings are based on support of bicycling through legislation, policies and programs, education, places to ride, and planning. Washington scored consistently high in all ranking evaluation categories.

Highlights of Program Activities

For the quarter ending June 30, 2009

SR 20, North Cascades Highway opens one week earlier than expected

Work clearing snow from the North Cascades Highway (SR 20) began on March 30. The road was reopened to traffic four weeks later on April 24, a full week early. East and west side crews met on April 22 to concentrate on widening and cutting safety pull-out areas along the shoulders. SR 20 had been closed since December 11. Over the last 10 years, the pass has reopened for traffic between March 10 and May 7. The latest opening was June 14, 1974.

Crews reopen SR 504 at Mount St. Helens

WSDOT reopened the SR 504 Spirit Lake Highway to traffic on May 14. For several weeks, crews cleared four feet of snow and eight-foot drifts from the highway between Hummocks Trailhead and the Johnston Ridge Visitors Center. WSDOT closes this highway each year due to hazardous snow conditions and the possibility of avalanches in some locations. The highway has been closed since December 12, 2008.

SR 20, North Cascades Highway, opened on April 24, treating drivers to spectacular views like this one taken at Liberty Bell.

WSDOT maintenance crews work on clearing the SR 504 Spirit Lake Highway, which was opened to traffic on May 14.

Gray Notebook Subject Index

Calendar year	Edition number / date (WA State Fiscal Year & Quarter)			
2001	1 / Mar 31, 2001 (FY01 Q3)	2 / June 30, 2001 (FY01 Q4)	3 / Sept 30, 2001 (FY02 Q1)	4 / Dec 31, 2001 (FY02 Q2)
2002	5 / Mar 31, 2002 (FY02 Q3)	6 / June 30, 2002 (FY02 Q4)	7 / Sept 30, 2002 (FY03 Q1)	8 / Dec 31, 2002 (FY03 Q2)
2003	9 / Mar 31, 2003 (FY03 Q3)	10 / June 30, 2003 (FY03 Q4)	11 / Sept 30, 2003 (FY04 Q1)	12 / Dec 31, 2003 (FY04 Q2)
2004	13 / Mar 31, 2004 (FY04 Q3)	14 / June 30, 2004 (FY04 Q4)	15 / Sept 30, 2004 (FY05 Q1)	16 / Dec 31, 2004 (FY05 Q2)
2005	17 / Mar 31, 2005 (FY05 Q3)	18 / June 30, 2005 (FY05 Q4)	19 / Sept 30, 2005 (FY06 Q1)	20 / Dec 31, 2005 (FY06 Q2)
2006	21 / Mar 31, 2006 (FY06 Q3)	22 / June 30, 2006 (FY06 Q4)	23 / Sept 30, 2006 (FY07 Q1)	24 / Dec 31, 2006 (FY07 Q2)
2007	25 / Mar 31, 2007 (FY07 Q3)	26 / June 30, 2007 (FY07 Q4)	27 / Sept 30, 2007 (FY08 Q1)	28 / Dec 31, 2007 (FY08 Q2)
2008	29 / Mar 31, 2008 (FY08 Q3)	30 / June 30, 2008 (FY08 Q4)	31 / Sept 30, 2008 (FY09 Q1)	32 / Dec 31, 2008 (FY09 Q2)
2009	33 / Mar 31, 2009 (FY09 Q3)	34 / June 30, 2009 (FY09 Q4)		

Edition ranges (e.g. 3-12) include first and last edition in the range. All editions can be accessed at:
http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm

Topic *Edition*

Aviation

Air Cargo 25, 29, 33
Air Search and Rescue 6, 13, 17, 26, 29, 33
Airport Aid Grant Program: Amount Awarded 6, 13, 17, 21, 25, 29, 33,
Airport Land Use Compatibility and Technical Assistance 21,25, 29
Airport Pavement Conditions 17, 21, 25, 29, 33
Airports in Washington 6, 13, 17
Aviation System Planning 17
Fuel: Taxable Gallons 6
Project Delivery 21, 25, 29, 33
Registrations of Pilots, Mechanics or Aircraft 6, 10, 13, 17, 21, 25, 29, 33
Registration Revenue 10, 13, 17
Training of Pilots and Mechanics 6

Benchmarks (RCW 47.01.012)

Administrative Efficiency 9, 14, 18, 22
Bridge Condition Goal 14, 18, 22
Non-Auto Share Commute Trips Goal 14, 18, 22
Pavement Goal 14, 18, 22
Transit Efficiency 9, 14, 18, 22
Safety Goal 14, 18, 22
Vehicle Miles Traveled (VMT) per Capita 9, 14, 18, 22

Bridge Conditions on State Highways

Age of WSDOT Bridges 4
Bridge Ratings (FHWA): Structurally Deficient and Functionally Obsolete 4, 26, 30, 34
Bridge Condition Ratings and Safety 26, 30, 34
Bridge Condition Ratings: State Comparison 8, 30
Bridge Replacements 19, 23, 26, 30, 34
Bridge Structural Condition Ratings 11, 15, 19, 22, 23, 26, 30, 34
Deck Condition Rating 26
Deck Protection Program: Overview 4, 8, 11, 15, 23, 26, 30, 34
Deck Protection Projects: Planned vs. Actual Projects 4, 5, 8, 11, 15, 23, 26, 30, 34
Hood Canal Bridge Update 11-34
Inspection Program 4, 11, 15, 19, 23, 26
Inventory of WSDOT Bridges 4, 5, 8, 11, 15, 19, 23, 26, 30, 34
Movable Bridge Repair 19, 26, 30
Preservation Program Results 11, 15, 19
Rehabilitation and Replacement Project Schedule 4, 11, 15, 19, 23, 26, 30, 34
Repairs 19, 23, 26, 30, 34
Risk Reduction 19, 23, 26, 30, 34
Scour Mitigation 4, 11, 15, 19, 23, 26, 30, 34

Gray Notebook Subject Index

Topic *Edition*

Seismic Retrofit Program
1990-2020 Status 4, 8, 22, 23, 30
Planned vs. Actual Projects 4, 5, 8, 11, 15, 23, 26, 30, 34
Risk Reduction 19, 23, 26, 30, 34
Top 10 Priority Bridges 4, 8
Transportation Partnership Account Bridges 26, 34
Steel Bridge Painting 4, 5, 8, 11, 15, 26, 30, 34
Tacoma Narrows Bridge Update 8-28

Commute Options
City of Redmond Case Study 19
Commute Mode Share Trends 4, 6, 7, 13
Commute Option Strategies 15, 19, 33
Commute Trip Reduction
Award for the Commute Trip Reduction Program 6, 11
Commute Trip Reduction Efficiency Act 27
Commuting Trends at CTR Work Sites and Work Sites in General 4, 19, 22, 23, 27
CTR Task Force Report: Biennial Results 4, 13
Effectiveness of CTR Program (Biennial Results) 4
Growth Transportation & Efficiency Centers (GTECs) 27, 31, 33
Drive Alone 6, 7, 20, 23, 27, 33
Employer Participation, Investment, and Benefits 2
Gasoline Consumption Per Capita (Northwest Environment Watch) 7
Grant Programs 20, 23, 26
Park and Ride Lots
Eastgate Park and Ride Expansion 9
Lot Security 5
Occupancy Rates: Central Puget Sound 4, 14, 23
Occupancy Rates: King County 3, 5-14, 23, 27
Puget Sound System 8
Transit 33
Vanpools
Number of Vanpools in Washington State 27, 33
Vanpool Investments 15, 23, 27, 33
Vanpool Operation in the Puget Sound Region 2-15, 23, 27, 33
Vanpooling Share of Daily Puget Sound Area VMT 2, 15
Van Share Trends 8, 9, 11, 12, 15, 33

Congestion on State Highways
2007 Urban Mobility Report 27
Accidents on Interstate 405: 2001 and 2002 9
Automated License Plate Recognition Technology 23,31
Benchmark Policy Goals for Congestion: Analysis 5
Case Studies: Before and After Results 15, 19, 23, 27, 31
Comparisons of Conditions
2002-2003 15
2003-2005 23
2004-2006 27
2005-2007 31
Six Month Reports 31, 33, 34
Congestion Measurement Principles 5, 6, 19, 23, 27, 31
Congestion Monitoring 19, 23, 27, 31, 33
Cost of Delay 15, 23, 27, 31
Daily Vehicle Hours of Delay per Mile, Sample Commutes Measured
by Delay, Time of Day Distribution of Delay, and Travel Rate Index 2, 5
Distribution of Traffic Between Freeways and Arterials: 1999 to 2003 9
Earlier Congestion Measurement Efforts: 9

Gray Notebook Subject Index

Topic	*Edition*
Employment in the Puget Sound Region	9, 31, 33
Highway Improvements Have Reduced Congestion	9, 31
HOV Lane Performance	19, 23, 27, 31
Induction Loop Detectors	5
Intelligent Transportation Systems in Washington State	5, 22, 31
Lost Throughput Efficiency	19, 23, 27, 31
Measuring Delay	19, 23, 27, 31
Peak Travel Times: Key Commute Routes	15, 19, 23, 27, 31, 33
Percentage of Weekdays with Average Speeds 35 MPH or Below	27, 31
Sources of Congestion	15, 23, 27
Recurrent and Non-Recurrent Congestion	15, 19
Stamp Graphs	27
Traffic Speeds and Volumes on SR 520: 2000 and 2003	9
Traffic Volumes at Selected Locations	5, 9, 31
Travel Times	
Performance	19, 23, 27, 31, 33, 34
Reliability	6, 9, 15, 27, 31
Travel Time to Work Comparison: State and County Rankings	5
Travel Times on 11 Puget Sound Region Corridors	5, 9
With and Without Incidents	6, 33
Typical Freeway Traffic Volume Trend: 1993 to 2002	9
Vehicle Miles Traveled (trends and related affects)	33, 34
Construction Program for State Highways – see also Project Reporting	
Advertisements Process	13
Advertisements by Subprogram: Planned, Actual & Deferred	4, 5
CIPP Value of Advertised & Deferred Projects by Subprogram	4, 5
Construction Program Cash Flow: Planned vs. Actual Expenditures	4-19, 23-34
Construction Program Delivery: Planned vs. Actual Advertisements	1-19, 23-34
Contracts Awarded: Award Amount to Engineer's Estimate	6, 10, 14, 18, 22, 26, 30, 34
Contracts Completed: Final Cost to Award Amount	6, 10, 14, 18, 22, 26, 30, 34
Contracts Completed: Final Cost to Engineer's Estimate	6, 10, 14, 18, 22, 26, 30, 34
End-of-Season Highway Construction Project Evaluations	12, 16, 20, 24, 28
FHWA Federal Performance Report Card	12
Hot Mix Asphalt Pavement Delivery	3, 5, 7, 9, 11, 13, 15, 17, 19, 21-23, 25-27, 29-33
Lane Miles Added to State Highway System	2, 13, 23, 32
Rising Cost of Construction Materials	15, 19, 23, 25-30, 32, 34
Safety Construction Program: Planned vs. Actual Advertisements	3, 6-17, 19
Major projects special reports	
Hood Canal Bridge Update	11-34
Tacoma/Pierce County HOV I-5 Lane Additions	25-34
Tacoma Narrows Bridge Update	8-30
Design	
Age Related Safety Issues	10
Cable Median Barrier Installation: Before and After Collision Data	12, 20, 30, 34
Driving Speeds on State Highways	4, 23, 27
Guardrail Retrofit Program	11, 24, 28
Roundabout Installation: Before and After Collision and Injury Data	12, 22, 26
Value Engineering	6, 10, 32
Environmental Stewardship	
Agencies Approve Projects	18, 25
Climate Change	
Air Quality	22, 26, 31, 34
Green House Gas(es), Emissions	34
Mitigation Strategies	34
Compost Use	7

Gray Notebook
Subject Index

Topic	*Edition*
Congestion Mitigation Measures	26, 33
Construction Site Erosion and Runoff Protection	4, 6, 9, 12, 16, 28, 32
Chronic Riverbank Erosion	
Hoh River	15
Sauk River, SR 530	32
Diesel, Particulate Matter	17, 26, 31
"Ecology Embankment" Pollutant Removal	8, 28
Endangered Species Act	23, 27-33
Environmental Assessments	18, 28, 32
Environmental Compliance Assurance: Tracking	9, 12, 16, 18, 20, 23, 24, 25, 28, 32
Environmental Impact Statement Processing Time	9, 13, 28, 32
Environmental Impact Statement Concurrence Request Approval Rate	13
Environmental Management Systems Update	20, 24, 28
Erosion Control Preparedness	20, 24, 28, 32
Fish Passage Barriers	4, 13, 17, 22, 26, 30
GIS Workbench	14
Hazardous Materials Removal	15
Herbicide Usage Trends	5, 8, 12, 16, 24
National Environmental Policy Act (issues, policies, and research)	33
Noise Impact	23, 26, 31
Operational Improvements	22
Organic Recycling Award for WSDOT	12
Programmatic Permits	13, 17, 22, 26, 30, 33, 34
Quieter Pavements	22, 24, 26, 28, 31
Recycling Aluminum Signs	7
Stormwater Treatment Facilities	12, 16, 20, 24, 28, 32
Violations	9, 12, 16, 24, 28, 32
Water Quality Impacts	16, 20, 24, 28, 32
Wetland Internship	14
Wetland Replacement (Mitigation) Monitoring	5, 9, 12, 14, 16, 20, 24, 25, 28, 33
Wildlife Crossings	18
Ferries (WSF)	
2007 State Audit	27
Capital Expenditure Performance: Actual vs. Authorized	19, 20, 21, 23, 24, 25, 26,
Capital Expenditure Performance: Planned vs. Actual	4-18, 21-26, 29-34
Customer Comments	3-34
Capital Project Delivery Executive Summary: Ferries	24-34
Electronic Fare System and Smart Card	17, 25, 26, 27, 34
Environmental Stewardship	26, 31, 34
Fare Comparison: WSF to Other Auto Ferries	4
Farebox Recovery Comparison: WSF to Other Auto Ferries and Transit	5
Farebox Recovery Rate	5, 12, 16
Farebox Revenues by Month	3-14, 16-34
Fleet Condition: Ferry Ages by Class of Vessels	13, 21
Life Cycle Preservation Performance: Planned vs. Actual	12-33
New Vessel Construction	32-34
On-Time Performance	3-34
Operating Costs Comparison: WSF to Other Ferry Systems	3
Ridership by Month	3-24, 29-34
Terminal and Vessel Incidents	26, 29
Trip Planner	17, 18
Trip Reliability Index and Trip Cancellation Causes	3-34
Trip Completion and On Time Performance Comparison to WA Transit Services	25
GPS at WSDOT	
Tour the State Highway system - SR view Development of the "Smart Map"	13

Gray Notebook Subject Index

Topic *Edition*

Maintenance of State Highways

Achievement of Biennial Maintenance Targets (Maintenance Accountability Process [MAP]) . 3, 4, 8, 12, 16, 24, 28, 32
Anti-Litter Campaign Update ... 5, 11
Capital Facilities
Age ... 34
Americans with Disabilities Act (ADA) ... 26, 30
Benchmarks ... 18, 22, 26, 30
Backlog of Maintenance and Replacement ... 22, 34
Capital Facilities Construction Projects ... 18, 22, 26, 30, 34
Environmental Stewardship, Sustainability ... 18, 22, 26, 30, 34
Facility Conditions, Ratings, and Trends ... 18, 22, 26, 30, 34
Locations of Facilities ... 34
Preventative Maintenance ... 18, 22, 26, 30, 34
Cooperative Maintenance Partnerships with Counties and Cities ... 25
Costs of State Highway Maintenance ... 4, 16, 25
Culvert Management System ... 27
Customer Satisfaction with WSDOT Highway Maintenance Activities ... 3
Debris Pusher Maintenance Attachment ... 6
Emergency Operations Centers ... 27, 33
Facilities ... 19, 22, 26, 30
Facilities Condition Rating ... 18, 22, 26, 30
Guidepost Driver ... 11
Herbicide Usage Trends ... 5, 8, 12, 16, 24, 28, 32
Highway Sign Bridges: Planned vs. Actual Repairs ... 3, 4, 6, 8
Highway Signs: Number of Maintenance Actions ... 6, 8
Integrated Vegetation Management ... 5, 12, 16, 20, 24, 28, 32
Landscape ... 19
Litter Removal from State Highways ... 5, 6, 8, 11, 15
Litter Violations Issued by WA State Patrol ... 23
Pavement Striping:
How Do They Paint the Stripes So Straight? ... 6
Planned vs. Actual Miles Painted ... 3, 4, 6, 8
Winter Field Test ... 18
Road Kill on State Highways ... 5, 23
Safety Rest Areas
Safety Rest Area Condition Report ... 21, 25, 29, 33
Safety Rest Area Improvement Program ... 21, 25, 29, 33
Safety Rest Area Locations and Amenities ... 9, 13, 17, 19, 33
Safety Rest Area Level of Service ... 17, 21, 25, 29, 33
Safety Rest Area Preservation ... 17, 21, 25, 29, 33
Safety Rest Area Survey ... 9, 17, 21, 25, 29, 33
Safety Rest Area Truck Parking and Security ... 17, 21, 25, 29, 33
Safety Rest Area Visitors ... 21, 25, 29, 33
Safety Rest Areas Wireless Internet Access ... 19, 25, 29
Stormwater Treatment Facilities ... 31
Suspender Cable Painting ... 23
Sustainability Initiatives and Programs ... 26, 30
Traffic Signals: Annual Energy Costs and Incandescent Bulb Conversion ... 3
Vortex Generators ... 5
Water Conservation ... 19
West Nile Virus ... 16
Winter maintenance articles
Anti-Icer Evaluation ... 17, 18, 21, 25, 29, 33
Automated Anti-Icing Systems ... 7
Avalanche Control ... 15, 21, 29, 33
Global Positioning Satellite Use for Snow and Ice Control ... 13

Gray Notebook
Subject Index

Topic	*Edition*
Living Snow Fence on SR 25	9
Mountain Pass Highway Closures	7, 9, 17, 21, 25, 29, 33
Salt Pilot Project	7, 10, 17, 18
Snow and Ice Control Operations	4, 7
Snow and Ice Expenditures	17, 21, 25, 29, 33
Survey on Pass Travel Conditions and Anti-Icer Use	2, 13,17
Tools for Winter Driving	17, 25, 29
Trucks to Get Through the Winter	17
Winter Overtime Hours and Snowfall Amount	7, 9
Winter Roadway Condition Level of Service and Anti-Icer Chemicals	9, 13, 17, 21, 25, 29, 33
Winter Severity and Snow and Ice Expenditures	4, 9, 13, 17, 21, 25, 29, 33
Pavement Conditions on State Highways	
Bridge Condition by Deck Area	26
Chip Seal Pavements	28, 32
Concrete Pavement	16
Concrete Pavement Lane Miles by Age and Dowel Bar Retrofit Status	12
"Due" Pavement Rehabilitation Needs	4, 8, 28, 32
Pavement Condition of Various Pavement Types	2, 32
Pavement Condition Trends	4, 8, 12, 16, 20, 22, 24, 28, 32
Pavement Lane Miles, Annual Vehicle Miles Traveled, and Programmed Dollars	12, 16, 32
Pavement Ratings	20, 24, 28, 32
Pavement Smoothness Rankings by State	4, 8, 12, 16, 20, 24, 28, 32
Portland Cement Concrete Pavement	16, 28, 32
Selecting Pavement Types	16
Program Activities Highlights	
Project Starts, Completions, Updates	20, 21, 23-34
Highlights	20, 21, 23-34
Project Reporting (Beige Pages) – see also Construction program for state highways	
Capital Project Delivery: Executive Summary	26-34
Capital Project Delivery: Executive Summary, Rail and Ferries	24-34
Completed Projects Wrap-Up	31-34
Construction Cost	20-34
Construction Employment Information	20, 21, 22, 23, 24, 25, 26, 27, 33, 34
Construction Safety Information	20, 21
Current Project Highlights and Accomplishments	10-19, 21-34
Environmental Documentation, Review, Permitting and Compliance	20, 24-33
Financial Information	10-19, 21-34
2009 American Recovery and Reinvestment Act funds	33, 34
Transportation 2003 (Nickel) Account	20-34
Multimodal Account	20-34
Transportation Partnership Account	20-34
Pre-Existing Funds (PEF)	20-34
Hot Mix Asphalt	21, 23-27, 29, 30, 32, 33
Nickel Program: 2003 Transportation Funding Package	20-34
Overview of WSDOT's Three Capital Project Delivery Mandates	20-29
Partnership Program: 2005 Transportation Funding Package	20-34
Planned vs Actual Number of Projects	20-34
Pre-Existing Funds Projects	20-29, 31-34
Program Management Information	10-34
Project Delivery	11-34
Recovery Act Projects	
Local Projects Advertised and Awarded	33, 34
Local Projects Completed	33, 34
Jobs and other Economic Estimates	33, 34
State Projects Advertised and Awarded	33, 34

Gray Notebook Subject Index

Topic	*Edition*
State Projects Completed	33, 34
Right of Way Risks	20, 22, 24, 26, 28, 30, 32, 34
Roll-Up of Performance Information	20-34
Special Project Reports	
I-405 Congestion Relief Project(s)	31
I-5 Everett HOV Lane project	30
Hood Canal Bridge	20-34
New Vessel Construction for WSF	34
Tacoma Narrows Bridge	20-30
Tacoma/Pierce County HOV program	25-34
US 12 Corridor from Walla Walla to Tri-Cities	32
US 395 North Spokane Corridor	34
Utilities	20, 22, 24, 26, 28, 30, 32, 34
Rail: Freight	
2005 Results Flatline	18
Economic Trends	31
Freight Rail Study	25
Grain Train - Long Term	18
Grain Train Carloads	5-9, 11-33
Grain Train Car Demand	26, 28, 33
Grain Train Route Map	5, 9, 29
Palouse River Coulee City Railroad: State Acquisition	24
Washington Fruit Express: Car Loadings Per Week	5, 8
Rail: State-Supported Amtrak *Cascades* Service	
Amtrak Funding Update	17, 18
Amtrak's Future	5, 6, 7, 9, 10, 17, 18
Budget Update	10
Canadian Service	25
Capital Improvement Program and WSDOT Service Goals	2, 26, 30-32
Capital Project Delivery Executive Summary: Rail	24-32
Customer Satisfaction	2-4, 7, 9, 12, 14, 16, 21, 23-27
Farebox Recovery Percentage by Train	4, 8, 12, 16, 20, 24, 28, 32
Internet Reservations and Automated Ticketing	6
Investment in Intercity Rail Comparison	5
New Crossovers and additional service	18, 31
On-Time Performance	2-34
Operating Costs	4
Passenger Trips by Station	6, 20
Rail Plus Program	15, 16, 19, 20
Revenue by Month	27
Ridership	
by Funding Entity	25-34
by Month	2-34
by Year	20, 24
by Year: Long-Term Trends	2, 4, 8, 12, 16
Patterns by Segment (Seats Sold)	3
Route Map: Amtrak in Washington	6, 31
Schools on Trains	18
Station Update	11, 13, 14, 15, 16. 17. 22, 31
Vehicles Diverted Annually from I-5 by Cascades	2
Safety on State Highways – see also Worker safety	
Age-Related Safety Issues	10
Alcohol-Related Fatalities: State Comparison	7
Alcohol-Related Fatality Rate	12, 22
Before and After Collision Data for Highway Safety Improvement Projects	12, 16, 20, 24, 26, 27, 28, 33, 34

Gray Notebook
Subject Index

Topic	*Edition*
Before and After Collision Data: Cable Median Barrier Installations	12, 20, 24, 30, 34
Corridor Safety Program	
Active and Completed Projects	27, 34
Before & After Results	8, 19, 23, 27, 34
Case Studies	27, 34
Fatal and Disabling Collisions	27, 34
Driving Speeds on State Highways	4, 23, 27
Fatal and Disabling Collisions: Circumstances and Type	8, 27
Fatal and Disabling Collisions: at Intersections	9
Fatal and Disabling Crashes and VMT, Percent Change	3, 7, 11, 16, 22, 26, 30
Fatal and Disabling Accident Rates by County	22, 26, 30
Fatalities and Fatality Rates in Washington	13, 16, 22, 26, 30, 34
Fatalities by Gender and Age Group	10, 27
Fatalities per Capita by State	13, 22, 26, 34
Fatality Rates: State Highways, All State Public Roads & U.S.	3, 7, 11, 16
Guardrail Retrofit Program	11, 24, 28
High Accident Corridors and Locations by Region	4
High Accident Corridors and Locations Statewide	3, 15, 20
Intermediate Driver's License Program	13
Low Accident Locations and Corridors in Cities Over 22,500	20
Low Cost Safety Enhancement Program: Planned vs. Actual Projects	3, 4, 5
Low Cost Safety Enhancement Program: Sample Projects	4, 6
Low Cost Enhancement Safety Program: Before and After Analysis	20, 26
Motorcycle Fatalities and Injuries	23, 27
Motorcycle Safety	23, 27
Safety and bicyclists	
Bicycle and Pedestrian Safety: Federal Benchmark	9
Bicyclist Fatality Locations and Relatable Actions	28, 32
Bicyclist Fatality Rates: State Comparison	9, 20, 24, 28, 32, 34
Safety and pedestrians	
Bicycle and Pedestrian Safety: Federal Benchmark	9
Demographics of Pedestrian Risk	20
Pedestrian Factors in Vehicle/Pedestrian Collisions	8, 28, 32
Pedestrian Fatality Rates by State	8, 16, 20, 24, 28, 32
Pedestrian Safety in Washington	16, 32
Safe Routes to Schools Grant Program Status	9, 12
Photo Enforcement	16
Roadside Improvements	24
Roundabout Installation: Before and After Collision and Injury Data	12, 18, 22, 27
Rumble Strips	14, 18, 26, 30, 34
Safety Construction Program: Planned vs. Actual Project Advertisements	3, 6-13, 15-17
Washington State Safety Data	13
Safety Laws: Booster Seats and Mandatory Seat Belts	5
Seatbelt Use: State Comparison	7, 11, 22, 26, 30, 34
Seatbelt Use: By Type of Road	26, 30, 34
Safety Enhancements	20
Safety Rest Areas	
Level of Service Trends	13, 17, 21, 25, 29, 33
Locations and Amenities	9, 13, 17, 21, 25, 29, 33
Preservation: Capital Investment Program 2003-05	13, 17, 21, 29, 33
Program Information	13, 17, 21, 25, 29, 33
Survey	9, 17, 21, 25, 29, 33
Truck Parking and Security	17, 21, 25, 33
Usage	13, 17, 21, 25, 29, 33
Strategic Highway Safety Plan: *Target Zero*	34
Speeding Enforcement	23

Gray Notebook Subject Index

Topic *Edition*

Top Ten High Accident Corridor: 2007-09 Biennium 20
Top Ten High Accident Locations: 2007-09 Biennium 20
Wildlife Crossings 18

Special Features

2 Dots 2 Safety 23
Ecosystem Initiative Award 23
Eruption Watch 15
Guardrail Sign Mount 15
Legislative Changes to Statewide Transportation Performance Reporting 26
Making of a Project 32
Overweight and Oversize Permit 16
Performance Audits and Reviews 16
Photo Enforcement 16
Portable Incident Screens 20, 22
"Smart Map" Development 13
Tour the State Highway System with WSDOT's SR view 13
Traffic Signal Operations 17
Using Plain English at WSDOT 17
Water Conservation Activities 17
West Nile Virus 15

Traffic Operations on State Highways

Blocking Disabled Vehicles and Debris - Trends 15
FHWA Self-Assessment 9

Incident Response Program

Governor's Strategic Action Plan for Incident Response 25-34
History of Incidence Response 16
Incidents On I-5- Everett to Seatac 15
A Day in the Life of IR 19
Anatomy of a 90-Minute Incident 18
Anatomy of an Extraordinary (6 hours +) Incident 27, 34
Average Duration of Over 90 Minute Incidents by Route 26, 27, 28
Average Duration of Over 90 Minute Incidents on I-90 26
Calls Responded to by Region 2
Clearance Times 2-5, 8-14, 16-34
Commercial Motor Vehicle 27-29, 33, 34
Customer Comments 8
Economic Analysis 10
Extraordinary (6 hours +) Incidents 26-34
Instant Tow Program 27, 28, 29
Non-Collision Response Types 8-14, 19-34
Program Activities on Urban Commute Routes 15
Program: Construction Zone Traffic Management 19
Program: Types of Responses 9-14, 17-29
Roving Units Compared to Response by Called-Out Units 13, 14, 18
Service Actions Taken 7, 10-14, 18, 22-34
Teams Go to the Olympics 5
Teams: Location and Type 7
Then and Now 16
Time line 6
Times 2, 3, 4, 5
Total Number of Responses by Month 7-13, 15-18
Total Number of Responses by Quarter 19-23, 25-34
Incidents with Clearance Times Over 90 Minutes 6-14, 16, 18-34
Injury Collisions in Over 90 Minute Blocking Incidents 25, 26
Joint Operations Policy Statement between WSDOT and Washington State Patrol 5, 17

Gray Notebook
Subject Index

Topic	*Edition*
Number of Responses to Incidents	18, 20, 23-34
Operational Efficiency Program Strategies	2, 29
Over 90 Minute Blocking Incidents by Type	25
Over 90 Minute Fatality and Non-Fatality Incidents on 9 Key Corridors	26
Over 90 Minute Accidents by Duration Period	28
Overall Average Clearance Time	20-34
Response Modes	16
Responses to Fatality Collisions	20-34
Roving Coverage	16, 18
Service Patrols Contacts	3, 4
Spokane Interstate 90 Peak Hour Roving Service Patrol Pilot	5
Traffic Incident Management Self Assessment	17
Training & Recruiting Incident Responders	16, 29
Induction Loop Detectors	5
Intelligent Transportation Systems in Washington State	5, 27, 31
Transportation Research	
Case Studies	34
Funding and Value of Research Projects, Activities	34
Number of Research Activities	34
Number of Research Projects: Planned vs. Actual	34
Travel Information	
Award for Traveler Information Web Site	11
Calls to 1-800-695-ROAD and 511	7-14, 18-24, 26, 28, 30, 33
Camera Views	7, 8
Other web-based tools (blog, YouTube, Twitter, podcasting, RSS, mobile internet)	26, 33
Evaluation Survey	10
Three-Year Milestones	22
Traveler Information Services Overview	7, 26, 30
Types of Information Requested to 511	18, 20, 23, 24, 26, 28, 30
Web site Daily Usage	7-14, 18-26, 28, 30, 33
Web site Feedback	8, 9
Trucks, Goods, and Freight	
Air Cargo Forecast	25, 29, 33
Automatic De-icers Help Keep Truckers Safe	16
CVISN - Commercial Vehicle Information Systems and Networks	15, 26, 29, 33
Cross Border Truck Volumes	6, 10, 16, 21, 25, 29, 33
Freight Industry Survey	16, 33
Freight Routes and Border Crossings in Washington	6, 10, 16, 21, 25, 29, 33
Freight Shipments To, From, and Within Washington	10
Impediments to Truck Shipping: Bridges with Posted Weight Restrictions	6
Intelligent Transportation Systems Use for Trucks	6, 10
Managing Over-Sized Truck Loads	6
Marine Cargo Forecast	16, 21, 25, 29, 33
Osoyoos/Oroville Border Facts	10
Over dimensional Trucking Permits	6, 16
Projects with Freight Benefits	10, 16, 21, 25, 29, 32-34
Revenue Prorated to Washington for Trucks in Interstate Use	6, 10, 16, 21, 25, 29
Road Segment Ranking	16, 29
Severe Weather Closures	16, 21, 25, 29, 33
Supply Chain Performance	25
Truck Registrations in Washington	6, 21, 25, 29, 33
Truck Share of Total Daily Vehicle Volumes	6
Worker Safety	
Accident Prevention Activities	14-21, 23-34
Ferry Vessel Workers Recordable Injuries	2-21, 23-34

Gray Notebook Subject Index

Topic	*Edition*
Highway Engineer Workers Recordable Injuries	2-21, 23-34
Highway Maintenance Workers Recordable Injuries	1-21, 23-34
North American Association of Transportation Safety and Health Officials Meeting	3
Number of OSHA-Recordable Injuries/Illnesses: WSDOT Regions and Ferry System	22-34
Number of Work Injuries by Type	28-34
OSHA-Recordable Injuries: Annualized Rate	22-34
OSHA-Recordable Injuries: Quarterly Rate	22-27
OSHA-Recordable Injuries: Fiscal-Year-to-Date	23-33
WSDOT Safety Stand-Down	26, 27, 28, 31, 33, 34
Workforce Levels and Training	
Driver Safety Training	26, 27
Highway Maintenance Workers Safety Training	5-13, 16-34
Required Training for all WSDOT Employees	7-34
Required Training for Maintenance Workers by Region	20-34
Workforce Levels	5-34

Americans with Disabilities Act (ADA) Information

Persons with disabilities may request this information be prepared and supplied in alternate formats by calling the Washington State Department of Transportation at (360) 705-7097. Persons who are deaf or hard of hearing may call Access Washington State Telecommunications Relay Service by dialing 7-1-1 and asking to be connected to (360) 705-7097.

Civil Rights Act of 1964, Title VI Statement to Public

Washington State Department of Transportation (WSDOT) hereby gives public notice that it is the policy of the department to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities. Persons wishing information may call the WSDOT Office of Equal Opportunity at (360) 705-7098.

Other WSDOT information available

The Washington State Department of Transportation has a vast amount of traveler information available. Current traffic and weather information is available by dialing 5-1-1 from most phones. This automated telephone system provides information on:

- Puget Sound traffic conditions
- Statewide construction impacts
- Statewide incident information
- Mountain pass conditions
- Weather information
- State ferry system information, and
- Phone numbers for transit, passenger rail, airlines and travel information systems in adjacent states and for British Columbia.

For additional information about highway traffic flow and cameras, ferry routes and schedules, Amtrak *Cascades* rail, and other transportation operations, as well as WSDOT programs and projects, visit www.wsdot.wa.gov

For this or a previous edition of the *Gray Notebook*, visit www.wsdot.wa.gov/accountability

0401-0004