



**Washington State  
Department of Transportation**

# The Gray Notebook

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

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



## GNB 38

**Quarter ending  
June 30, 2010**

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### **In this edition**

#### **Annual Reports**

- Highway Safety
- Bridges
- Capital Facilities
- Commute Options
- Endangered Species  
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- Programmatic  
Permitting
- Construction  
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- Incident Response
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- Federal Recovery  
Act-funded Projects
- Semi-Annual Travel  
Times Update

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accountability](http://www.wsdot.wa.gov/accountability)

# Executive Summary



## Performance highlights in this edition of the *Gray Notebook*

### WSDOT recommits to “no surprises” reporting

Since 2001, WSDOT has employed the quarterly *Gray Notebook* (also called the *GNB*) as one of the agency’s primary accountability reporting tools. The *GNB* contains quarterly, semi-annual, and annual updates on a range of agency activities, programs, and capital project delivery.

In July 2010, Washington Transportation Secretary Paula Hammond recommitted the agency to transparency, accountability, and ‘no surprises’ reporting, including a direction to all personnel that WSDOT be “as aggressive in reporting the bad news as we are in reporting our good news.” Secretary Hammond announced additional statewide communications protocols, which include:

- Reinforcing performance expectations for project reporting and problem identification for senior managers and agency communications staff.
- The distribution of biweekly transportation alerts to notify the legislature and public of project issues both when a problem is identified and when it is resolved.
- The activation of new project reporting systems that will publish “project updates” monthly on project web pages, and which will include project delivery details and issues.

The *GNB* publishes special quarterly updates on selected projects as well as a Watch List of projects with schedule or budget issues (pp. 79-84). Great care will be taken to ensure the information in the special reports and on the List corresponds to information published through the alerts or project web pages. However, because the *GNB* is published after the quarter closes, the most recent updates on projects will be found online or in the alerts.

### Reports for the quarter ending June 30, 2010

This edition of the *Gray Notebook* presents information on WSDOT’s performance for the quarter ending June 30, 2010, as well as seven annual and three semi-annual reports. Selected highlights from this edition include:

- **Almost 6% fewer traffic fatalities occurred in Washington in 2009 compared to 2008.** At 491 fatalities, it is the lowest number since 1955’s 461 fatalities. This article includes Before & After analysis on 493 miles of centerline rumble strip projects, showing they reduced crossover collisions by at least 40%. (*Highway Safety Annual Report*; pp. 5-10)
- **In fiscal year 2010, 98% of state bridges were in good or fair condition.** WSDOT’s bridge inventory increased from 3,630 to 3,658. (*Bridge Assessment Annual Report*; pp. 12-18)
- **In the first half of 2010, peak travel times improved on six of 18 surveyed commute routes in the Seattle area.** The trend of flat or slightly reduced travel times continues from 2009, with two routes dropping by three minutes. (*Travel Trends Update*; pp. 24-27)
- **As of June 30, 2010, WSDOT has delivered a total of 272 Nickel and Transportation Partnership Account (TPA) projects valued at \$3.895 billion,** on target with the funding provided in the 2010 Supplemental Transportation Budget. At quarter end, June 30, 2010, WSDOT had completed eight projects, 60 projects were under construction, and an additional 10 projects were scheduled to be advertised by December 31, 2010. 87% of all Nickel and TPA projects combined were completed early or on time and 94% were under or on budget. (See the *Beige Pages* for a quarterly report of WSDOT’s *Capital Project Delivery Program*; pp. 55-88)
- **More than 200 American Recovery and Reinvestment Act (Recovery Act) highway projects were awarded to contractors by the end of June, including 122 that have been completed.** The *Special Report* includes June employment data on how Washington’s Recovery Act projects are creating and preserving jobs. (pp. 50-54)

#### On this quarter’s cover (from top):

Archaeologists excavate a site while WSDOT prepares to replace the Alaskan Way viaduct. The 19th-century neighborhood was abandoned in 1905; finds have included small bottles and tools.

Contractor crews set the temporary westbound I-82 bridge span.

A WSDOT engineer studies Chain-up Creek culvert under Mt Baker Highway. The existing culvert is a barrier to fish; a new bridge here will help improve fish passage.

The controllable pitch propellers and tail shafts for the second 64-car ferry, the newly named Salish.

A draft plan shows an early stage of design for a new roundabout at SR 542 and SR 9 in Whatcom County.

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# Navigating the WSDOT Information Stream

## Linking performance measures to strategic goals

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

### Statewide transportation policy goals

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

The five statewide transportation policy goals are:

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

In March 2010, the Governor and Legislature added a new policy goal for transportation: **Economic Vitality**. It directs WSDOT to “promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.” WSDOT is developing the necessary business direction plans through the agency's strategic planning process.

### 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: [www.ofm.wa.gov/performance/](http://www.ofm.wa.gov/performance/).

### 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. 105-110) to find earlier coverage; all previous editions are available online at [www.wsdot.wa.gov/accountability](http://www.wsdot.wa.gov/accountability).

### 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: [www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm](http://www.wsdot.wa.gov/Accountability/PerformanceReporting/StrategicPlan.htm).

### Other performance reporting requirements

#### Priorities of Government (POG)

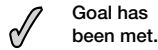
POG is an investment prioritization process used to help the Governor and Legislature develop agency budgets. Every biennium, workgroups composed of government agency and private sector representatives identify results that citizens expect from government, and evaluate the performance of state agency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

Policy goal/Performance measure	Previous reporting period	Current reporting period	Goal	Goal met	Progress	Comments
<b>Safety</b>						
Rate of <b>traffic fatalities</b> per 100 million vehicle miles traveled (VMT) statewide (annual measure, calendar years: 2007 & 2008)	0.94	0.87	1.00	✓	↑	The rate of highway fatalities continues to decline (a lower rate is better)
Rate of <b>strains and sprains / hearing-loss injuries</b> per 100 WSDOT workers <sup>1</sup> (quarterly measure: FY10 Q3, FY10 Q4 <sup>2</sup> )	2.4/ 0.4	2.2/ 0.7	2.4/ 0.4	—	↓	Strain/sprain goal met for the quarter, but target was to reduce both injury rates
<b>Preservation</b>						
Percentage of state <b>highway pavements</b> in fair or better condition (annual measure, calendar years: 2007 & 2008)	93.3%	94.0%	90.0%	✓	↑	Recovery Act-funded projects are contributing to reductions in "due" rehabilitations
Percentage of <b>state bridges</b> in fair or better condition (annual measure, fiscal years: 2009 & 2010)	97.0%	98.0%	97.0%	✓	↑	Recovery Act funds contributed to increase in Good/Fair rating
<b>Mobility (Congestion Relief)</b>						
<b>Highways:</b> annual weekday <b>hours of delay</b> statewide <sup>2</sup> (annual measure: calendar years 2006 & 2008)	37 million	32 million	N/A	N/A	↑	Delay reduction of 13% due to gas prices, economic downturn, and completed mobility projects
<b>Highways:</b> Average clearance times for <b>major (90+ minute) incidents</b> on 9 key western Washington corridors (quarterly: FY10 Q4, FY10 Q4 <sup>3</sup> )	173 minutes	151 minutes	155 minutes	✓	↑	The high percentage of fatalities and truck-related incidents contributed to increased clearance times
<b>Ferries:</b> Percentage of trips departing on-time <sup>3</sup> (quarterly, year to year: FY09 Q4, FY10 Q4 <sup>3</sup> )	93%	88%	90%	—	↓	Only three routes met the on-time goal for the quarter
<b>Rail:</b> Percentage of Amtrak Cascades trips arriving on-time <sup>4</sup> (quarterly, year to year: FY09 Q4, FY10 Q4 <sup>3</sup> )	75%	71%	80%	—	↓	Increased demand and new service affected performance
<b>Environment</b>						
Cumulative number of WSDOT <b>stormwater treatment facilities</b> constructed or retrofitted <sup>5</sup> (annual measure: calendar years 2008 & 2009)	850	1,037	N/A	N/A	↑	Stormwater facilities will now be constructed under a new permit, with new requirements
Cumulative number of WSDOT <b>fish passage barrier improvements</b> constructed since 1990 (annual measure: calendar years 2008 & 2009)	226	238	N/A	N/A	↑	Twelve additional retrofits completed in 2009
<b>Stewardship</b>						
Cumulative number of Nickel and TPA <b>projects delivered, and percentage on time</b> (quarterly: FY10 Q3, FY10 Q4 <sup>4</sup> )	264/ 89%	272/ 87%	90% on time	—	↓	Performance declined slightly from previous quarter <sup>8</sup>
Cumulative number of Nickel and TPA <b>projects completed and percentage on budget</b> (quarterly: FY10 Q3, FY10 Q4 <sup>4</sup> )	264/ 91%	272/ 94%	90% on budget	✓	↑	Competitive bidding and construction environment contributing to controlling costs <sup>8</sup>
Variance of total project costs compared to <b>budget expectations</b> <sup>6</sup> (quarterly: FY10 Q3, FY10 Q4 <sup>4</sup> )	under-budget by 0.08%	under-budget by 1.0%	on budget	✓	↑	Total Nickel and TPA construction program costs are within 1% of budget <sup>8</sup>

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

1 Sprains/strains and hearing loss are current high priority focus areas for WSDOT. Hearing loss rate based on preliminary data.

2 Compares actual travel time to travel time associated with 'maximum throughput' speeds, where the greatest number of vehicles occupy the highway system at the same time (usually 50 miles per hour)

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

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

5 Facilities in Clark, King, Pierce, and Snohomish counties.

6 Budget expectations are defined in the last approved State Transportation Budget.

7 Washington's fiscal year (FY) begins on July 1 and ends on June 30. FY10 Q4 refers to the quarter ending June 30, 2010.

8 See page 55 for more information on the expanded view of capital projects in the current 2010 Legislative Transportation Budget for highway construction.

# 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
<b>1. Safety:</b> 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 38 p. 5
		Rate of traffic fatalities per 100 million miles traveled	annual	GNB 38 p. 6
		Percent reduction in collisions before and after state highway improvements	annual	GNB 38 p. 7
		Number of recordable workplace injuries and illnesses	quarterly	GNB 38 p. 4
State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
<b>2. Preservation:</b> 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 36 pp. 10-15
		Percent of state bridges in fair or better condition	annual	GNB 38 pp. 12
		Percent of targets achieved for state highway maintenance activities	annual	GNB 36 pp. 16-19
		Number of ferry vessel life-cycle preservation activities completed	annual	GNB 37 pp. 14-15
		Percent of ferry terminals in fair or better condition	annual	GNB 37 p. 16
State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
<b>3. Mobility (Congestion Relief):</b> 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 38 p. 25
		Reliable travel times on the most congested state highways around Puget Sound	annual	GNB 38 p. 25
		Percentage of commute trips while driving alone	annual	GNB 38 p. 31
		Average length of time to clear major incidents lasting more than 90 minutes on key highway segments	quarterly	GNB 38 p. 34
		Ferry ridership	quarterly	GNB 38 p. 35
		Ferry trip reliability	quarterly	GNB 38 p. 36
		Percent of ferry trips on-time	quarterly	GNB 38 p. 37
		Amtrak <i>Cascades</i> ridership	quarterly	GNB 38 p. 39
		Percent of Amtrak <i>Cascades</i> trips on time	quarterly	GNB 38 p. 40



# Navigating the WSDOT Information Stream

## Linking performance measures to strategic goals

State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
<b>4. Environment:</b> 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 36 p. 37-38
		Number of fish passage barriers fixed and miles of stream habitat opened up	annual	GNB 36 pp. 34-36
		Number of WSDOT stormwater treatment facilities constructed or retrofitted	annual	GNB 37 p. 38
		Number of vehicle miles traveled	annual	GNB 31 p. 41
		Transportation-related greenhouse gas emissions (measure to be developed)	n/a	n/a
State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
<b>5. Stewardship:</b> 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 38 pp. 55-64
		Recovery Act-funded project reporting	quarterly	GNB 38 pp. 50-54
State policy goal	WSDOT business direction	Key WSDOT performance measures	Reporting cycle	Last Gray Notebook report
<b>6. Economic Vitality:</b> To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.	Note: Performance measures and WSDOT strategic business directions for the new policy goal "Economic Vitality" are under development as part of the 2011-13 strategic planning process. Information will be added to this table in a future edition of the <i>Gray Notebook</i> .			GNB 37 pp. 46-54

# Navigating the WSDOT Information Stream

## Organization of the Gray Notebook

Through more than 35 editions, in fact nine years, WSDOT has published a quarterly performance report known as the *Gray Notebook*. The original publication, bound in gray paper, 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.

### How is the *Gray Notebook* organized?

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

The *Gray Notebook* is organized into 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. A new section, for topics related to ways in which the transportation system supports the Legislature's policy goal of economic vitality, was added in the March 2010 *Gray Notebook* 37. 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 white pages 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.

Matters pertaining to finance, capital project delivery, workforce, and agency highlights appear in the Stewardship section. Since *Gray Notebook* 33, the Stewardship section leads off with coverage of WSDOT's Federal Recovery Act-funded projects, including high speed rail and TIGER grant projects.

The Beige Pages immediately following address the delivery of the projects funded in the 2003 Transportation Funding Package (Nickel), 2005 Transportation Funding Package (TPA),

and Pre-Existing Funds (PEF). They contain summary tables, detailed narrative project summaries, and financial information supporting WSDOT's "no surprises" reporting focus.

### More easily tracked business plan results

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

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

A separate detailed navigation folio is available at [www.wsdot.wa.gov/Accountability/GrayNotebook/](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 [www.wsdot.wa.gov/Accountability/GrayNotebook/navigateGNB.htm](http://www.wsdot.wa.gov/Accountability/GrayNotebook/navigateGNB.htm).

## Online capital project reporting and using the website

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

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



### Navigate the WSDOT website

The WSDOT home page (shown above; [www.wsdot.wa.gov](http://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/](http://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.

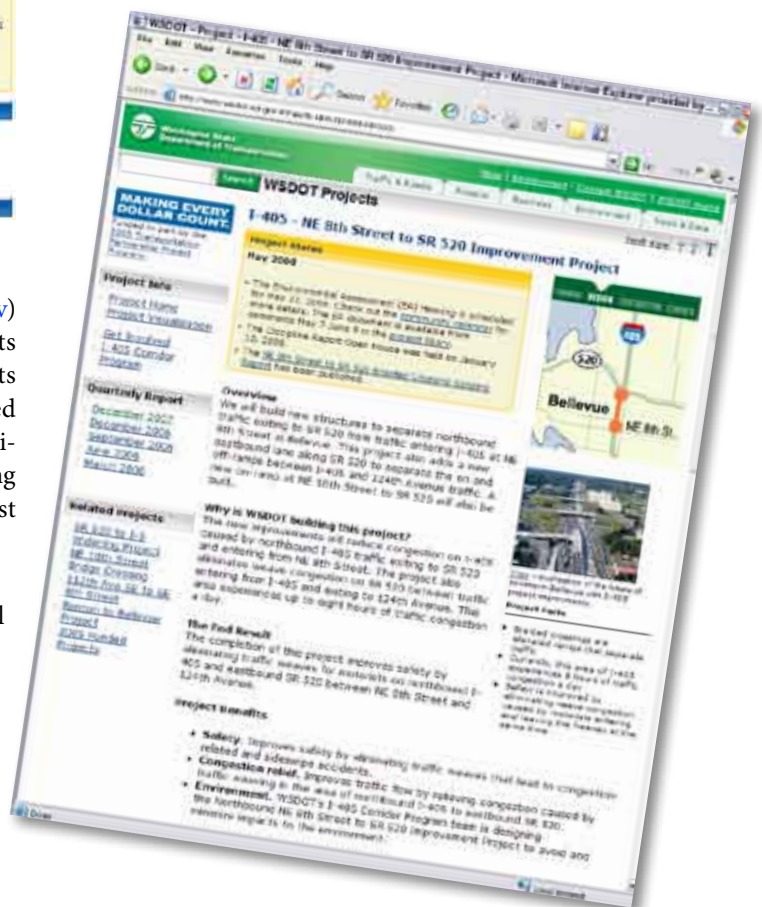
#### Project Pages cover:

- 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](http://www.wsdot.wa.gov/accountability)

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# Safety

## Statewide policy goal

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

## WSDOT's business direction

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



### In this section

Quarterly Update:	
Worker Safety	2
Highway Safety	
Annual Report	5

### See also

Incident Response	33
Workforce Training	98

### Earlier safety-related articles

Safety Rest Areas	GNB 37
Highway Corridor Safety	GNB 37
Highway Safety,	GNB 35
Bicycle & Pedestrian	Safety, GNB 36



# Worker Safety Quarterly Update

## WSDOT employees: Rates of injuries and illnesses

### Worker Safety Highlights

WSDOT has reduced worker compensation claims costs from \$5.5 million in 2005 to \$1.9 million in 2009.

Time lost to injuries is decreasing, from 18,101 work-days in 2005 to 10,147 in 2009.

The rate of injuries per 100 workers has declined or remained steady from FY 2009 to FY 2010, but not sufficiently to meet WSDOT's goals for reducing hearing loss injury or strains and sprains injuries.

Strains and sprains accounted for the vast majority of worker injuries in FY 2010.

WSDOT has a strong commitment to improve the safety of its employees as they perform their jobs. In 2009, WSDOT established a goal of zero workplace injuries by 2019. Since that time, WSDOT has embarked on an ambitious program to transform its worker safety program, guided by a core value that every employee should go home safely at the end of the day. Though much has been accomplished, WSDOT recognizes that there are still many opportunities to improve the safety of its workforce.

### New and revised efforts to improve the worker safety program

In July 2010, senior staff and regional administrators met to evaluate WSDOT's worker safety program and determine future directions. The following issues were discussed: safety performance goals; the annual Safety Stand Down, a day in which ordinary duties are set aside as agency-wide discussions about safe working practices take place; employee recognition; safety committees; and regional safety plans.

At the meeting, WSDOT's leadership decided to pursue the following actions:

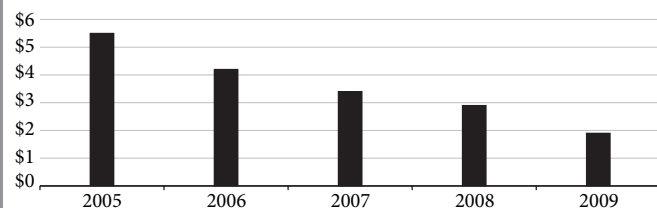
- Injury data will be reported on a calendar year basis, rather than fiscal year, to improve alignment with the Department of Labor & Industries (L&I) experience factor reporting cycle. (This change will be made in the next edition of the *Gray Notebook*.)
- The Safety Stand Down will be conducted in September 2010 to communicate worker safety performance and prevention of injuries to employees.
- Safety certificates will be awarded to employees who are not injured or involved in vehicular accidents with repair costs over \$500 over the past year.
- WSDOT will re-evaluate its current safety performance measures and goals. Additional measures are being considered to complement existing measures to provide a broader assessment of the effectiveness of the safety program.

### WSDOT's claims costs are decreasing steadily

Annually, L&I calculates an "experience factor" to predict WSDOT's future worker's compensation claim costs in comparison to industry benchmarks. WSDOT's experience factor has improved considerably over the past five years due to decreasing claims costs. Between 2005 and 2009, WSDOT claims costs were reduced from \$5.5 million to \$1.9 million.

### WSDOT worker compensation claims costs

Dollars in millions



Data source: WSDOT HQ HR Return to Work Unit.

Data note: Claims costs are a total of injured workers' medical costs and time-loss payments.

### Time lost to worker injuries also decreasing

The number of days employees miss work due to injuries have also declined dramatically over the past five years, from 18,101 in calendar year 2005, to 10,147 in calendar year 2009. WSDOT's Worker Compensation Return to Work Unit assists employees by managing their workplace injury claims. This dedicated unit enables the agency to more effectively manage the claims by taking a proactive and holistic approach to maximize the options and benefits available to WSDOT's injured workers.

When appropriate, the Unit coordinates with the employee's supervisor and physician to develop return-to-work options as the employee is healing and to ease the injured worker back into the workplace. In addition to reducing the number of days away, the interactive claims management approach reduces time loss and medical costs while providing a service to injured workers.

## Progress against FY 2010 injury reduction goals

### Number of OSHA-recordable injuries/illnesses again decreases, as several organizational units improve their performance

During the 2009-11 biennium, WSDOT has focused on sprains/strains, and hearing loss – the most frequent injury types across the agency. Though some organizational units came close to achieving their 2010 safety performance goals for these injuries, none met both goals. Southwest region met its goal in reducing strain/sprain injuries. Other important improvements were achieved in the following areas.

- The number of OSHA-recordable injuries and illnesses decreased from 393 in fiscal year (FY) 2009 to 375 in FY 2010.
- Sprains and strains, the most frequent and costly type of injury, decreased in number from 205 in FY 2009 to 191 in FY 2010. Six of eight organizational units reduced their sprains and strains injuries.
- Although not fully meeting the set goals, four of eight WSDOT organizational units reduced hearing loss injuries.
- The number of contusions, bruises, lacerations, and punctures also declined between FY 2009 and FY 2010.

### WSDOT hearing loss injury rates per 100 workers, by organizational unit

Results of audio testing to date, June 30, 2010

Organizational unit	FY 2009 results	FY 2010 goal	FY 2010 hearing loss rate	Achieved FY 2010 hearing loss goal?
Northwest Region	0.3	0.4	0.4	Yes
North Central Region	0.4	0.4	2.3	No
Olympic Region	0.9	0.4	0.7	No
South Central Region	2.1	0.4	2.0	No
Southwest Region	1.6	0.4	N/A	No testing conducted
Eastern Region	0.7	0.4	0.5	No
<b>All regions combined</b>	<b>0.9</b>	<b>0.4</b>	<b>0.7</b>	<b>No</b>
Ferry System	0.9	0.4	1.1	No
Headquarters	0.1	0.0	0.1	No
<b>Agency-wide</b>	<b>0.7</b>	<b>0.4</b>	<b>0.7</b>	<b>No</b>

Data source: WSDOT Safety Office.

Note: Audio testing is conducted over the course of the year.

### WSDOT strain/sprain injury rates per 100 workers, by organizational unit

Quarterly rate April-June 2010 and cumulative rate July 2009-June 2010

Organizational unit	FY 2009 results	FY 2010 goal	Rate of injuries – Q4 FY 2010 (Apr-June 2010)	Cumulative rate through Q4 FY 2010 (July 2009-June 2010)	Achieved FY 2010 goal?
Northwest Region	2.7	2.2	2.4	2.7	No
North Central Region	2.9	2.2	1.6	3.4	No
Olympic Region	2.8	2.2	2.1	2.8	No
South Central Region	2.7	2.2	0.0	2.4	No
Southwest Region	1.8	2.2	0.0	1.6	Yes
Eastern Region	3.5	2.2	3.8	3.3	No
<b>All regions combined</b>	<b>2.7</b>	<b>2.2</b>	<b>1.8</b>	<b>2.7</b>	<b>No</b>
Ferry System	5.9	4.7	4.5	4.9	No
Headquarters	0.5	0.4	0.6	1.0	No
<b>Agency-wide</b>	<b>3.0</b>	<b>2.4</b>	<b>2.2</b>	<b>2.9</b>	<b>No</b>

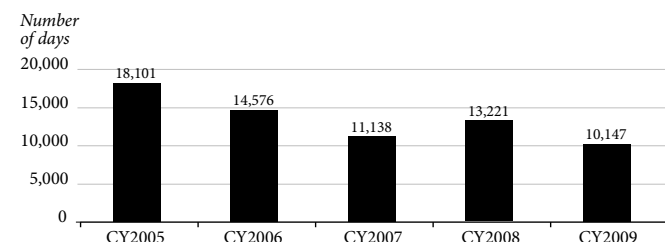
Data source: WSDOT Safety Office.

# Worker Safety Quarterly Update

## OSHA-recordable injuries and illnesses / Return to Work

### WSDOT reduces the number of lost work-days

Days away from work, all employees; January 2005-December 2009



Data source: WSDOT Safety Office.

When examined alongside the downward trend in injuries that result in days away from work or doing restricted work, and also in lower claims costs, WSDOT's safety program is making important progress in the right direction – fewer workers being injured on the job, fewer days off work, and lower claims cost.

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

The table below shows a breakdown of injuries sustained by various categories of WSDOT employees, including the proportion of overall injuries each group represents.

#### Number of injuries sustained by category of worker

April-June, 2010

Injuries	Highway maintenance	Highway engineering	Admin staff	Ferry System
Number of injuries Q 4 FY10	48	14	3	30
Percent of all injuries these numbers represent	50.5%	14.7%	3.2%	31.6%
Total number of days away from work associated with these injuries	235	29	1	541
Days away due to sprains/strains	218	14	1	344

#### For comparison

Number of injuries Q 3 FY10	33	10	8	31
Number of injuries Q 4 FY09	56	18	3	31

Data source: WSDOT Safety Office.

A brief examination of the workdays lost to injury shows that strains and sprains (highlighted in the table as a subset of all injuries) are a leading cause of days away from work. More than half of all lost workdays in the fourth quarter (April-June

2010) were due to such injuries: 577 of the 806 total days lost to injury or illness were sprains or strains.

Reducing strains and sprains is a primary target of WSDOT's efforts to reduce both the number and severity of injuries on the job.

### Return to Work Unit

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

- Improving communication with the injured worker to 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 Wellness

WSDOT Wellness Program is entering its sixth month of participation in the Washington Wellness Worksite (W3) Collaborative. During this 15 month program, WSDOT is partnering with WA Wellness and five other state agencies to test and implement changes in agency systems that positively influence employee health behaviors and lifestyle choices. The aim is to implement a set of employer-specific criteria that lead to improved workforce health and productivity, and a positive impact on the Public Employee Benefits Board's healthcare cost trend.

The initial W3 wellness survey that was presented to participating employees in May resulted in an exceptionally high return rate of 75%. The resulting aggregate information will be presented back to WSDOT in mid-August. This information will be used as a baseline in measuring health related productivity loss and to identify and measure interventions to reduce health related productivity cost.

WSDOT employees have accessed the Wellness webpage on 15,948 occasions in the past year; the most frequently visited pages addressed eating more healthily and the effects of sleep on personal wellness.

In preparation for the flu season, WSDOT Headquarters, all regions and the Ferry System have confirmed dates in September and October to offer workplace flu shot clinics.

# Highway Safety Annual Report

## 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 with a stated traffic safety goal of zero fatalities, although an increasing number of states are adopting zero fatalities as their goal.

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

Target Zero was developed to identify Washington's traffic safety needs and to guide investment decisions that will bring significant reductions in traffic fatalities and serious injuries. In developing this plan, Washington 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 reduce traffic fatalities and serious injuries to zero by the year 2030. Comments on the most recent draft version of Target Zero closed on May 17, 2010; it can be viewed online at [www.wsdot.wa.gov/planning/SHSP.htm](http://www.wsdot.wa.gov/planning/SHSP.htm). The final version will be reviewed and approved by the governor by the end of 2010.

Fatal traffic collisions often involve driver impairment and excessive speed. In the past, Target Zero focused on the failure of drivers or passengers to wear seat belts as the third most prevalent cause of serious or fatal injury. The success of the "Click it or Ticket" campaign (see page 6), enforced by Washington State Patrol (WSP) and local police agencies, means the state is able to turn its attention to another key contributing factor: serious or fatal crashes in which the vehicle runs off the road. This new Priority One area of concern is discussed in more detail on page 26-27.

### Traffic fatalities again decrease to lowest number since 1955

The downward trend in traffic fatalities on Washington's highways, city streets, county roads, and other public roadway continued in 2009. 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). 2009 brought the lowest number of traffic fatalities recorded (491) since 1955 (461).

These reductions are due in part to 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 the state continues to make progress with these focused strategies, the number of fatalities still needs to be further reduced to be consistent with the highway safety goals identified in Target Zero plan.

### Washington's traffic fatality rate lower than national fatality rate: 0.87 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 fatalities per 100 million VMT by 2008. In 2009, Washington experienced the lowest fatality rate since 1955 with a rate of 0.87. The most recent national average fatality rate reported by

### Highway Safety Performance Highlights

In 2009, Washington saw 5.9% fewer traffic fatalities compared to 2008. This was the lowest number of traffic fatalities recorded (491) since 1955 (461).

Washington is the seventh lowest in the nation for fatality rates per 100 million VMT.

Run-off-the-road is elevated to Priority One in draft *Target Zero 2010*.

Before and After analysis of 493 miles of highway centerline rumble strips reduced crossover collisions by at least 40%.

### Washington annual traffic fatalities 2003-2009

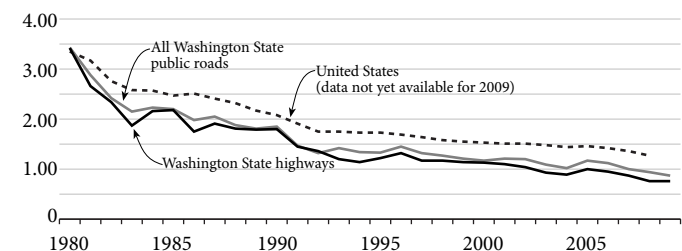
2003	2004	2005	2006	2007	2008	2009
600	567	649	633	571	522	491

Data source: Fatal Accident Reporting System (FARS).

Data analysis: WSDOT-Statewide Travel & Collision Data Office.

### Traffic fatality rates in Washington compared to the national average

Fatalities per 100 million vehicles traveled; 1980-2009



Data source and analysis: WSDOT Statewide Travel and Collision Data Office (STCDO). Additional data source: Fatal Accident Reporting System (FARS).

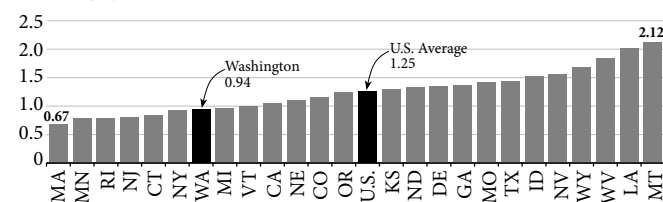
# Highway Safety Annual Report

## 2009 Traffic Fatality Data

the National Highway Traffic Safety Administration was 1.25 for 2008. Washington's fatality rate of 0.94 in 2008 was the nation's seventh lowest fatality rate among all states. 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, then improved on the national milestone in 2008 with a fatality rate of 0.94. The national fatality rate for 2009 is not yet available for comparison.

### Rate of fatalities per 100 million vehicle miles traveled (VMT) in the U.S. in 2008

Sampling of states



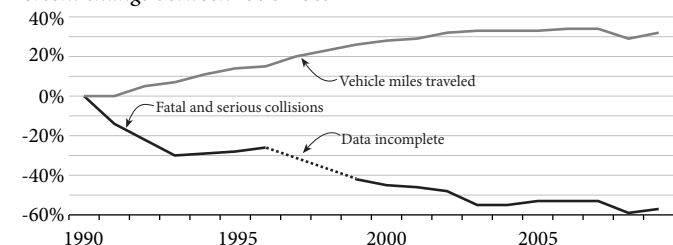
Data source: National Highway Traffic Safety Administration (*Traffic Safety Facts 2008 book*).  
Data analysis: WSDOT - Statewide Travel and Collision Data Office (STCDO).

Over the past 19 years, the fatality rate on all Washington public roads (state, city, and county) has decreased 53%, from 1.85 in 1990 to 0.87 in 2009. For Washington state highways only, during this same time period, fatal and serious injury collisions have declined 57%, from 2,497 collisions in 1990 to 1,064 in 2009 while the state highway VMT increased 32%.

### Washington's fatal and serious injury collisions and vehicle miles traveled percent change

Washington highways (state routes and interstates)

Percent change between 1990-2009



Data source and analysis: WSDOT-Statewide Travel and Collision Data Office.

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

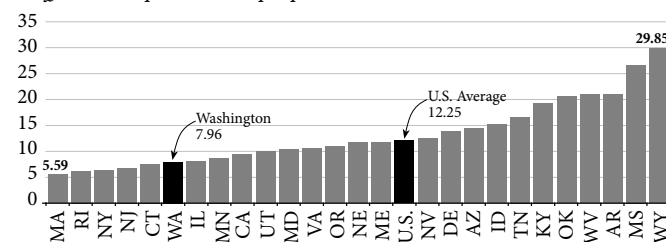
Washington's average fatality rate per capita is about eight traffic fatalities for every 100,000 people, which is below the national average rate of little over 12 fatalities per 100,000 people. In 2004 and 2005, Washington ranked seventh in the nation for fewest traffic fatalities in relation to population, and ranked ninth and sixth in the nation for 2006 and 2007

respectively. In 2008, 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 2008



Data Source: National Highway Traffic Safety Administration (*Traffic Safety Facts 2008 book*).  
Data Analysis: WSDOT - Statewide Travel and Collision Data Office (STCDO).

Previous GNB editions reported the fatality rate per capita. The future editions of this report will report rate of fatalities per 100 million vehicle miles traveled instead of rate of fatalities per 100,000 population. This rate is consistent with national reports and better aligns with the focus of this annual report.

### Seat belt use

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 of patrols. WSDOT supports this effort by displaying the seat belt message on lighted variable message road signs on more than 150 highways throughout the state. 28% of fatal collisions in Washington have unrestrained drivers or passengers.

### Washington seat belt use rates

By type of road

Type of road	2009	2008	2007
Interstate highways	97.38%	97.51%	97.6%
State routes	95.45%	96.55%	95.0%
U.S. routes	96.68%	95.11%	95.1%
City streets, county roads	93.24%	91.39%	n/a <sup>1</sup>

Data source: Washington Traffic Safety Commission.

<sup>1</sup>Before 2008, the Washington Traffic Safety Commission broke out city streets and county roads separately in this survey.

### Analysis of Target Zero's Priority One traffic-related fatalities in 2006-2009

Between 2006 and 2009 there were 2,216 total traffic fatalities. Out of these 2,216 fatalities, 1,593 (71.9%) involved driver impairment, speeding, or run-off-the-road, or a combination of these factors. Target Zero identifies these three contributing

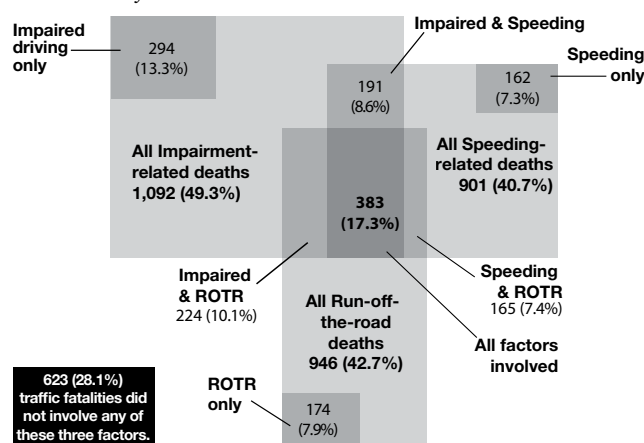


## Before & After Results: Run-off-the-road improvement projects

circumstances Priority One issues. The proportion of each factor's contribution in fatalities have remained roughly steady for the last three years, with impaired driving involved in almost half of all fatalities, and speed or run-off-the-road in about 40% of all fatalities.

### The role of impairment, speed, or run-off-the-road in traffic fatalities, 2006-2009

Data derived from 2,216 total traffic fatalities; 71.9% or 1,593 deaths involved driver impairment, speeding, or run-off-the-road (ROTR), or a combination of these behaviors.



Data source: Fatal Accident Reporting System (FARS) and WSDOT Statewide Travel and Collision Data Office (STCDO).  
Prepared by: WA Traffic Safety Commission.

The above Venn diagram shows 946 (42.7%) run-off-the-road fatalities out of 1,593 that involved Priority One factors. Out of these 946 fatalities 174 (7.9%) were exclusively run-off-the-road with no indications of driver behavior. The engineering solutions, designed by WSDOT, are not only geared towards run-off-the-road only traffic fatalities (7.9%) but also helps reduce the fatalities involving human factors.

### Before & After results: Highway safety projects Before & After Analysis: Run-off-the-road improvement projects

WSDOT has been evaluating the effectiveness of its roadside safety strategies such as installing guardrail, removing fixed objects, and improving roadsides in order to reduce the number and severity of run-off-the-road collisions initiated by human factors such as drinking and driving, excessive speed, and distracted, fatigued, or aggressive driving.

Since 2007, WSDOT has implemented new strategies to address run-off-the-road collisions. WSDOT has begun a preliminary assessment of the effectiveness of these strategies by evaluating those projects that have a minimum of one year

after construction data. In this edition of the *Gray Notebook*, WSDOT examines preliminary results for 15 projects: 10 projects have one year of After construction data while the remaining five projects have two years of After data. For full analysis of effectiveness, WSDOT compares three years of Before data to three years of After data. The details of the 15 projects analyzed in this article are listed on page 8.

Preliminary analysis of 10 projects with one year of After data shows a reduction in the number of fatal and/or serious injury collisions and minor injury collisions. The number of minor injury collisions was reduced by 28%; the reduction in fatal or serious injury crashes also follows a trend already established in the Before data, but the drop is not as significant.

### Preliminary Before & After analysis for roadside safety on 10 projects with one year of After construction data

By collision type

Collision type	3rd year Before	2nd year Before	1st year Before	1st year After
Fatal and/or serious injury	84	72	64	59
Minor injury	730	667	650	491

Data source and analysis: WSDOT Statewide Travel and Collision Data Office.

The five projects with two years of After data show mixed results. The combined results of these five projects show no change in the number of fatal and/or serious injury collisions, but a reduction of 9% in the minor injury collisions.

### Preliminary Before & After analysis for roadside safety on five projects with two years of After construction data

By collision type

Collision type	3rd year Before	2nd year Before	1st year Before	1st year After	2nd year After
Fatal and/or serious injury	21	22	22	22	22
Minor injury	165	172	171	157	150

Data source and analysis: WSDOT Statewide Travel and Collision Data Office.

Overall preliminary analysis indicate a reduction in minor injuries with little change in fatal/serious injury collisions. More in-depth analysis is needed to understand the circumstances that contributed to the reductions in less serious collisions while more serious collisions were only modestly improved. WSDOT will present more information in future editions of the *Gray Notebook*.

# Highway Safety Annual Report

## Before & After results: Run-off-the-road safety improvements / Centerline rumble strips

### 15 WSDOT roadside safety projects analyzed

WSDOT Region (County)	Mile post location	State routes involved	Project Title
Northwest (King)	All	SR 410, 164	SR 410 and SR 164 - Roadside Safety Improvements
Northwest (Whatcom)	All	SR 542, 547	SR 542 and SR 547 - Roadside Safety Improvements
Northwest (Skagit)	All	SR 9, 11, and 20	SR 9, SR 11, and SR 20 - Roadside Safety Improvements
Northwest (Snohomish)	All	US 2, and SR 92	US 2 and SR 92 - Roadside Safety Improvements
Olympic (Clallam)	MP 16.42 to MP 61.08	SR 112	SR 112/Seki Vicinity to US 101 - Install Guardrail
Southwest (Lewis)	MP 0.00 to MP 16.76	SR 7	SR 7/Lewis Co - Roadside Safety Improvements
Southwest (Cowlitz)	MP 0.00 to MP 10.33	SR 432	SR 432/Roadside Safety Improvements
South Central (Yakima)	MP 165.98 to MP 202.50	US 12	US 12/Wildcat Creek to 1-82 - Roadside Safety
South Central (Benton)	MP 152.24 to MP 180.77	SR 14	SR 14/Benton Co - Roadside Safety Improvements
South Central (Benton, Yakima)	MP 0.00 to MP 25.16	SR 241	SR 241/Rattlesnake Hills Vicinity - Roadside Safety
South Central (Yakima)	MP 69.21 to MP 116.37	SR 410	SR 410/Morse Creek to US 12 - Roadside Safety Improvements
Eastern (Adams, Franklin)	All	SR 21, 26, 260, 261, and 263	Adams and Franklin Co - Roadside Safety Improvements
Eastern (Lincoln)	All	SR 21, 25, 28, and 174	Lincoln Co - Roadside Safety Improvements
Eastern (Spokane, Whitman)	All	SR 23, 27, 194, 271, 272, 274, 278, and 292	Whitman and S Spokane Co - Roadside Safety Improvements
North Central (Kittitas, Yakima)	MP 0.00 to MP 25.21	SR 821	SR 821 Selah to Ellensburg - Roadside Safety

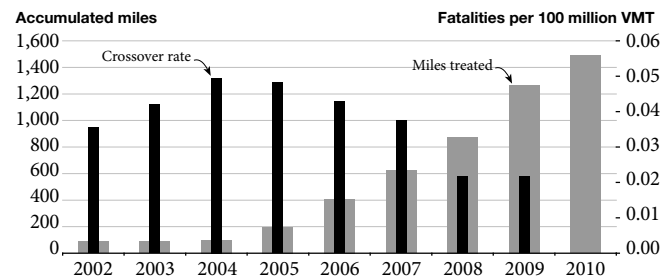
Data source: Capital Program Development and Management Office.

### Before & After results: Centerline rumble strips

WSDOT has invested in centerline rumble strips as a countermeasure for cross-centerline collisions since late 2004. Centerline rumble strips are especially effective when the contributing causes of a crash include distracted, drowsy, or asleep drivers. An on-going analysis indicates that centerline rumble strips are a cost-effective approach to reducing cross-centerline collisions.

### The role of centerline rumble strips in reducing crashes on Washington's two lane highways

Fatalities per 100 million vehicle miles traveled; 2002-2009  
1,266 accumulated miles of centerline rumble strips as of 2009



Data source and analysis: WSDOT Design Office.  
Data source: WSDOT-Statewide Travel and Collision Data Office.

As of June 2010, WSDOT has installed 1,488 miles of centerline rumble strips on two-lane highways, with an additional 390 miles under current contracts for installation. When these contracts are complete, WSDOT will have covered roughly one-half of all miles of the two-lane highway system that were initially identified as candidates for this safety feature.

This graph shows the accumulated miles of centerline rumble strips installed statewide as of June 2010, side-by-side with the yearly crossover crash rate. The rate is based on 100 million vehicle miles traveled (VMT) for 1,266 accumulated miles for the years 2002–2009; crash data for 2010 is not yet available. The graph illustrates significant reductions in crossover crashes which closely correlates to the department's investments in centerline rumble strips.

### In-depth Before & After analysis on 493 miles of centerline rumble strip

WSDOT has analyzed data on 493 miles of highway with centerline rumble strips where at least one full year of Before and After collision data is available. Between 2002 and 2009 a total of 7,973 cross-centerline crashes occurred, of which 1,470 crashes were identified as events that centerline rumble strips could reasonably be expected to influence. (Note that 6,503 crashes were excluded from the analysis; excluded

## Before & After results: Centerline rumble strips

### Crossover collision rates after centerline rumble strip installation by contributing circumstances

Analysis period 01/01/2002-12/31/2009, minimum 12 months before and after periods, 493 miles analyzed  
Rate per million vehicle miles traveled

All targeted crashes	Before	After	Difference	Percent change
All severity	0.1521	0.0844	0.0676	-44.50%
Fatal & serious injury	0.0251	0.0129	0.0122	-48.60%
<b>Asleep/Fatigued</b>				
All severity	0.038	0.01	0.028	-72.70%
Fatal & serious injury	0.004	0.001	0.003	-80.40%
<b>Inattention/Distracted</b>				
All severity	0.019	0.011	0.008	-40.00%
Fatal & serious injury	0.002	0.001	0.001	-58.50%

Data source: WSDOT Design Office, WSDOT Statewide Collision Data Office.  
Data analysis: WSDOT Design Office.

circumstances include crashes in which the vehicles crossed the centerline intentionally, crashes caused by a medical condition, an avoidance maneuver, police intervention or pursuit, and ice, snow, or other severe weather conditions.)

Of these 1,470 collisions, 1,119 were in the Before period and 351 in the After period. For the targeted collision types, centerline rumble strips significantly reduced cross-centerline crashes where a contributing circumstance to the crash was a distracted, asleep, or drowsy driver.

### Influence of centerline rumble strips on run-off-the-road crashes

WSDOT has also examined whether centerline rumble strips had any influence on run-off-the-road collisions in which the driver over-corrects and veers to the right. This analysis found an overall reduction of run-off-the-road to the right collision types by 6.8% for all severities and 19.5% for fatal and serious collisions.

### Collision rates for run-off-road to the right crashes after the installation of centerline rumble strip

Analysis period 01/01/2002-12/31/2009, minimum 12 months before and after periods, 493 miles analyzed.  
Rate per million vehicle miles traveled

System Wide	Before	After	Difference	Percent Change
All severity	0.1664	0.1551	0.0113	-6.80%
Fatal & serious injury	0.015	0.0121	0.00029	-19.50%

Data source: WSDOT Design Office, WSDOT Statewide Collision Data Office.  
Data analysis: WSDOT Design Office.

Lane departure crashes are defined as sum of cross-centerline and run-off-the-road to the right crashes. This analysis found an overall reduction of lane departure collision types by 24.8% for all severities and 37.7% for fatal and serious collisions. These results show that centerline rumble strips are an effective treatment in reducing the severity and frequency of lane departure collisions.

### Collision rates for lane departure crashes after the installation of centerline rumble strip

Analysis period 01/01/2002-12/31/2009, minimum 12 months before and after periods, 493 miles analyzed  
Rate per million vehicle miles traveled

Systemwide	Before	After	Difference	Percent change
All severities	0.3184	0.2395	0.0789	-24.80%
Fatal & serious injury	0.0401	0.025	0.0151	-37.70%

Data source: WSDOT Design Office, WSDOT Statewide Collision Data Office.  
Data analysis: WSDOT Design Office.

### How WSDOT balances project costs and benefits

Investment decisions about individual locations are assessed using benefit-to-cost analysis, where the anticipated benefits resulting from reduced injury frequency and severity are compared to installation and annual maintenance costs. As an example, a benefit-to-cost ratio of 5:1 indicates that the benefits have a value five times greater than the investment cost. This approach allows WSDOT to compare the expected value of individual investments with each other.

### Corridor level centerline rumble strip Before & After performance evaluation on SR 97

WSDOT has now had installations in place long enough to evaluate whether those anticipated benefits have been realized. SR 97 is one of 69 installations selected for an evaluation of centerline rumble strips performance. The project installed rumble strips on about 60 miles of SR 97, between MP 0.00 and MP 61.37, from the Columbia River to its intersection with SR 22 at Toppenish. Collision data for 4.4 years prior to project construction showed 123 total collisions, of which 14 were serious injury or fatality. Data for 3.4 years after the completion of construction showed 56 total collisions, eight of which involved serious injury or fatalities.

Taking into account the collision rates before centerline rumble strip was installed along this corridor, and the expected cost to install centerline rumble strips, a benefit-cost ratio of more than 87:1 was calculated. This estimates 12 years for the life of the centerline rumble strips and pavement.

# Highway Safety Annual Report

## Before & After results on SR 97 improvements

### Before & After analysis for SR 97 centerline rumble strip corridor

Before: Jan 2002-May 2006, After: July 2006- Dec 2009

SR 97 centerline rumble strips corridor	Annual Before	Annual After	Percent change
Number of collisions annually, all severities	27.95	16.47	-40.08%
Number of fatal and serious injury collisions annually	3.27	2.35	-28.13%
Annual rate of collisions of all severities	0.3138	0.179	-42.90%
Annual rate of fatal and serious injury collisions	0.0357	0.0256	-28.40%

Data source: WSDOT Design Office, WSDOT Statewide Collision Data Office.  
Data analysis: WSDOT Design Office.

The societal costs for the crashes that occurred in the Before period totaled \$20.1 million, or an average of just over \$4.5 million a year. In the After period the total societal cost was \$11 million, or an average of \$3.25 million a year - a societal cost reduction of \$1.25 million dollars a year. Over the life for the pavement, this savings is expected to reach \$15 million.

Calculating an actual benefit cost ratio value for rumble strips on this segment is difficult because other improvements that were part of the overall project cost. This project also included installing 20 miles of centerline rumble strips on SR 24, repaving, sealing pavement cracks, and guardrail maintenance on both routes. A rough value can be determined by taking the total cost of the contract of \$608,000 and focusing only on the benefits from SR 97 centerline rumble strips, which are \$15 million – results in a benefit to cost ratio of roughly 25:1.

### Next steps

WSDOT's next steps in the development of its centerline rumble strips program depend on the continued "lessons learned" from existing projects, but also to a considerable extent on funding decisions. Centerline rumble strips are proving to be a very cost-effective countermeasure, and WSDOT expects to continue installing centerline rumble strips on the state's two-lane rural highway system.

### How WSDOT evaluates locations for safety work

Between 2001-2005, WSDOT reported on two related highway safety programs, the High Accident Location (HAL) and the High Accident Corridor (HAC), for the *Gray Notebook's* Highway Safety Annual Report. Both programs were developed over a period of years to address federal and state highway safety planning, as well as to meet certain federal highway safety funding obligations. WSDOT identified and later ranked locations and corridors based on those which had an above-average number of collisions and/or collision severity (for more than half of the evaluative period). These rankings were then submitted to the Washington Transportation Commission, accompanied by collision-reducing project proposals, for review and approval.

When the *Gray Notebook* was first published in 2001, the HAL and HAC programs were one of the first sources of project performance reporting dedicated to highway safety improvements. The reports showcased how WSDOT utilized cost-benefit analysis to reduce fatal and serious-disabling collisions through the careful application of dedicated, but limited, funds. Later, when more data became available, the reports drawn from project lists included some of the *Gray Notebook's* first instances of Before and After highway safety reporting.

From 2001 onward, WSDOT continued to evaluate areas based on collision frequency for inclusion and removal from both the HAL and HAC lists. As time progressed, Before and After analysis showed that the focus on highway safety improvement projects at higher-than-average crash locations was resulting in fewer fatal and serious injury collisions: by 2008, the severity rate for the top 10 high-accident locations had dropped to 1.03 – slightly above the severity rating for collisions involving only property damage with no injuries (1.0). The successful drop in collisions, mirrored in the performance results of the HAL strategy, prompted WSDOT to re-evaluate its priorities for both highway safety funding and project programming.

In 2008, WSDOT has moved to newer models and methodologies that include roadway characteristics, such as volume, geometrics, and other data. These are used to identify areas and projects that further reduce fatal and serious-disabling collision frequency and severity consistent with the highway safety goals identified in Target Zero plan. For more information, please visit [www.wsdot.wa.gov/Accountability/Publications/PerformanceDocuments.htm](http://www.wsdot.wa.gov/Accountability/Publications/PerformanceDocuments.htm)



# Preservation

## Legislative policy goal

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

## WSDOT's business direction

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



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# Asset Management: Bridge Assessment Annual Report

## Bridge Condition Ratings

### Bridge Preservation Highlights

For FY 2010, 98% of WSDOT's bridges are in good or fair condition.

WSDOT's bridge inventory increased from 3,630 to 3,658 total structures between FY 2009 and FY 2010.

The contract for the replacement of the SR 303 Manette bridge in Bremerton was awarded in July 2010.

WSDOT has 12 "load posted" and 129 "load restricted" bridges as of June 30, 2010.

WSDOT painted 5 steel bridges since July 2009; 92 steel bridges are due or past due for repainting.

More than 1,200 sign support structures are past due for inspection.

WSDOT's Bridge Office has begun inspecting radio tower structures for the Facilities Office.

WSDOT is responsible for managing state-owned bridges and related structures on state routes. These bridges carry a wide variety of freight and goods and allow the public to commute to work and to travel safely all across Washington. Over the years, WSDOT vehicular bridges have been constructed using a variety of materials including timber, steel, and concrete. The current number of bridges, by type of material each is built from, is summarized in the table below. Nearly 78% of WSDOT bridges are built using standard reinforced concrete and prestressed concrete, with about 22% made of steel. Only a small percentage of timber bridges are still in service. An inventory of all WSDOT bridges and structures is on page 13.

### WSDOT bridges by construction material

*Vehicular bridges greater than 20 feet long*

	Number	Total deck area (in square feet)	Percent of total
Standard concrete	1,243	15,373,037	34.2%
Prestressed concrete	1,388	19,281,322	43.0%
Steel	315	9,982,703	22.3%
Timber	85	238,343	0.5%
<b>Total</b>	<b>3,031</b>	<b>44,875,405</b>	<b>100%</b>

Data source: WSDOT Bridge and Structures Office.

### Bridge condition update: 98% of WSDOT bridges in good or fair condition

In monitoring bridge condition, WSDOT classifies bridges as good, fair, or poor, using the National Bridge Inspection Standards (NBIS) bridge superstructure and substructure codes as the performance measure, because they provide the best direct means to assess the structural condition of the bridge. Each year, WSDOT reports on the condition of its bridges to Washington's Office of Financial Management in accordance with reporting standards set by the Governmental Accounting Standards Board (GASB). The Governor's Government Management Accountability and Performance (GMAP) goal is to maintain 97% of all bridges statewide at a rating of good or satisfactory (fair). This measure is consistent with data provided in the Comprehensive Annual Financial Report (CAFR).

For FY 2010, 90% of WSDOT bridges were in good condition and 8% were in fair condition, meeting the governor's goal. Roughly 2% of bridge structures (2.1%) had a condition rating of poor, a decrease compared to FY 2009 (2.5%). No bridge that is open to traffic and rated as poor is unsafe for public travel. Another way to look at bridge condition ratings is by deck area, which shows 8.5% of WSDOT's bridges in poor condition, see page 13 for details.

### Bridge structural condition ratings

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

Description	2005	2006	2007	2008	2009	2010
<b>Good</b> A range from no problems to some minor deterioration of structural elements.	89%	88%	88%	88%	89%	<b>90%</b>
<b>Fair</b> All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, cracking, spalling, or scour.	9%	9%	9%	9%	8%	<b>8%</b>
<b>Poor</b> 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.	2%	3%	3%	3%	3%	<b>2%</b>

Source: WSDOT Bridge and Structures Office.

# Asset Management: Bridge Assessment Annual Report

## Bridge Inventory



On SR 539 Guide Meridian – Deer Creek culvert.

### Bridge inventory increases during FY 2009

The number of vehicular bridges 20 feet or longer has increased from 3,023 to 3,031 since July 2009. This increase is primarily due to new bridges being built within the highway system. The number of pedestrian bridge structures has increased from 65 to 67. WSDOT has 21 ferry terminal locations, but for inspection purposes, 56 structures that carry vehicles and 15 that do not carry vehicles are also included in the inventory. The average age of all WSDOT vehicular bridges is 42 years, with 217 bridges that are 75 years old or older.

### WSDOT inventory of bridges and structures

As of June 30, 2010

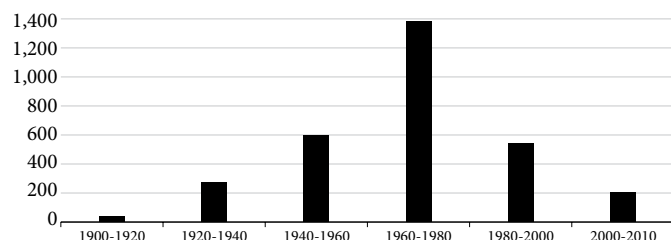
	Number	Square feet
Vehicular bridges greater than 20 feet long	3,031	44,875,419
Structures less than 20 feet long	346	n/a
Border bridges maintained by the border state*	6	n/a
Culverts greater than 20 feet	97	n/a
Pedestrian structures	67	309,773
Tunnels and lids	40	n/a
Ferry terminal structures	71	819,726
Buildings (I-5 Convention Center)	1	n/a
Railroad bridges	5	n/a
<b>Totals of all structures</b>	<b>3,658</b>	<b>45,885,253</b>

Data source: WSDOT Bridge and Structures Office.

\*Note: The total number excludes bridges maintained by border states.

### Summary of Washington bridges by year built

1900 – 2010



Data source: WSDOT Bridge and Structures Office.

### Bridge preservation program aims to maintain a safe bridge network through cost-effective actions

WSDOT's bridge preservation program consists of categories of work that ensure state-owned bridges remain safe and operational. Inspections are performed by trained WSDOT inspectors. Bridge preservation work is normally designed by engineers in the Bridge and Structures Office and then advertised for contractors to bid on and construct. State maintenance crews also complete some types of repairs to preserve the state's bridge network. Preservation activities include:

- **Inspection** – Perform Federally required inspections on state-owned bridges and structures.
- **Asset management** – Identify, prioritize, and plan to address the work required to preserve the bridge and structure network based on review of the inspection data.
- **Replacement and rehabilitation** – Rehabilitate and replace bridges when needed. Repair deteriorated bridge elements such as concrete columns, expansion joints, or anchor cables.
- **Preservation** – Extend bridge service life by repainting steel structures; also repair and overlay concrete bridge decks.
- **Risk reduction** – Seismic retrofit of bridges and scour repair of bridge piers in rivers proactively minimizes damage to bridges due to earthquakes and flooding.

### Bridge condition ratings by deck area show 8.5% of WSDOT bridges in poor condition

A different way to look at bridge condition ratings is by deck area rather than by the number of structures. Currently there are 68 bridges, 2.1% of the total inventory, or 8.5% of the total deck area rated in poor condition.

For fiscal year 2010, while the number of bridges in poor condition has declined, the percentage of total deck area in poor condition has increased 2.8% compared to fiscal year 2009.

### Bridge structural condition ratings by deck area 2007 - 2010

Year	Number of bridges	Deck area (in square feet)	Percentage of deck area in poor condition
2010	68	3,821,066	8.5%
2009	78	2,554,872	5.7%
2008	94	2,245,235	5.1%
2007	82	2,609,176	5.6%

Data source: WSDOT Bridge and Structures Office.

# Asset Management: Bridge Assessment Annual Report

## Bridge Inspections

### Bridge inspection program helps WSDOT manage bridge assets

Inspecting the state's bridges and structures is vital to ensure public safety, determine the condition of the asset, and to provide a basis to determine future maintenance and preservation needs. The Federal Highway Administration (FHWA), WSDOT, and cities and counties work together to ensure the quality of inspections. Joint agency bridge inspection classes are available each year to train and update bridge inspectors. The FHWA also conducts National Bridge Inspection (NBI) quality assurance inspection reviews of a few local agencies one week each year.

About 60 WSDOT engineers and support staff, including specialized teams, support the inspection of state-owned bridges and structures. The latter includes elements along state highways such as pedestrian bridges, short span bridges and culverts (less than 20 feet long), sign support (cantilever and sign bridges), high mast luminaires, ferry terminals, and – new for 2010 – radio towers, previously the responsibility of WSDOT's Facilities Office.



### Bridge deck inspections by video camera

In FY 2010, WSDOT performed bridge deck inspections on 51 bridges using a specialized van from the agency's Materials Lab. Engineers review the footage captured by three cameras mounted on the van to give forward and shoulder views and two Linescan instruments that use laser pointers to render images of the pavement view. This information is combined with inspection notes on the other parts of the bridge. This process minimizes traffic lane closures, reducing the risk of injury to inspectors and the traveling public. The FHWA allows video bridge deck inspections if the bridge averages more than 10,000 vehicle crossings daily; it must also be physically inspected every six years.

### US101 Simpson Ave bridge near Hoquiam closed following in-depth inspections

The 83-year-old bridge carries 15,000 vehicles a day over the Hoquiam River. In late July, 2010, WSDOT engineers observed excessive movement in the bascule span that opens for marine traffic. Commercial divers from NW Underwater Construction were hired to perform an in-depth underwater inspection of the Pier 2 foundation. It was found that scour and marine borers had caused severe deterioration to 77 of 176 timber piles supporting the bascule span, compromising the bridge's structural integrity.

The bridge was closed on August 5th and traffic has been detoured to the Riverside Bridge, which has been re-configured to accommodate two-way traffic. Short-term temporary repairs using cables to anchor the pier to new piles installed behind the bascule pier will help stabilize the bridge but will not provide enough support to re-open the bridge to traffic. A permanent repair solution is being designed and repairs allowing for the bridge to be opened to traffic are expected to be complete in November 2010. Ongoing work to fully implement the repairs will occur over the next year.

### Nearly 2,000 bridge inspections scheduled for 2010

For 2010, The Bridge and Structures Office has scheduled 1,949 bridges to be inspected. Under bridge inspection trucks (UBIT) will be required on 381 of those inspections. WSDOT will perform 192 inspections for local agency-owned bridges. Additionally, there are 74 underwater dive inspections planned for this year. An emerging issue for inspections is the need to obtain temporary lane restrictions to perform the inspections. This has created a backlog of 1,200 sign support structures that are now past due for inspection and will not be inspected in 2010. This backlog is estimated to cost about \$2.4 million, the average cost for a sign support structure inspection is about \$2,000.

### Asset management: a tool to document WSDOT's bridge and structure conditions

Asset management is an important activity for WSDOT's bridge program. It is used to document the number of bridges and structures within the state's highway network, determine their conditions, and forecast their preservation needs along with the cost to preserve them for future generations. WSDOT bridge engineers review bridge inspection data and develop a prioritized list of needs used to build funding plans for the two, 10, and 20 year periods.

# Asset Management: Bridge Assessment Annual Report

## Bridge Replacement and Rehabilitation

### Replacement and rehabilitation

The bridge preservation program (also known as P2) includes funding for the replacement and rehabilitation of selected bridges. To qualify for federal funds for replacement, a bridge must have a sufficiency rating of less than 50 and be classified as Structurally Deficient (SD) or Functionally Obsolete (FO). For rehabilitation, the criteria is similar except the sufficiency rating must be less than 80. (Definitions of SD and FO are available in the June 2009 *Gray Notebook* 34, page 22).

WSDOT mainly considers those bridges with a sufficiency rating less than 50 and classified as SD when prioritizing future replacement candidates. As of June 30, 2010, 142 bridges more than 20 feet long are classified as SD, roughly 4.7% of the total inventory of bridges over 20 feet. About 40 of these bridges are considered good candidates for future replacement.

*FHWA reports that amount of structurally deficient deck area in Washington is growing*

According to FHWA's inventory of over 7,000 bridges in Washington, which includes both state and local agency owned structures, 405 or 5.3% of the total were classified as structurally deficient in 2009. These 405 structurally deficient bridges make up approximately 8.5% of the bridge deck area in the state. Between 2007 and 2009 the percentage of structurally deficient deck area has increased by 1%.

### FHWA inventory of structurally deficient (SD) bridges

*For Washington, 2007 – 2009*

	Number of SD bridges	SD deck area (in square feet)	Percentage of SD deck area
2009	405	576,246	8.5%
2008	422	548,544	8.2%
2007	400	502,030	7.5%

Data source: WSDOT Bridge and Structures Office, FHWA.

*\$140.9 million to be used to address bridge rehabilitation and replacement in the 09 - 11 biennium*

The 2005 Transportation Partnership Account (TPA) funding package included funding for the replacement of 20 bridges and the SR 104 Hood Canal bridge. To date, five of these TPA-funded bridges and the east half of the Hood Canal bridge have been replaced, two bridges have been rehabilitated, and five bridges are under contract. Twenty-five additional bridges identified and prioritized for replacement or rehabilitation will be paid for with pre-existing funds. This list of bridges was prioritized based on their traffic volumes, structural condition, and any

load restrictions in place. The bridge replacement and rehabilitation budget for the 2009-2011 biennium is \$140.9 million.

*Five bridge replacement projects now under contract*  
P2-funded bridge replacement projects under contract include:

- US 12 Tieton River bridges No 1 and No 2 (near Naches)
- SR 27 Pine Creek (near Palouse)
- SR 303 Manette Bridge (Bremerton)
- SR 525 Ebey Slough Bridge (near Marysville)
- SR 532 Gen Mark W. Clark Bridge (near Stanwood)

*WSDOT received \$17 million to address 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 provided \$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, to replace expansion joints and selected anchor cables, and the SR 520 Evergreen point floating bridge, to replace selected anchor cables. The total list of bridge repair needs has 90 items and is estimated to cost nearly \$100 million. With a budget of \$17 million per biennium it will take WSDOT about 12 years to complete all the work on this list.



SR 532 – General Mark W. Clark Bridge, in Stanwood. This aerial picture is of the new bridge that WSDOT began constructing in 2009 to replace the old bridge that was built in 1949.



# Asset Management: Bridge Assessment

## Annual Report

### Bridge Preservation

#### Floating bridges and anchor cables

WSDOT operates and maintains four concrete floating bridges which includes the world’s longest span on SR 520.



Each floating bridge is held in place through a series of anchor cables. WSDOT schedules replacement of cables either if a dive inspection finds significant corrosion or after 30

years of service. Additional cable replacements are scheduled within the next four years.

#### Floating bridge anchor cable counts

	Total number of cables	Number replaced in 2010	Planned to replace in 2013-15 biennium
I-90 Lacey V Murrow	56	0	10
I-90 Homer Hadley	53	10	10
SR 104 Hood Canal	44	0	18
SR 520 Evergreen Pt.	58	15	0

Data source: WSDOT Bridge and Structures Office.

#### Steel bridge painting

WSDOT owns 279 existing painted steel bridges that require routine painting. WSDOT also shares painting costs for bridges on the Oregon and Idaho borders. Protective paint coatings on steel bridge elements are essential to prevent corrosion and extending the service life. Bridge painting is likely to be a major project with significant costs due to the complexity of safety, environmental, and containment system requirements. 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 2% or more of the steel area is no longer covered by paint, the bridge is programmed for repainting, which is typically every 15 to 20 years. The original paint system on new steel bridges can last 30 to 40 years before it needs to be repainted.

*Existing paint systems too old and brittle for overcoating, full paint removal now required*

Nearly all of the bridges on WSDOT’s future paint list will need full paint removal, because most have been overcoated three or more times and the existing paint systems are now old, brittle, and no longer a good base for new paint. Full paint removal requires the construction of a containment system around the bridge to keep old paint and the abrasive material used to remove it from entering the wider environment. An emerging issue is how to balance the added weight of the containment system with the need to maintain traffic across the bridge.

*WSDOT painted five steel bridges in 2009 and 2010*

There are 94 WSDOT steel bridges either due or past due for painting. WSDOT painted five bridges in 2009 and 2010, and shared the expense of painting portions of the US 101 Astoria Bridge and the SR 433 Lewis and Clark bridge. The final phase on the Lewis and Clark bridge – painting the main truss – was awarded in June 2010 for \$33.7 million.

#### Status of WSDOT steel bridge painting needs

	Number of bridges	Cost to repaint
Past due for painting	29	\$142 million
Due for painting	65	\$184 million
Not due for painting	183	\$367 million

Data source: WSDOT Bridge and Structures Office.

#### Steel bridge painting



SR 542 Nooksack River – Crews have more than half of the containment system required to complete the bridge painting in place.



SR 433 Lewis and Clark – The containment area during Phase 2 of construction to clean and paint the piers in the Columbia River and bridge towers on the Washington side.



I-5 Capitol Blvd. – A containment system in place so crews can repaint this busy bridge over I-5.



# Asset Management: Bridge Assessment Annual Report

## Bridge Preservation

### Bridge deck repair and overlay

WSDOT has been working since the early 1980s on a systematic program to prevent concrete deck deterioration which is very costly to fix and can lead to significant disruptions to traffic during the repair process. New bridges, built after 1980, are constructed with epoxy-coated rebar that resists corrosion caused by winter de-icing salts. Bridge inspections identify pre-1980 bridges with deteriorated concrete deck areas so WSDOT can rehabilitate them by applying a concrete overlay.

### WSDOT bridge by deck overlay material

Overlay type	Number of bridges	Deck area (square feet)	Repair cost (per square foot)	Percent of total
None - Concrete	1,301	19,898,238	\$75	44.4%
None - Steel	5	37,351	\$250	0.1%
Concrete	575	14,112,064	\$75	31.5%
Asphalt	1,065	9,387,479	\$25	20.9%
Polymer	85	1,402,097	\$75	3.1%
<b>Total</b>	<b>3,031</b>	<b>44,875,405</b>		<b>100%</b>

Data source: WSDOT Bridge and Structures Office.

The average cost to repair and apply a traditional modified concrete overlay to a bridge deck is \$75 a square foot. This is about 25% of the cost to completely replace a bridge deck or 10% of the cost to replace an entire bridge.

WSDOT will program a bare concrete deck for repair and overlay when 2% or more of the area is deteriorated or has previous maintenance repairs. Currently, 28 bridges with a concrete overlay have been added to a prioritized list for a new overlay in the future depending on funding.

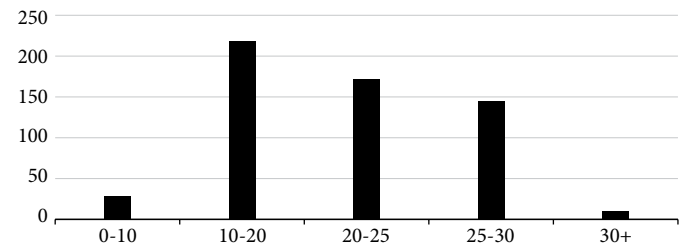
Modified concrete overlays are the primary overlay type used by WSDOT to rehabilitate concrete bridge decks: the first such repair was made in 1979. The average service life of a concrete overlay on bridges is about 25 years. It is very likely that more of these concrete overlays will require replacement in the future.

Bridges with asphalt deck overlay have traditionally been addressed within roadway paving projects. More of these bridges will likely need to be addressed in stand-alone projects since more roadway paving projects are now using bituminous surface treatments (BST's) which cannot be used on a bridge deck. Bridge decks require Hot Mix Asphalt (HMA) along with a membrane to provide a smooth ride surface and to protect the rebar in the bridge deck from winter deicing.

For the 2009-11 biennium, the concrete bridge deck rehabilitation budget is \$5.3 million to repair and overlay five bridge decks; three are scheduled to go to contract in 2010. WSDOT has prioritized 62 bridges that need a future repairs and overlay at an estimated cost of \$77 million.

### WSDOT bridges: concrete overlay age

Number of bridges, by age in years



Data source: WSDOT Bridge and Structures Office.

### WSDOT's local bridge program

WSDOT through the Highways and Local Programs division manages the Federal Aid Highway Bridge program for local agencies. The program follows policy guidance found in federal statute, Washington state legislation and the Washington Transportation Plan and provides approximately \$35 million per year to local government for assistance in addressing our state's infrastructure renewal needs. Due to limited funding, only structures that are structurally deficient with low ratings are considered for replacement or rehabilitation. Seismic retrofit and scour repair projects are eligible as risk reduction projects and limited painting of steel structures is also funded to reduce the risk of further deterioration.

Local governments are responsible for the preservation of 3,960 bridges statewide. The condition ratings for FY 2010 are detailed in the table below.

### Condition and inventory of city and county (local agency-owned) bridges in Washington

FY 2010

	County-owned	City-owned
Good	85%	79%
Fair	11%	14%
Poor	4%	7%
Total inventory	3,239	721

Data source: WSDOT Highways and Local Programs Office.

# Asset Management: Bridge Assessment

## Annual Report

### Bridge Risk Reduction

Seismic retrofit of selected bridges and scour repair of bridge piers in rivers are proactive approaches to minimizing the risk of damage to bridges due to earthquake and flooding.

#### Seismic retrofit

The 2005 Transportation Partnership Account provided \$87 million to retrofit high- and moderate-risk bridges in the Puget Sound area. The planned bridge seismic retrofit budget for the 2009-11 biennium is \$38.2 million.

#### Bridge seismic retrofit status FY 2010

Completely retrofitted	256
Partially retrofitted	139
Needs retrofitting	472
Under contract	13
<b>Total</b>	<b>880</b>

Data source: WSDOT Bridge and Structures Office.

WSDOT has collaborated with federal, state and local agencies to prioritize bridges in the Puget Sound region that require a seismic retrofit using a risk-based approach which incorporates WSDOT’s strategic disaster response plan. The prioritization plan for the top eight lifeline route segments is shown in the table below.

#### Top 8 lifeline route segments

Priority	
1	Complete remaining bridges with single column piers in the Puget Sound vicinity
2	I-5 Ship Canal Bridge approaches
3	Bridges carrying I-5 traffic from Joint Base Lewis-McChord base to I-90 (mainline)
4	Bridges carrying I-5 traffic from Paine Air Field to I-90 (mainline)
5	Bridges over I-5 from Joint Base Lewis-McChord to I-90
6	Bridges over I-5 from Paine Air Field to I-90
7	Bridges on I-405
8	Bridges over I-405

Data source: WSDOT Bridge and Structures Office.

Bridge engineers will perform a seismic analysis of each bridge to determine the exact scope of the retrofit. The analysis looks at all the bridge elements above the foundations and compares the *capacity* of those elements to the forces applied by an earthquake (the *demand* placed on the structure). Generally, if the *capacity to demand* ratio is less than 1.0, then the bridge

element is retrofitted. The most common type of retrofit of most bridges includes adding steel jackets around the columns and adding more concrete-and-steel reinforcing to the pier caps (also known as a “bolster”). WSDOT uses the American Association of State Highway and Transportation Officials (AASHTO) adopted 1,000 year return period (7% probability of exceeding in 75 years) to determine the forces (stress) the bridge must resist.

#### Scour mitigation

“Scour” is defined as the eroding away of the stream bed material from under bridge foundations. Scour generally happens when a river is experiencing high water flows. Nationally, as in Washington, more bridges have collapsed from the scour of bridge foundations than from any other cause (43 documented WSDOT bridges since 1923). There are:

- More than 1,500 WSDOT bridges and culverts longer than 20 feet in length are over water
- 318 WSDOT bridges and culverts longer than 20 feet are classified as “scour critical”

The term “scour critical” is used by the FHWA to classify those bridges with a calculated potential scour depth that is lower than the existing bridge foundations. WSDOT has developed a plan of action for each of these bridges. Once funding has been authorized for a repair, it generally takes two to four years to design a scour repair and obtain the environmental permits to complete a scour repair. The planned bridge scour repair budget for the 2009-11 biennium is \$2 million. WSDOT completed one scour repair in the 2009-11 biennium and has six bridges under design for future scour repair.

#### SR 202 Tokul Creek Bridge emergency scour repair

The SR 202 Tokul Creek Bridge is just north of Snoqualmie Falls at milepost 24.55. Tokul Creek has eroded away the banks and could potentially affect the foundations of the bridge. If the bridge foundations become exposed, engineers may need to close the bridge to ensure public safety. On May 13, 2010, the Northwest Region Administrator signed a declaration of emergency summarizing the need to perform a scour repair prior to potential flooding in winter 2010/spring 2011. WSDOT is working with resource agencies to allow a scour repair to be completed in the fall of 2010.

# Asset Management: Capital Facilities Annual Report

## Capital Facilities Program

WSDOT maintains, operates, and is responsible for the improvement and preservation of 946 department-owned buildings and structures at 296 separate sites across the state. These 'facilities assets' are valued at more than \$1 billion dollars; they serve the needs of all programs that construct, maintain, and operate state highways. The Capital Facilities Office manages these activities.

Facilities assets, which contain many unique uses and complex building systems, include region headquarters complexes, traffic management centers, maintenance crew facilities, commercial vehicle repair, welding and fabrication shops, project engineer offices, testing laboratories, materials storage, and wireless communications sites.

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 is available to repair and preserve facilities assets. At the current funding level, 2% of identified building repairs can be performed each year.

This article presents methodologies for identifying facilities needs and priorities that the capital facilities program has in place to implement the strategies presented in the WSDOT 2009-2015 Strategic Plan.

### Identifying high priority preservation and improvement needs

Of the 3.2 million square feet of buildings that WSDOT occupies, 2.6 million square feet are owned and managed by the capital facilities program. About 89% (2.3 million square feet) of the building space owned and managed by WSDOT is contained in 287 "primary buildings:" office and crew space that supports a majority of the department's staff and provides storage space for vehicles and equipment.

Because each of these primary buildings contains at least 2000 square feet of occupied building space, primary buildings are high priority preservation and improvement projects. In order to prioritize needs amongst these primary buildings, WSDOT assesses impacts to department operation through biennial condition assessments. The condition assessments evaluate the number of buildings in poor, fair, or good condition. This information becomes the basis for determining the repair backlog.

### Assessments now focus on buildings

In *GrayNotebook 34*, WSDOT presented condition assessment ratings on entire facilities, which included data for site-related elements (such as paving, lighting, and security) as well as buildings. The inspection process weighted the condition ratings of buildings on a particular site before adding them to the site rating to get a total facility rating.

While such facility ratings are helpful in determining facility replacement priorities, they obscure the specific condition needs of the buildings themselves. For example, one single facility might contain three buildings, each with differing building condition ratings. If one building was in good condition and the other two in poor condition, the weighted average rating for the facility as a whole may fall

### Capital Facilities Highlights

40% of primary buildings are in poor condition and need significant repairs.

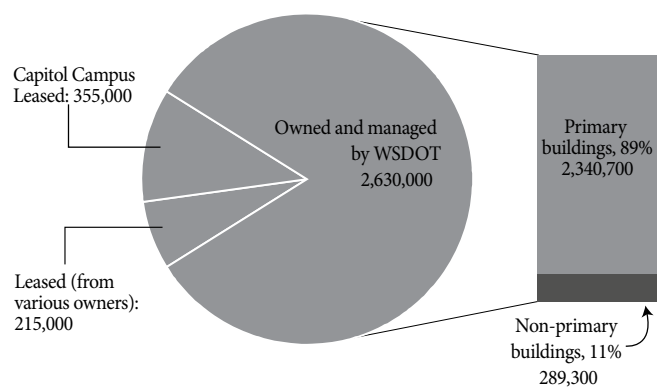
65% of primary buildings have been identified as more than 25 years old, creating a \$139.8 million backlog of necessary work.

Preservation work in 2009-11 primarily addresses minor works projects.

26% of identified ADA deficiencies have been corrected, with the remaining to be completed in 2009-11.

### WSDOT occupied building space

As of June 2010; Square footage (excludes Ferries and Safety Rest Areas)



Data source: WSDOT Computer Aided Facility Management (CAFM) System Building Inventory.

# Asset Management: Capital Facilities Annual Report

## Capital Construction Program

into the fair range, which would not reveal the pressing needs for improvements to the two buildings rated as poor.

During both 2008 and 2010, WSDOT focused on high priority preservation and improvement projects for 287 primary buildings that contain 89% of the square footage.

### 40% of primary buildings are rated as poor condition

In 2010, 113 of 287 primary buildings were rated as poor. This is an increase of 3% from 2008. Facility condition assessments (FCA) use building industry standards and are conducted every two years. Conditions of individual building systems are evaluated, and used to identify repair backlogs and to determine facility replacement priorities.

The FCA rates the building system on a scale of 1–5, with 1 being good and 5 being poor. If a building system is found to be deficient, it is rated 4 or 5 and a preliminary repair cost is estimated. The total building rating is used to define its condition as good, fair, or poor. Preliminary repair cost estimates for buildings are then used to define the statewide repair backlog.

### WSDOT primary building condition rating

*Number of primary buildings by condition rating*

Condition	2008	2010
<b>Good</b>	31 (11%)	24 (8%)
<b>Fair</b>	142 (52%)	150 (52%)
<b>Poor</b>	100 (37%)	113 (40%)
<b>Total<sup>1</sup></b>	273	287

<sup>1</sup> Differences in building numbers are due to new construction or additions to the Capital Facilities program from another WSDOT program.

Data source: WSDOT Capital Facilities Office.

### 187 aged and obsolete primary buildings need preservation and replacement

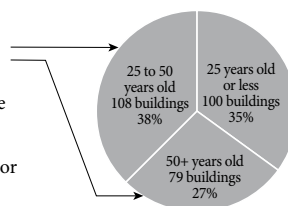
The chief cause of the preservation and repair backlog is the steady aging of buildings: 65% of primary buildings are more than 25 years old with a \$139.8 million dollar backlog, and 27% exceed 50 years. Major building systems – such as heating, plumbing, lighting, roofing, and structural elements – require substantial repair or replacement after 20 or 25 years. Older buildings are more likely to be inefficient or unsuitable for today's operations, with 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 2010 condition assessments, WSDOT faces an accelerating repair backlog at each building as facility age increases.

### Age of primary building assets

*As of June 2010*

187 (65%) of building assets are 25 years old or older, and are more likely to require replacement or major repair.



Data source: WSDOT Capital Facilities Office.

The 287 primary buildings add up to a total repair backlog of \$160 million. The table below shows the backlog per building by age group for primary buildings.

### WSDOT primary building age and backlog

*As of June 2010; Dollars in millions*

Age	Number of buildings	Backlog per building	Backlog total
<b>25 years or less</b>	100 (35%)	\$0.20	\$20.1
<b>26 to 50 years</b>	108 (38%)	\$0.77	\$82.8
<b>Over 50 years</b>	79 (27%)	\$0.72	\$57.0
<b>Total</b>	287		\$159.9

Data source: WSDOT Capital Facilities Office.

The total preservation (repair) backlog for all facilities has increased \$18.3 million dollars (10%) since 2008. The \$196.3 million dollar estimated 2010 backlog for all facilities was estimated at \$188 million in 2008. Primary buildings make up \$159.9 million, or 82%, of the 2010 backlog.

In the 2007-09 biennium, the Office of Financial Management (OFM) developed a six-year facility plan for all cabinet agencies that includes WSDOT. The capital facilities program routinely works with all department programs, region management and OFM to refine and update information for long-range planning and management of WSDOT facilities.

A replacement backlog of about \$280 million has been identified in the 2010 Capital Facilities Strategic Plan. This 16-year plan will be completed in October 2010 and updated each biennium.

### Prioritizing projects - Minor works

Based on condition assessment data, region facility managers request prioritization of minor projects valued under \$1 million. Projects generally consist of building system and structural repair, roofing, paving, siding, lighting and electrical improvements, and radio tower installation. Minor projects are prioritized into three categories (occupant, preservation, and operational) with occupant projects addressed first.

# Asset Management: Capital Facilities Annual Report

## Capital Construction Program / Operating Program

- **Occupant** projects are those that contain hazardous site or building conditions that may jeopardize health and safety of staff, public, environment and/or are immediate violations of local, state, or federal regulations.
- **Preservation** projects replace and preserve frequently failing buildings systems or elements that have a high risk of failure and require constant corrective maintenance.
- **Operational** projects correct insufficient building space, provide wireless communication, and/or improve facility components that impact mission critical operations.

### Major upgrade and replacement projects

Facility projects range from minor remodels to large-scale site acquisition and commercial development. Facilities “mega projects” are projects typically over \$20 million such as the Olympic Region headquarters replacement. Projects valued at more than \$5 million are generally large maintenance facility such as the Northwest Region maintenance facility replacement project. Projects under \$5 million are smaller scale, such as replacement of the Hazel section facility and the Sekiu building.

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.

### Capital facility replacement costs

*Estimated costs as of June 2010*

Project type	Value
Projects worth less than \$5 million	\$42,294,000
Projects worth between \$5 and \$19 million	\$121,041,000
Mega projects worth more than \$20 million	\$117,100,000

Data source: WSDOT Capital Facilities Office.

### Operating Program addresses facilities maintenance

Daily operations and maintenance activities help keep WSDOT buildings and structures open for use. Implementation of a coordinated statewide facility maintenance system in the 2003-05 biennium allowed WSDOT to benchmark and identify critical equipment, outline required maintenance schedules, and develop predefined levels of service. Elements of this program have been used in each subsequent biennium to evaluate, quantify, and provide funding to each region for daily facilities maintenance and operations needs.

To further refine and prioritize work, WSDOT is aggressively reassessing levels of service and developing control models

### Select capital facility minor works projects

*2009 - 2011 biennium*

	Project budget	Description
<b>Projects addressing occupancy safety</b>		
Statewide ADA Transition Plan	\$177,084	S/CC
Arlington SMF Sand Storage Shed Replacement	\$121,000	S/CC
Everett Bridge Ventilation	\$35,000	S/CC
Wenatchee ROC Admin. Bldg Hot Water System	\$13,000	S/CC
Electric City Ridge Tower Replacement	\$126,000	S/CC
Mullinix Site Electrical System Renovations	\$95,000	S/CC
Union Gap Shop Brick Repair	\$53,000	S/CC
Statewide Hoist Removal and Remediation	\$16,500	EC
Raymond AMF Prewash Pad and Treatment System	\$38,000	EC
Goldendale Drainage Improvements	\$27,500	EC
Hyak SMF Prewash Building	\$450,000	EC
Colville AMF Veh. Storage Env. Improvements	\$63,000	EC
<b>Projects addressing preservation</b>		
Corson Ave. Mats Lab Roof Renovations	\$78,000	BP
Mottman Modular Roof/HVAC Renovations	\$213,000	BP
Chehalis AMF Bldg. Floor Moisture Study	\$25,000	BP
Woodland Roof Renovations	\$48,000	BP
Colfax AMF Utilities Replacement	\$77,000	BP
<b>Projects addressing operations</b>		
Wandermere AMF Vehicle Storage Building	\$333,000	EN

Data source: WSDOT Capital Facilities Office.

Note: Description codes indicate S/CC – Safety/Code Compliance; EC – Environmental Compliance; BP – Building Preservation; EN – Emergent Need (Facility failure or immediate operational need)

to better quantify maintenance data. This region-level focus consists of ongoing equipment categorization assessments and quarterly forecasts of preventive maintenance expenditures by activity for comparison with completed efforts. The comparison-level data is expected to be available by FY2013.

### Preventive maintenance

Preventive maintenance is regularly scheduled maintenance work necessary to prevent equipment breakdown and to maintain proper facility and equipment operations. Inspection, calibration, adjustment, cleaning, lubrication, and parts replacement are all components of preservation



# Asset Management: Capital Facilities Annual Report

## Operating Program / Other Program Highlights

work. The most important aspect of such maintenance is that it is planned work: identifying need, then maintaining and replacing items before a failure occurs.

To mitigate equipment failures and manage preventive maintenance, WSDOT implemented a Computerized Maintenance Management System (CMMS) in the 2003-05 biennium. Each building system and piece of equipment associated with a site or building is inventoried and maintained in the CMMS system with an assigned level of priority, or criticality. Assigning a criticality level to tasks helps WSDOT prioritize and communicate which preventive maintenance activities are funded.

Criticality levels are prioritized by nine categories (see table below). Failure to complete Life safety (10) or Code compliance (9) activities could jeopardize employee health or safety, while categories 8, 7, and 6 ensure operation of critical systems. Categories 5 and below are not funded within the current budget.

### Corrective maintenance

Corrective maintenance is one-time, emergency, breakdown, or corrective work, such as repairs to equipment bay doors, roofs, or plumbing, or replacing heating and ventilation equipment.

### Preventative Maintenance Criticality Matrix

Funded criticality	Activities
<b>10 - Life safety</b>	Hazardous building or site conditions that jeopardize life safety of occupants and impacts building occupancy
<b>9 - Code compliance</b>	Mandated compliance with local, state or federal building regulations
<b>8 - Critical systems</b>	Prevention of serious facility deterioration and significantly higher costs if not immediately addressed
<b>7 - Environmental compliance</b>	Mandated compliance with local, state, or federal environmental regulations, which do not impact building occupancy
<b>6 - Primary systems</b>	Required to support primary systems and equipment. Comprises the majority of site and building equipment and systems
<b>Unfunded criticalities and activities</b>	
<b>5 - Secondary systems</b>	Work required to support secondary systems and equipment
<b>4 - Long-term cost effective measures</b>	Energy or functional conservation measures with a rapid return on investment
<b>3 - Non-structural maintenance</b>	Prevents facility component deterioration and/or potential loss of use or affects economies of operation
<b>2 - Appearance</b>	Required to maintain the image of WSDOT facilities

Data source: WSDOT Capital Facilities Office.

These unexpected, urgent repairs require immediate response with labor and materials.

Preventive maintenance activities typically account for the largest part of the maintenance budget allocation. When preventive maintenance activities are reduced, the likelihood of increased corrective costs rises. Failures often directly relate to deferrals of PM inspections and replacements.

### Preventive maintenance workload by criticality

2006-2009

Criticality	2006	2007	2008	2009
<b>10</b>	15%	15%	12%	8%
<b>9</b>	10%	11%	12%	14%
<b>8</b>	24%	25%	27%	29%
<b>7</b>	1%	1%	1%	3%
<b>6</b>	50%	50%	48%	46%
<b>Total</b>	100%	100%	100%	100%

Data source: WSDOT Capital Facilities Office.

## Other program highlights

### Agency energy performance

Recent legislation (E2SSB 5560 and 5854) requires state agencies to report energy consumption, strategize energy conservation measures, and benchmark facility energy performance. Agency-wide, WSDOT is quantifying energy consumption through an energy use/utility management software program. WSDOT has nearly completed gathering data on over 400 facility utility accounts for 2008 and 2009. The information collected is being used to fulfill mandatory reporting requirements and assess the energy use of larger facilities through a benchmarking process.

### ADA transition plan update

In the 2007-09 biennium consultants were tasked to assess WSDOT-owned public access buildings statewide for compliance with the Americans with Disabilities Act. Work is in progress to correct the identified deficiencies and is programmed to be complete before June 30, 2011.

The consultant assessments identified 221 ADA compliance deficiencies with a cost of \$167,000 at WSDOT-owned facilities excluding rest areas and leased facilities that require attention. Fifty-seven of these deficiencies with a cost of \$25,000 have been corrected, or addressed through changes in operations. Corrections to the remaining 164 deficiencies are in progress.

# Mobility (Congestion Relief)

## Statewide policy goal

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

## WSDOT's business direction

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



## In this section

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Incident Response Quarterly Update	33
Washington State Ferries Quarterly Update	35
Rail: Amtrak Cascades Quarterly Update	39

## See also

Special Report: Federal Recovery Act-funded Projects	50
Quarterly Report on Capital Projects (Beige Pages)	55
New Ferry Construction	77

## Earlier mobility-related articles

Trucks, Goods & Freight Annual Report, GNB 37	
CVISN, GNB 37	
Travel Times Six Month Update, GNB 36	
Annual Congestion Report, GNB 35	

# Travel Time Trends Semi-Annual Report

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

### Travel Trends 2009-2010 Highlights

January-June 2010:  
Overall little change in travel times compared to the same time period in 2009, slight improvement on six out of 18 routes.

\* Tukwila to Bellevue morning commute travel time drop by 12 minutes following completion of the auxiliary lane in January 2009 has been sustained for nearly a year and a half.

\* Changes to peak period volumes show increases on 11 of 18 commute routes. Daily volumes increased on 10 of 14 routes during the first half of 2010 as compared to the same time period in 2009.

January-June 2009:  
Comparing the first six months of 2009 and 2008 (see GNB 34, pp. 28-30), travel times improved on 10 of 16 surveyed commutes in 2009.

\* In 2009, Tukwila to Bellevue morning commute improved by 12 minutes in part due to the completion of new WSDOT auxiliary lane on I-405.

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

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

### Travel times show little change from 2009 to 2010

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

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

### Peak period volumes increased slightly compared to 2009

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

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

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

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

# Travel Time Trends Semi-Annual Report

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

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

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

Data source: Washington State Transportation Center (TRAC).

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

<sup>2</sup> General purpose lane volumes only, HOT lane volumes not included.

<sup>3</sup> Daily volumes are duplicates in both the AM and PM routes.

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

<sup>&</sup> Comparison with 2008 data is provided to show the travel time drop in 2009 and 2010 from congestion relief projects.

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

### Several routes benefit from WSDOT's congestion relief projects

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

### Northbound I-405 sustains 12-minute improvement

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

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

After an 11-minute drop in peak period travel times between 2007 and 2009, travel times on the I-5 northbound morning trip from Federal Way to Seattle have now leveled off. A preliminary

# Travel Time Trends

## Semi-Annual Report

### Results from WSDOT congestion relief projects

investigation of the data seems to demonstrate some correlations. Factors include:

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

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

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

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

#### *Three-minute improvement on Bellevue to Tukwila in the evening*

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

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

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

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

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

#### *Peak-period volume increases on Tukwila to Bellevue morning route*

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

### Other driving forces impact commute times on major routes

#### Collisions continue to drop

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

#### Traffic collisions in King County

*Quarter 1 (January-March) of 2007, 2008, 2009, and 2010*

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

Data source: WSDOT Collision Analysis Branch.

<sup>1</sup> Preliminary collision data for March 2010 is included in Q1 2010 data.



# Travel Time Trends Semi-Annual Report

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

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

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

### Puget Sound region transit ridership

January-June 2010

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

Data source: Sound Transit.

<sup>1</sup> Boardings from Sound Transit Express bus routes, which run along the central Puget Sound freeway network

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

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

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

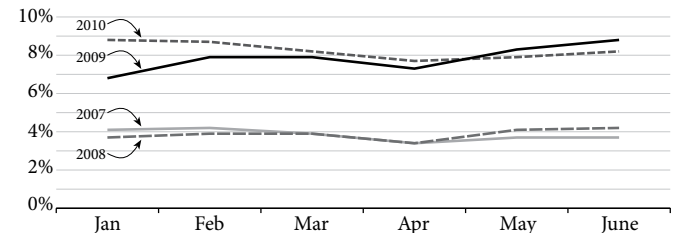
It is clear that the economic recession is affecting travel times in the central Puget Sound region. The past four years represent very different economic conditions in this region. 2007 saw low unemployment and largely stable gas prices; 2008 was marked by a gas price spike and the start of the economic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

#### Unemployment remains high

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

### King County unemployment rate

January-June 2007, 2008, 2009, 2010



Data source: Washington State Employment Security Department, Labor Market and Economic Analysis (LMEA).

Notes: Data is not seasonally adjusted. June 2010 data is preliminary.

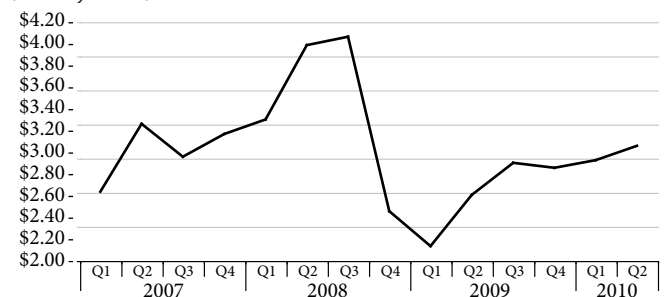
The unemployment rate indicates two things for traffic: first, that fewer people are on the road heading to work, and second, that economic activity is likely down due to sustained unemployment, resulting in fewer trips to purchase or deliver goods and services.

#### Gasoline prices more stable than in previous comparison periods

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

### Statewide gas prices

January 2007-June 2010



Data source: U.S. Energy Information Administration.

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

# Commute Options Annual Report

## Managing Demand Through Commute Options

### Highlights

Commute Trip Reduction (CTR) reduced 62 million vehicle miles traveled (vmt) annually, equivalent to 27,490 metric tons of GHG and 3 million gallons of fuel.

Each traveler in morning peak traffic in the central Puget Sound saved \$59 on average in 2009 due to the increased system efficiency provided through the CTR program.

In 2009, state investment in CTR provided a congestion-reduction benefit for the central Puget Sound region worth \$35 for every \$1 invested.

Drive alone rate for overall CTR program for 2009-10 resulted in 2.8% reduction when compared with 2007-08.

Completion of 2009-11 in-progress regional mobility grant projects would reduce 102 million miles in VMT.

Statewide vanpool ridership decreased from 23,000 to 21,000 during 2009.

New RideshareOnline website launched in early 2010 to provide easy access to information.

### Commute options help WSDOT manage demand as part of the Moving Washington program to fight congestion

The state's Commute Trip Reduction (CTR) Law was passed by the Legislature in 1991 with goals to improve air quality, reduce traffic congestion, and reduce the consumption of fossil fuels through employer-based programs that encourage the use of alternatives to driving alone.

WSDOT employs strategies that increase the carrying capacity of the system — such as enabling greater use of high-occupancy vehicles, shifting trips out of rush hours, and eliminating the need for trips altogether — to get the most out of the state's transportation investments.

Providing a variety of commute options is key to managing demand effectively. WSDOT's Transportation Demand Management (TDM) programs help local agencies and employers provide options to commuters across the state.

#### Commute option strategies

WSDOT's goal for managing demand is to create an integrated state transportation system where innovative solutions are developed and implemented to maximize the efficiency and effectiveness of individual, community, and system-wide mobility. This year's report is organized to address the five key actions listed below; in the future, WSDOT's Public Transportation Division (PTD) will organize the report under its newly developed strategic goals.

- *Expand* the availability of demand management programs and tools on key congested corridors (p. 28).
- *Improve* the effectiveness of demand management programs and tools, and existing planning and grant programs that support intercity, rural, and special needs transportation (p. 29).
- *Promote* expansion of transit service in key congested corridors by developing and deploying transit planning tools (p. 30).
- *Continue* to work with state agencies, regional transportation planning organizations, and other partners to create a range of climate change mitigation options for transportation (p. 31).
- *Evaluate* and implement strategies to reduce WSDOT's greenhouse gas emissions (p. 31).

Expand

Improve

Promote

Continue

Evaluate

### Commute Trip Reduction Program expands its reach

The drive-alone rate at Commute Trip Reduction (CTR) worksites continues to outperform the average drive-alone commute rate for the state and the nation. This is due in part to the success of the Growth and Transportation Efficiency Centers (GTECs), which expand the reach of the traditional CTR program. Growth and Transportation Efficiency Centers are located within some of the most densely populated and congested employment hubs in the state; they often include smaller worksites, schools, and neighborhoods in addition to CTR worksites. The CTR worksites within GTECs showed the greatest performance from 2007 to 2009, driving the overall progress of the program towards the statewide goals. (See page 32 for more information on WSDOT's statewide goals for commute trip reduction.)

## Growth and Transportation Efficiency Centers

### Growth and Transportation Efficiency Centers affected by funding cuts

In 2008, the state funded the implementation of seven GTECs for the cities of Vancouver, Olympia, Tacoma, Seattle, Redmond, Bellevue, and Spokane. Three communities currently fund their own GTECs and several cities are interested in developing new GTECs. However, state funding was not continued past June 2009. Although all seven GTECs continue to develop their programs with local and federal funding sources, all have recently reported a reduction in services and momentum.

WSDOT is seeking federal and state sources of funding to help continue and evolve the program so that GTEC administrators can better focus on program implementation. If funding becomes available, WSDOT will again survey the GTECs to measure their progress toward the established goals: reducing drive-alone trips and vehicle miles traveled (VMT).

#### Spokane Growth and Transportation Efficiency Center

Spokane continues to be a great example of how to implement a successful GTEC program. Their recent development of a campus student project at three universities in Spokane's downtown area is one the strategies used to create this successful program.

Spokane's GTEC leveraged federal funding to hire a university student to market and implement the program. All three participating universities – Whitworth, EWU, and WSU – help guide the project. The GTEC administrator plans to reach out to Gonzaga University next to encourage it to participate.



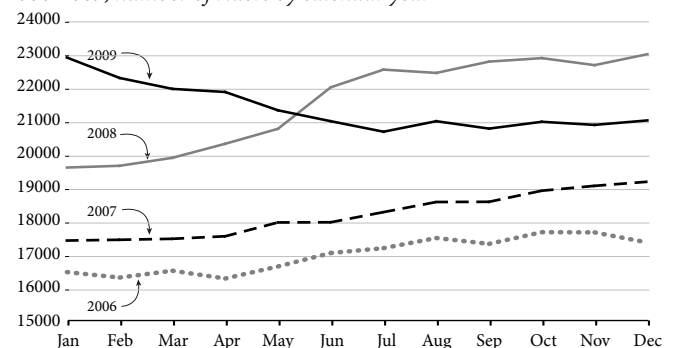
A Spokane Transit bus provides transportation within the GTEC.

### Vanpool Program growth has slowed

From 2003 to 2008, the number of vans and vanpool riders increased dramatically. High gas prices in 2008 led to huge demand for vanpooling, generating waiting lists for vans around the state. Dropping fuel prices may have led to some attrition from the program, but vanpooling also has a direct relationship to the job market and the program has been affected by the economic downturn. In 2009, unemployment reached 8%, up from 4% in the previous year. Fewer jobs mean fewer commuters, and if commuters in vanpools lose or change their jobs, their vanpool may not have enough riders to continue operating. Some employers have cut back on transportation benefits, including vanpool subsidies. Transit agencies have in many cases shifted their focus from growing vanpool usage to trying to keep existing groups on the road. The graph below shows the 8.7% decrease in ridership from 23,000 to 21,000 by the end of 2009.

#### Statewide public vanpool ridership

2006-2009, number of riders by calendar year



Data source: Vanpool Operator Data.

Data analysis: WSDOT Public Transportation Division.

Expand Improve Promote Continue Evaluate

### Improving the transportation system by mitigating the impact of construction activities

As WSDOT and local jurisdictions work to deliver construction projects that preserve and improve the transportation system, they must balance the competing priorities of completing projects on time and within budget while keeping people and goods moving. Achieving both goals requires analysis and coordination.

The Construction Traffic Management team, lead by WSDOT's Public Transportation Division, works with dozens of project teams within the agency and also with counties, cities, and other

# Commute Options Annual Report

## Construction Traffic Mitigation and Regional Mobility Grant Program

local jurisdictions like ports and transit agencies, to assess the effect of construction on local traffic. This assessment primarily takes place during the design phase of projects, anywhere from one to several years in advance of construction activities. The team also considers the traffic impacts of planned events like Mariners games, large festivals such as Seattle's Bumbershoot, or the Rock & Roll Marathon.

When analyzing the potential traffic impacts of construction or events, WSDOT identifies construction traffic 'hot spots.' These hot spots can result from:

- Several construction projects working in close proximity at the same time;
- Cumulative traffic impacts of multiple planned construction projects;
- Construction activities that would close multiple parallel routes or reduce their capacity.

The current focus of the Construction Traffic Management Program is the Puget Sound region, including King, Snohomish, Pierce, Whatcom, Skagit, and Island counties. The WSDOT web page at [www.wsdot.wa.gov/Construction/planning/2010/](http://www.wsdot.wa.gov/Construction/planning/2010/) assembles information from multiple public agencies and private enterprise, and is designed to provide construction and traffic managers information that helps to better identify and address traffic risks.

Expand Improve **Promote** Continue Evaluate

### Regional Mobility Grant Program

WSDOT continues to promote the expansion of transit service in key corridors. The Regional Mobility Grant program provides money to local governments to deliver transit mobility projects that are cost-effective, reduce travel delay for people and goods, improve connectivity between rural areas and regional population centers, and are consistent with local and regional transportation and land use plans. Capital construction, equipment acquisition, and operating projects are eligible. Projects are competitively evaluated and a ranked list is submitted to the Legislature for appropriation. The program is funded through the Multimodal Transportation Fund.

WSDOT has managed two Regional Mobility Grant cycles, 2005-2007 and 2007-2009. The lessons learned from this experience have resulted in some important changes to the 2009-2011 biennium cycle such as:

- Developed clear and specific instructions and forms;
- Required all applicants to provide effectiveness measures;

### Regional Mobility Grant helps improve transit service: Tri-County Connector project

Supported by a Regional Mobility Grant, Island Transit, Skagit Transit, and Whatcom Transportation Authority worked together to coordinate their fixed route schedules with the schedules of Amtrak *Cascades*, Greyhound, and the airport shuttles. The goal was to make the travel time and transfers as efficient as possible. Mount Vernon was developed as the hub for easy access to I-5 and job centers to the south, linking routes to Oak Harbor, Camano Island, and Bellingham.

The evidence of the project's success is in the ridership numbers. For the second quarter of 2010, there were 51,296 total boardings, up 15% from the third quarter of 2009. The service is so popular that the companies must run extra buses at peak rush hour times to meet demand.

The current budget consists of \$2.3 million in state funds and \$200,000 in local funds, for a total of \$2.5 million.

- Developed forms and tools for applicants;
- Coordinated grant submission deadline with other WSDOT grant programs;
- Developed a better way to correlate projects to bottlenecks, chokepoints, or congested corridors;
- Determine cost effectiveness for all projects;
- Added a pre-review step by WSDOT to the process and timeline; and
- Provided staff with additional cross-training prior to the review process.

### Proposed Benefits from the 2009-2011 In-Progress Regional Mobility Grant Projects

- Six park and ride lot construction or expansions, plus about 2,200 new park and ride parking stalls;
- Three new or expanded transit stations;
- Four projects to improve speed and reliability through priority signalization for buses;
- Three projects supporting high occupancy vehicle (HOV), business access and transit lanes;
- Six projects to acquire buses and/or operate new or expanded transit service;
- Reducing 102 million miles in vehicle miles traveled;
- Reducing 5.1 million reduction in vehicle trips.



## RideshareOnline / Commute Trip Reduction program

### Status of Regional Mobility Grant projects

2006-2011

Year of adoption by Legislature	2006	2007	2009-11*
Total number of projects added to the grants list	18	16	14
Projects cancelled	2	3	1
Projects completed	14	5	–
Projects still under way	2	8	13

Data source: WSDOT Public Transportation Office.

\*The most recent 2009-2011 Transportation Budget funding for these grants equals \$33,429,000.

### WSDOT and partners join together to redevelop RideshareOnline.com

Recently, WSDOT and its partners (including iCarpool, King County Metro and other transit agencies, Redmond, Vancouver and other cities, Spokane County, and Oregon and Idaho) developed a set of shared electronic commute management tools.

#### Current status of the project

The new [www.RideshareOnline.com](http://www.RideshareOnline.com) launched earlier in 2010, provides tools to support commute and event ridematching, trip and commute tracking, individual and community statistics, performance reports, group e-mails and alerts, subsidy and incentive administration, vanpool promotion, and Emergency Ride Home management. Local agencies around the state are using the system to support their vanpool operations. King County Metro is providing training and technical assistance to local agencies, who in turn provide customer support to their local trip reduction programs and employers.



The welcome page of RideshareOnline.com guides users to pages covering carpooling, vanpools, ferries, and more.

Expand Improve Promote Continue Evaluate

### WSDOT's Commute Trip Reduction program continues to produce results

Washington is recognized as a national leader in helping commuters get to work. Since 1991, WSDOT has encouraged the use of alternatives to drive alone through employer-based CTR programs. Commute Trip Reduction program results in 2009 included:

- CTR continues to perform, removing nearly 28,000 vehicles from Washington roadways every weekday morning in 2009.
- CTR's increasing performance bolsters the state's congestion, emissions and energy reduction goals. CTR reduced 12,900 hours of delay in the central Puget Sound Region in 2009, saving \$99 million for the region in congestion costs due to lost time and wasted fuel. CTR reduced 62 million VMT annually, equivalent to 27,490 metric tons of greenhouse gasses and three million gallons of fuel.
- Each traveler in morning peak traffic in the central Puget Sound region saved \$59 in 2009 due to the increased system efficiency provided through the CTR program.
- In 2009, state investment in CTR provided a congestion reduction benefit for the central Puget Sound region worth \$35 for every \$1 invested.

Expand Improve Promote Continue Evaluate

### Evaluating and restructuring the Vanpool Program

From January 2003 through the end of the 2007-2009, WSDOT has purchased about 980 vans statewide, contributing to a statewide reduction of over 46 million gallons of gasoline. The majority of these vans were targeted on congested urban areas. The vanpooling program is being restructured to target congested corridors.

#### Vanpool Program reduces emissions

Vanpooling's impact on emission reductions exceeded 912 million pounds of carbon dioxide, eliminated more than 50 million trips and has saved participants over \$124 million on gasoline versus drive alone miles since January 2003. The program began in 1993.

#### Program benefits grow over time

Evaluation of the data collected so far in the 2009-10 survey period shows that employers that are consistently engaged in the CTR program have the greatest successes. CTR worksites



# Commute Options Annual Report

## Commute Trip Reduction program / National survey of public transportation agencies

that were in the program continuously between 2007 and 2009 demonstrated better performance than the overall group of CTR employers. The over-all CTR program includes worksites that have just entered or left the program, such as new or relocating businesses. New worksites typically have a higher drive-alone rate because they haven't yet implemented their programs.

The tables below show the greater successes – in reducing both the employee drive-alone rate and VMT – achieved by employers who have been in the CTR program consistently over time. Worksites that have been consistently in the CTR program reduced their drive-alone rate by 5.9% compared to 2.8% for the overall program; per employee VMT was reduced by 6.0% compared to 2.6%.

### Percent reductions in drive-alone rate and VMT per employee: Results for overall CTR Program

2007-2008 compared to 2009-2010

	2007-08	2009-10	Percent change	2011-12 goal
Drive alone rate	67.4%	65.5%	-2.8%	60.7%
VMT per employee	11.4	11.1	-2.6%	9.9

Data source: Commute Trip Reduction (CTR) survey database.

### Percent reductions in drive-alone rate and VMT per employee: Results for employers consistently in the CTR program

2007-2008 compared to 2009-2010

	2007-08	2009-10	Percent change	2011-12 goal
Drive alone rate	69.3%	65.2%	-5.9%	60.7%
VMT per employee	11.8	11.1	-6.0%	9.9

Data source: Commute Trip Reduction (CTR) survey database.

As noted above, jurisdiction results include worksites that have just entered or left the program, such as new or relocating businesses. The intent of the overall jurisdiction-level goals is to encourage jurisdictions to develop infrastructure and transportation efficient policies that support lower drive-alone rates, regardless of when an employer enters the program.

Jurisdictions are making progress toward the goals established under the CTR Efficiency Act, due in large part to the consistent CTR employer performance. The share of commute trips made by driving alone to CTR worksites since 2007-08 declined by

2.8%, equaling a reduction of 7,315 daily one-way vehicle trips (or 3.6 million annual round-trips reduced). The VMT per employee to CTR worksites dropped by 2.6 percent, resulting in a total reduction of nearly 62 million annual VMT.

### Statewide CTR Program goals

- Reduce the drive alone rate to CTR worksites by 10% from 2007 to 2012
- Reduce VMT per employee to CTR worksites by 13% from 2007 to 2012

Between 2007-08 and 2009-10 survey cycles, CTR worksites reduced 3.6 million vehicle trips and 62 million VMT each year.

### National survey of public transportation agencies

In March 2010, the American Public Transportation Association (APTA) surveyed 151 transit agencies across the nation in order to provide a national perspective on the extent to which the current recession is affecting public transit agencies and the tens of millions of Americans who use their services. These 151 transit agencies carry more than 80% of all public transportation riders in the United States.

### Impacts of the recession on public transportation agencies

The survey asked APTA member transit agencies to report on actions they have taken since January 1, 2009 in response to the economic downturn and those actions anticipated in the near future. The results show that a large number of transit agencies face service cuts, fare increases, and reductions in staff, benefits, and pay due to declining revenues. The impacts were most severe among the larger urban public transportation agencies.

The survey also found that revenue decline is widespread, with close to 90% of the public transit agencies that were surveyed reported flat or decreased local and state funding.

# Incident Response Quarterly Update

The mission of WSDOT's Incident Response (IR) Program is the safe, quick clearance of traffic incidents on state highways. IR minimizes traffic congestion and restore traffic flow by removing dangerous traffic blockages that can lead to secondary collisions. IR roving units operate during peak traffic periods, offering a variety of motorist assistance services such as providing fuel and jump starts, changing flat tires, and moving disabled vehicles safely off the roadway reducing motorists' exposure to risk.

IR responders are trained and equipped to assist Washington State Patrol (WSP) troopers at collisions and other traffic emergencies. Available for call out 24/7, 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/](http://www.wsdot.wa.gov/Operations/IncidentResponse/).

## WSDOT's Incident Response team cleared more incidents in less time in Q2 2010

In the second quarter of 2010 WSDOT's IR teams responded to 11,974 incidents. This number of incidents is up 2.8% from last quarter's 11,644 incidents. This is up 2.1% from the 11,721 incidents in the second quarter of 2009.

The statewide average clearance time for all incidents in the second quarter of 2010 was 12.0 minutes. This is a 0.8% improvement from last quarter's average clearance time of 12.1 minutes and a 7.0% improvement over the 12.9 minutes average clearance time in the second quarter of 2009.

## WSDOT's IR program improves clearance times for fatality incidents in the second quarter

Fatality data for Washington State shows that the number of traffic fatalities was at its lowest in four years as of July 1, 2010. (Please see the graph on page 34, the table below, also the Highway Safety Annual Report on pages 5-10.)

### Annual Washington traffic fatalities statewide

July 1 of 2007-2010

Reporting date	Fatalities recorded in FARS*
07/01/2007	250
07/01/2008	217
07/01/2009	191
07/01/2010	172

\*Data source: Washington Traffic Safety Commission - Fatality Analysis and Reporting System (FARS).

In the first calendar quarter of 2010, WSDOT's average clearance time for the 14 fatality incidents responded to by the IR team was 214 minutes (incorrectly reported in *Gray Notebook* 37 as 216 minutes), nine minutes longer than the 2007-2009 average of 205 minutes. In the second quarter, the IR team responded to 23 fatality incidents, but reduced the average clearance time to 188 minutes.

### Incident Response Highlights:

In Q2 2010, the program cleared 11,974 incidents, 2.8% more incidents than responded to in Q1 2010.

The average incident clearance time in Q2 2010 was 12.0 minutes.

The average duration of over-90-minute incidents in Q2 2010 was 151 minutes.

## Number of incidents responded to by Incident Response program

April 1, 2009-June 30, 2010

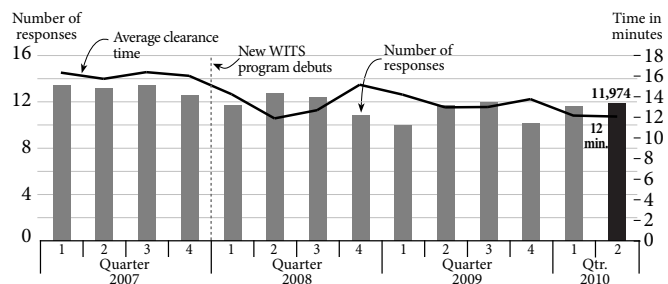
Quarter	# of incidents
Q2 (April 1 - June 30) 2010	11,974
Q1 (January 1 - March 31) 2010	11,644
Q4 (October 1 - December 31) 2009	10,163
Q3 (July 1 - September 30) 2009	11,943
Q2 (April 1 - June 30) 2009	11,721

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

## Number of responses and overall clearance time

April 1, 2010 - June 30, 2010

Number of responses in thousands, clearance time in minutes



Data source: Washington Incident Response Tracking System, WSDOT Traffic Office.

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

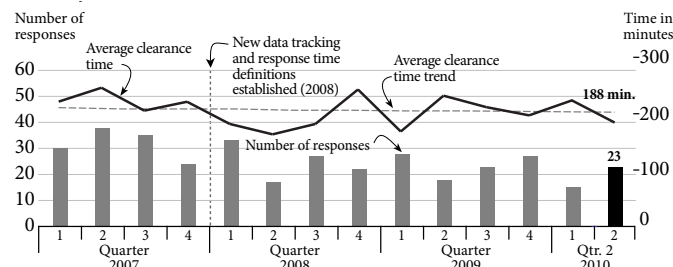
# Incident Response Quarterly Update

## Fatality Incidents, Over-90-Minute Incidents

This is a 12.2% improvement over the previous quarter, and a 18.6% improvement on average fatality clearance times for the second quarter of 2009.

### Number of responses and average clearance time of fatality collisions

April 1, 2010 - June 30, 2010



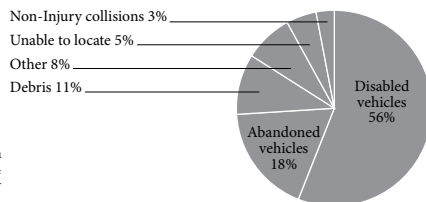
Data source: Washington Incident Tracking System, WSDOT Traffic Office.  
Note: In Q1 2008, WSDOT's Incident Response Program moved to a new database system and began calculating average clearance time in a different way. This accounts for the apparent decrease in the average clearance time value.

### Number and percentage of responses by category

Q2, April 1, 2010 - June 30, 2010; 11,974 incidents

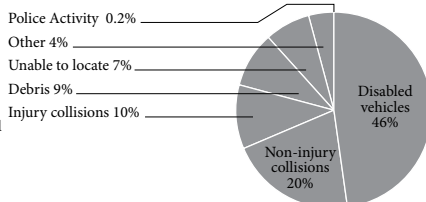
#### Incidents lasting less than 15 minutes (9,258)

Injury, and Police Activity were less than 1% (not shown). There were 38 Fires and 10 Hazardous Materials events involved incidents in addition to or as a result of above incidents. 24 incidents involved WSDOT property damage, and 453 were located in work zones.



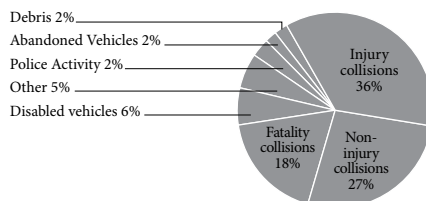
#### Incidents lasting 15 to 90 minutes (2,593)

Fatality collisions were less than 1% (not shown). There were 642 Fire, and 78 Hazardous Materials involved incidents in addition to or as a result of above incidents. 958 incidents involved WSDOT property damage, and 404 were located in work zones.



#### Incidents lasting 90 minutes and longer (123)

There were 262 Hazardous Materials and 276 Fire involved incidents in addition to or as a result of above incidents. 624 incidents involved WSDOT property damage, and none were located in work zones.



Data source: WITS, WSDOT Traffic Office.

### WSP and WSDOT target reductions in duration of over-90-minute incidents

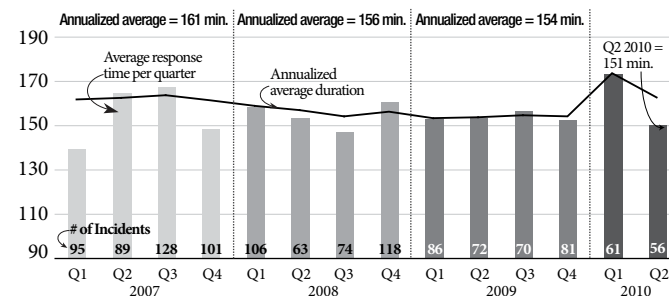
WSDOT and WSP have a formal agreement to clear incidents in 90 minutes or less, if possible, although incidents with

complicating factors may require more time to clear. Through her Government, Management, Accountability and Performance (GMAP) program, Governor Gregoire charged the two agencies with lowering the average duration of these over-90-minute incidents, on nine key highways in the Puget Sound.

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

January 1, 2007 - June 30, 2010

Number of responses per quarter vs. annualized average duration in minutes



Data Source: Washington State Patrol and WSDOT Traffic Office.

In 2009, WSDOT and WSP met the Governor's target of 155 minutes for the average duration of long blocking incidents on the nine key highways, with the average annual duration for GMAP incidents coming in at 154 minutes. The two agencies continue to pursue this target in 2010.

### Average duration of over-90-minute incidents reduced to 151 minutes in Q2 2010

During the second quarter of 2010, 56 over-90-minute incidents occurred on the nine key routes, producing an average duration of 151 minutes for the quarter. This duration is down from the high of 173 minutes last quarter, and has brought the to-date annualized average for 2010 down to 162 minutes.

Last quarter's high proportion of road-blocking incidents that lasted three to six hours has decreased this quarter. This has likely led to the drop in the average clearance time.

WSDOT and WSP will monitor these incidents throughout the year as the agencies continue to strive for the 90-minute average clearance time goal. The results of a review conducted by both agencies, examining the factors influencing clearance times, will be presented to the Governor in September 2010; the results will be published in a future *Gray Notebook*.

# Washington State Ferries Quarterly Update

## Ridership and Farebox Revenues

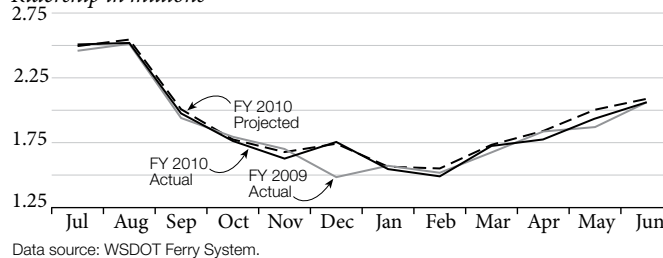
Washington State Ferries (WSF) serves as both an extension of the state's highway system and as a regional mass-transit provider. It provides a critical link to communities separated by water or longer driving distances, and is essential to the movement of goods and people in the Puget Sound region.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

### Ridership levels remain below projected levels

For the fourth quarter of fiscal year 2010 (April 1 – June 30), 5.7 million people traveled on the ferry system. This quarter, ridership was 3.5% below projected levels, or 206,000 fewer riders than projected. As compared to the same quarter one year ago, WSF ridership for the quarter was 45,000 fewer riders. For fiscal year 2010, 22.6 million riders traveled in the ferry system. This was 1.9% below projections, or approximately 429,000 fewer passengers. However, ridership for fiscal year 2010 was 158,000 (0.7%) higher than fiscal year 2009 ridership of 22.5 million riders. It is likely ridership will continue to lag behind projected levels until the economy is growing at a sustained level and the public chooses more discretionary travel, including ferry travel.

#### Ferries ridership by month

*Actual ridership vs. projected ridership for fiscal year 2010, compared with actual ridership for fiscal year 2009*  
Ridership in millions

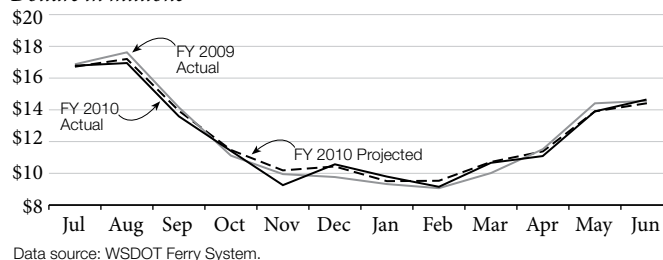


### Farebox revenues remain below projected levels

For the fourth fiscal quarter WSF farebox revenue was \$38,849,150. This is 3.2% below projected levels for the quarter, or \$1,302,450 less than expected (\$40,151,600). The monthly variance was greatest in April (\$809,333 less than projected) but narrowed during the remainder of the fourth fiscal quarter and in June revenue was only \$113,183 (0.8%) less than projected. Fiscal-year-to-date, WSF farebox revenue is 1.9% below projected levels, or \$2,850,028 less than expected. As compared to the same quarter one year ago, WSF farebox revenue was 4.0% higher during the quarter. For FY 2010, farebox revenue was \$147,009,545, which was \$2.8 million (1.9%) less than projected. However, when compared to FY 2009, farebox revenue increased \$2.5 million (1.7%) in FY 2010. As with ridership, it is expected farebox revenue will continue to lag behind projected levels until the economy improves.

#### Ferries farebox revenues by month

*Actual farebox revenue vs projected farebox revenue for fiscal year 2010, compared with actual farebox revenue for fiscal year 2009*  
Dollars in millions



### Washington State Ferries Highlights

This quarter, 5.7 million passengers rode WSF, which was 206,000 (or 3.5%) below projected ridership levels.

Farebox revenues were \$38.8 million, which was \$1.3 million (3.2%) below planned farebox revenues.

Service reliability declined as the missed trip index increased to an average of 2.0 missed trips per rider annually.

The ferry system completed 99.5% of all scheduled trips, with eight of nine routes completing 99.6% or more of schedule trips.

The average sailing delay was 3.3 minutes past the on-time window, an improvement as compared with 3.4 minutes for the same quarter last year.

The average number of complaints was 6.3 per 100,000 customers - an increase from the last quarter's average of 5.6 complaints per 100,000 customers.

The two areas which saw the greatest increases in complaints were loading/unloading and vessel/facility maintenance.

# Washington State Ferries

## Quarterly Update

### Service Reliability

#### Number of missed trips increases over the same quarter one year ago

The 'missed trip reliability' average for the fourth quarter was 2.0 missed trips a year. Compared to the previous quarter (third fiscal quarter), the rate was 0.7 more missed trips annually (1.3 missed trips a year). As compared to the same quarter one year ago, there were 0.7 more missed trips this quarter than during the fourth quarter of FY 2009 (1.3 missed trips one year ago).

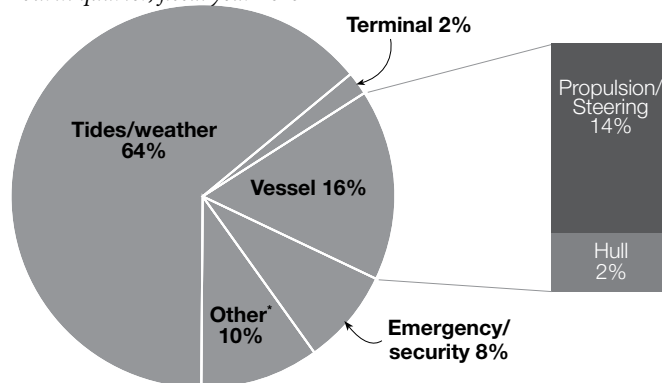
WSF's missed trip index measures trip reliability averages, and is annualized based on quarterly data, assuming 400 trips a year for each commuter. In the third quarter of FY 2010, 40,638 regular service sailing trips were scheduled. Of those trips, 239 were cancelled and 39 were replaced, resulting in a total of 40,438 during the quarter (40,638 scheduled – 239 cancelled trips + 39 replacement trips = 40,438 net trips).

The (overall) service reliability rating for the ferry system was 99.5% for the fourth fiscal quarter. All routes had a service reliability rating above 99% except the Port Townsend – Keystone route, which had 121 trip cancellations (61% of the system's total quarterly cancellations).

Two factors influence trip reliability for the Port Townsend – Keystone route: unique tidal conditions and weather disproportionately affect this route (see page 28 of March 2010

#### Reasons for trip cancellations

Fourth quarter, fiscal year 2010



Data source: WSDOT Ferry System.

Data note: \* Twenty-three trips classified as "Other" did not fit established trip cancellation categories. Twelve cancellations occurred on the Edmonds – Kingston and San Juan Island ferry routes in order to maintain the ferry schedule during peak loading times and for related issues. Eight cancellations were due to dispatch/crewing issues on the Pt. Defiance – Tahlequah and Edmonds – Kingston ferry routes. The remaining three cancellations were due to train/pedestrian issues on the Edmonds – Kingston ferry route. The Edmonds terminal is sometimes affected by rail traffic near the terminal.

Gray Notebook 37), and the operational capabilities of the M/V *Steilacoom II*, a smaller vessel than the now-retired Steel Electric-class ferries that used to serve this route.

#### Washington State Ferries missed-trip reliability comparison

Route	Fourth quarter (April 1 - June 30) Fiscal Year 2009			Fourth quarter (April 1 - June 30) Fiscal Year 2010		
	Number of missed trips <sup>1</sup>	Missed trip index (average) <sup>2</sup>	Overall reliability average <sup>3</sup>	Number of missed trips <sup>1</sup>	Missed trip index (average) <sup>2</sup>	Overall reliability average <sup>3</sup>
San Juan Domestic	5	0.2	99.9%	18	1.0	99.7%
International Route (Sidney, BC)	0	0.0	100.0%	0	0.0	100.0%
Edmonds - Kingston	0	0.0	100.0%	19	1.7	99.6%
Fauntleroy - Vashon - Southworth	29	1.1	99.7%	11	0.4	99.9%
Keystone - Port Townsend	83	18.0	95.5%	121	26.6	93.4%
Mukilteo - Clinton	6	0.4	99.9%	6	0.4	99.9%
Pt. Defiance - Tahlequah	0	1.8	99.5%	8	0.9	99.8%
Seattle - Bainbridge Island	0	0.0	100.0%	16	1.6	99.6%
Seattle - Bremerton	0	0.0	100.0%	1	0.1	100.0%
<b>TOTAL</b>	<b>134</b>	<b>1.3</b>	<b>99.7%</b>	<b>200</b>	<b>2.0</b>	<b>99.5%</b>

Data Source: WSDOT Ferry System.

Data note: The Seattle-Vashon passenger-only route is no longer operated by WSF as required by RCW 47.60.658. While the data from the passenger-only route is not included in the table, the data is included in the overall system statistics for FY 2009

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.



# Washington State Ferries Quarterly Update

## Service Reliability

### On-time performance decreases 4.8% over the same quarter one year ago

WSF's system-wide on-time performance for the fourth fiscal quarter decreased by 3.3%, compared to the previous quarter, with 88.2% of trips on-time. Compared to the same quarter one year ago, on-time performance was lower by 4.8% (88.2% of trips on time versus 93.2% of trips on time for the same quarter in FY 2009). The average sailing delay increased from 2.5 minutes in the third quarter of FY 2010 to 3.3 minutes of delay for the fourth quarter of FY 2010; this is a decrease in performance of 0.8 minutes. Compared to the same quarter a year ago, the average sailing delay decreased by 0.1 minutes (3.3 minutes versus 3.4 minutes).

A trip is considered delayed when a vessel does not leave the terminal within 10 minutes of the scheduled departure time. The average sailing delay is the quarterly average of delay after 10 minutes from 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.



*The M/V Chelan docked at Colman terminal in downtown Seattle.*

### Washington State Ferries on-time performance comparison

Route	Fourth quarter (April 1 - June 30) Fiscal Year 2009			Fourth quarter (April 1 - June 30) Fiscal Year 2010		
	Number of actual trips <sup>1</sup>	Percentage of trips 'on-time'	Average delay from scheduled sailing time	Number of actual trips <sup>1</sup>	Percentage of trips 'on-time'	Average delay from scheduled sailing time
San Juan Domestic	6,228	85.9%	4.4 minutes	5,574	82.7%	4.6 minutes
International Route	198	59.6%	2.3 minutes	170	83.3%	5.3 minutes
Edmonds - Kingston	4,458	91.8%	3.7 minutes	3,781	84.2%	4.6 minutes
Fauntleroy - Vashon - Southworth	10,127	93.1%	3.5 minutes	9,039	88.3%	3 minutes
Keystone - Port Townsend	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	1,482	89.1%	3.5 minutes
Mukilteo - Clinton	6,501	97.2%	2.8 minutes	6,137	92.6%	2.3 minutes
Pt. Defiance - Tahlequah	2,818	95.0%	3.4 minutes	3,004	89.9%	3.3 minutes
Seattle-Bainbridge Island	4,061	97.3%	1.6 minutes	3,693	90.1%	2.3 minutes
Seattle - Bremerton	2,493	96.8%	3.0 minutes	2,520	92.8%	2.6 minutes
<b>TOTAL</b>	<b>37,264</b>	<b>93.2%</b>	<b>3.4 minutes</b>	<b>35,400</b>	<b>88.2%</b>	<b>3.3 minutes</b>

Data Source: WSDOT Ferry System.

Data notes: The Seattle-Vashon passenger-only route is no longer operated by WSF as required by RCW 47.60.658. While the data from the passenger-only route is not included in the table, the data is included in the overall system statistics for FY 2009.

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 Port Townsend - Keystone route is currently being serviced by a non-WSDOT ferry (M/V *Steilacoom II*), which is being leased from Pierce County. During the fourth quarter of fiscal year 2009, the vessel was not equipped with the automated tracking system and could not report on-time performance.

# Washington State Ferries Quarterly Update

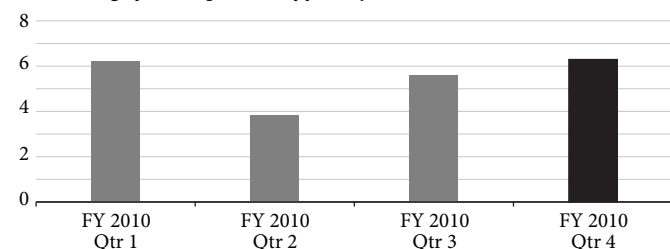
## Customer Feedback

### Customer complaint rate continues to increase

During the fourth fiscal quarter, the rate of complaints increased by 0.7 complaints per 100,000 riders as compared to the previous quarter. The complaint rate in the fourth quarter was 6.3 complaints per 100,000 riders as compared to 5.6 complaints per 100,000 riders for the previous quarter.

### Average number of complaints per 100,000 riders

First through fourth quarters of fiscal year 2010

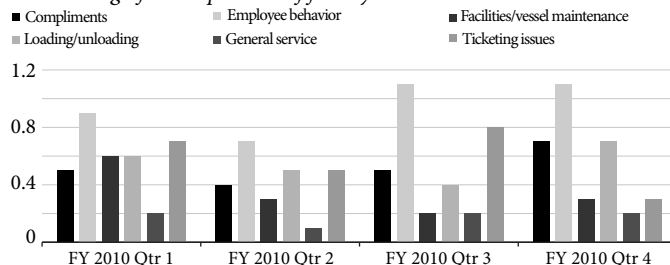


Data source: WSDOT Ferry System.

For the six major areas of customer feedback (see the bar chart below), two areas had a greater amount of feedback (loading/unloading and facilities/vessel maintenance), one category, ticketing, had lower feedback, and there was also an increase in customer compliments for the quarter. Complaints about employee behavior are taken seriously and any complaint results in a meeting between the employee and his or her supervisor to determine if corrective action is needed. As compared to the same quarter one year ago (fourth quarter of fiscal year 2009) complaints were 0.3 per 100,000 more this quarter.

### Common complaints per 100,000 riders

First through fourth quarters of fiscal year 2010



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.

### WSDOT informs both the Legislature and public about generator contract cancellation

In July 2010, WSDOT announced that it has terminated for convenience its purchase of nine replacement direct current (DC) propulsion generators for two of its WSF Super Class vessels, the M/V *Kaleetan* and M/V *Yakima*. WSDOT has identified potentially dangerous hazards of fault current and arc flash if the replacement DC propulsion generators were installed with the existing diesel engines and their older electrical switchgear. Arc flashes are characterized as short circuits that travel through the air, flashing from one exposed live conductor to another conductor or the ground. They represent a very significant electrical workplace hazard.

WSF vessel engineers originally identified a need for new vessel propulsion generators in 2004, and placed an order for nine DC current propulsion generators (four units per vessel and one spare.) WSF intended the new propulsion generators to help save power and fuel for both vessels.

In 2009, while carrying out detailed design engineering required for the installation of the new generators, the potential safety problems were identified with the existing switchgear. Unfortunately, no currently available technology would allow for these new propulsion generators to be safely used with the existing switchgear without risk of fault current and attendant arc flashes.

WSDOT found the risks unacceptable, and decided not to use the generators as planned. This decision was supported by two independent manufacturing firms and one naval architecture firm. Four generators have already been delivered to WSDOT, and are stored at WSF's Seattle warehouse. The remaining five are close to completion, and remain at the manufacturer's facility. Of the original \$5.3 million cost of the order, approximately \$2 million has already been expended.

On July 9, 2010, WSDOT directed the manufacturer to cease further production of the five remaining unfinished DC propulsion generators and is negotiating with the manufacturer for the closeout costs. Both the M/V *Kaleetan* and M/V *Yakima* will continue to operate on Bremerton-Seattle and Anacortes-San Juan Islands routes respectively, and are safe for the public to travel aboard.

# Rail: Amtrak Cascades Quarterly Update

## Passenger Rail: Amtrak Cascades

Washington is one of 13 states, including Oregon, to provide operating funds to Amtrak for intercity passenger rail service. 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.

### Amtrak Cascades ridership by funding partner

Quarter 2 ridership in 2008-2009-2010

Funding Partner	Round trips funded	Quarter 2 April – June 2008	Quarter 2 April – June 2009	Quarter 2 April – June 2010
Washington	4	137,716	129,791	149,270
Oregon	2	31,818	26,836	31,141
Amtrak	1	33,847	32,841	34,230
<b>Total ridership</b>		<b>203,381</b>	<b>189,468</b>	<b>214,641</b>

Data source: WSDOT State Rail and Marine Office.

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

On July 3, 2009, the Canadian government approved a pilot project to run a second daily round-trip service between Seattle and Vancouver, B.C. WSDOT worked with Amtrak, BNSF Railway, U.S. Customs, the British Columbia Ministry of Transport, Canadian Border Services Agency (CBSA), and other stakeholders to get the additional Amtrak *Cascades* service operational. The trial service was approved to run until the end of March 2010, after the Winter Olympics and Paralympics, has now been extended until September 30, 2010. There have been no CBSA customs service charges for the trial service, but there is a proposal for a \$1,500 daily charge for Amtrak *Cascades* trains currently under consideration. WSDOT anticipates that the CBSA will announce in late summer what method will be used to determine if these charges will be required. The decision for charging Amtrak *Cascades* is expected to come at the same time as the decision for cruise ships.

### Amtrak Cascades second quarter ridership up 13.3% from previous year

Although ridership decreased in 2009 from 2008 levels, ridership came back strong in 2010. There were 214,641 riders in the second quarter of 2010, which represents a 13.3% increase over the same period in 2009, and a 5.5% increase over 2008's record ridership.

Although high gasoline prices have helped contribute to some ridership growth, customer feedback indicates that

### Rail Performance Highlights

Amtrak *Cascades* Q2 ridership up 13.3% from the same quarter in 2009.

On-time performance down 5.2% compared to the same quarter in 2009.

Ticket revenues up 46.9% compared to the same quarter in 2009.

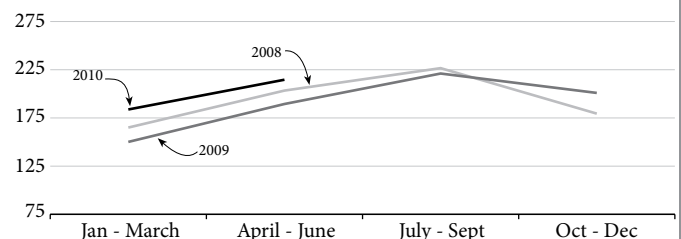
For information on Recovery Act high-speed passenger rail funding, see p. 54.



### Amtrak Cascades quarterly ridership

Number of passengers per quarter, 2008-2010

Riders in thousands



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

Note: Ridership for Washington-funded trains only.

# Rail: Amtrak Cascades Quarterly Update

## Passenger Rail: Amtrak Cascades

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 ticket revenue up 46.9% compared to previous year

During the second quarter of 2010, ticket revenues for Amtrak Cascades trains were \$5.2 million, up 46.9% when compared to the same period in 2009. This revenue increase can be partially explained by increased ridership, riders traveling longer distances, an additional train running between Vancouver, B.C. and Seattle, effective ticket pricing strategy, and a new accounting system. A study is being conducted to analyze the growth drivers and their long term impacts.

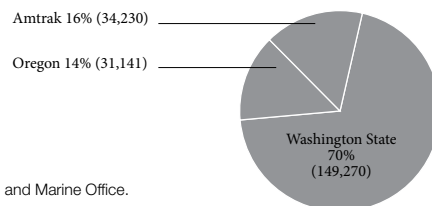
### 2nd quarter on-time performance down 5.2% from previous year

On-time performance for state-supported Amtrak Cascades trains was 71% for the quarter, which represents a 5.2% decrease compared to the same period in 2009, but is up 20%, compared to the first quarter of 2010. Although below the 80% on-time performance goal, this quarter is a 3% improvement over 2008.



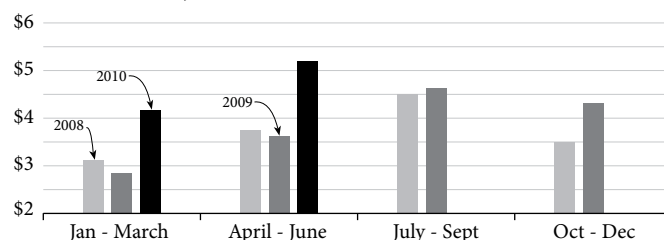
A southbound train arrives at the Stanwood station.

### Amtrak Cascades ridership by funding entity Quarter 2, 2010



Data source: WSDOT State Rail and Marine Office.

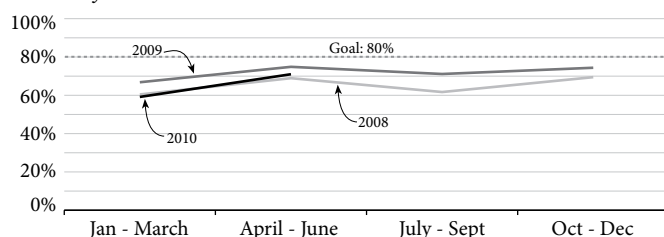
### Amtrak Cascades ticket revenues by quarter Dollars in millions, 2008 - 2010



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

Note: Ticket revenues for Washington-funded trains only.

### Amtrak Cascades on-time performance Percent of trains on time, 2008 - 2010



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. On-time performance reporting for Washington-funded trains only.



# 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 direction

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



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### See also

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### Earlier environment-related articles

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Special Report: Climate Change, GNB 34	
New Stormwater Permit GNB 37	
Stormwater Treatment Facilities, GNB 37	
Construction Site Water Quality, GNB 37	
Construction Site Erosion Control, GNB 37	
Wetlands Preservation Annual Report, GNB 37	



# Endangered Species Act Documentation Annual Report

## Endangered Species Act Documentation Highlights:

64% of the Nickel, TPA, and PEF-funded projects going to advertisement in the 2009-11 biennium have completed the ESA review process.

24% of the Nickel, TPA, and PEF-funded projects going to advertisement in the 2011-13 biennium have completed the ESA review process.

In 2009, the average duration for informal ESA consultations was 38 days; the goal is 30 days.

In 2009, the average duration for formal ESA consultations was 238 days; the goal is 135 days.

WSDOT works to protect fish, wildlife, and habitat resources on transportation projects through many different federal and state regulations. The federal Endangered Species Act (ESA) is the nation's signature species protection legislation: it recognized the need to understand, document, and mitigate potential affects to listed species. This article explains WSDOT's obligations under the ESA to review, document, and carry out requirements of the ESA when constructing projects.

### ESA's Section 7 applies when federal funds, authorization involved

Section 7 of the ESA requires that all federal agencies consult with the US Fish and Wildlife Service (USFWS) and/or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries – both agencies are colloquially referred to as 'the Services'), if that agency determines that any project it funds, authorizes, or carries out may affect listed species or designated critical habitat. As a state agency, WSDOT is required to comply with Section 7 when its projects receive either federal funding or authorization, most commonly from agencies such as the Federal Highway Administration, the US Army Corps of Engineers, or the US Forest Service.

### ESA's Section 9 addresses projects affecting listed species

WSDOT conducts an ESA review on all projects to ensure compliance with Section 9 of the ESA, which prohibits *take* of listed threatened and endangered species. 'Take' is the legal terminology referring to any action that would result in harm or death to a listed species. Based on that review, projects may require an informal or formal consultation with the Services or no consultation at all. The request for consultation and the analysis of impacts is submitted to the Services through a report called a Biological Assessment (BA). Consultations with the Services can occur in two formats. The first is informally, where impacts may affect listed species or critical habitat, but in a way that is insignificant or discountable. The second is formally, where a project will likely result in take or other adverse impacts.

For projects scheduled to advertise in the 2009-11 biennium, WSDOT has completed ESA reviews and consultations for 64% of the projects funded by Nickel, Transportation Partnership Account (TPA), and Pre-Existing Funds (PEF). For the 2011-13 biennium, ESA reviews have been completed for 24% of funded projects. Most reviews for projects scheduled to advertise in both fiscal bienniums will be finalized in the next six to nine months.

## Endangered Species Act (ESA) compliance status for 2003 Nickel, 2005 TPA, and PEF-funded projects

Number of projects	2009-11 Nickel projects	2011-13 Nickel projects	2009-11 TPA projects	2011-13 TPA projects	2009-11 PEF projects	2011-13 PEF projects
Projects under review at 'the Services'	0	0	2	2	2	0
ESA Review or biological assessment underway	0	3	6	14	53	38
Insufficient information to start the biological assessment <sup>1</sup>	0	0	7	8	136	30
ESA review complete <sup>2</sup>	69	11	105	5	195	14
Total number of projects	69	14	120	29	386	82

Data source: WSDOT Environmental Services Office.

Data notes: 1 This indicates that WSDOT does not yet have enough information regarding design to begin an ESA review.

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

# Endangered Species Act Documentation Annual Report

## Duration of Consultations with the Federal Services

### Consultation durations with the Services' average reviews not meeting goals

Under the ESA, a formal consultation must be completed within 135 days, however timelines for informal consultations are neither mandated nor specified. WSDOT and the Services have been working to a mutually agreed timeline (duration) of 30 days for informal consultations.

In the last five years, the average annual duration for consultations has exceeded both timeline goals, leading to problems in both project planning and delivery. In order to better predict the duration of reviews with the Services, in 2003, WSDOT began tracking the number of days it took to complete consultations. The durations are calculated using the average number of days between submittal of the biological assessment and the receipt of a signed concurrence letter or a biological opinion from the Services.

#### Progress on informal durations

In 2004, the average informal consultation duration took 55 days. Although this did not meet the 30 day goal, the averages from 2004 onwards reflect the implementation of several streamlining methods to reduce the average duration, as well as guidance documents and training implemented at both WSDOT and the Services. Between 2004 and 2009, informal consultation durations varied an annual average of 38-58 days annually. The number of informal consultations fluctuated somewhat; there were 114 informal consultations in 2004, but

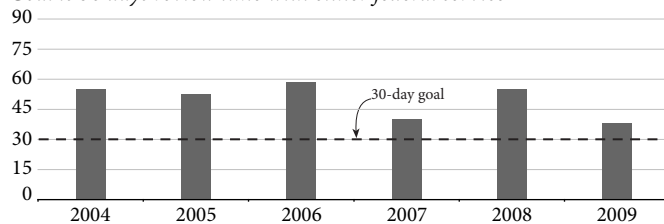
that number dropped to a range of 55-84 informal consultations between 2005 and 2009 when the informal durations' average appear to remain near the six-year average duration of 50 days.

#### Progress on formal durations

Compared with the annual averages for informal consultations, formal consultations have shown greater variability between annual averages, and also missed the mandated duration of 135 days. There was not much variation in the number of projects with formal consultations (10-14 projects, annually). It is important to note that in compiling the formal timeline data set, WSDOT opted to omit the 'mega projects' (projects of significant cost, schedule, and complexity) to more effectively evaluate moderately complex projects with formal consultations. To WSDOT, it became more clear that the formal timelines reflected any changes or additions in listed species and their subsequent consultation complexities. WSDOT used the same streamlining techniques for formal consultations as it did with the informal consultations, but these tools have not resulted in a consistent reduction in average durations. Consultations remain the responsibility of the Services, and their ability to complete their reviews in a timely manner depends upon the availability of qualified staff, resources, and funding levels. WSDOT's consultations are in the same legal review as other federal, state, and local projects in addition to private projects that require consultation.

### Average duration of informal consultations with the Services, 2002 - 2009

Goal is 30 days review time with either federal service

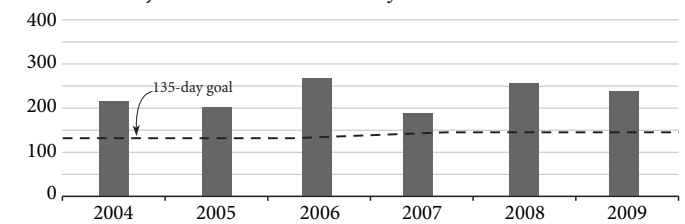


Data source: WSDOT Environmental Services.

Data note: 30-day goal is an agreement between WSDOT and the Services and is not specified in the Endangered Species Act.

### Average duration of formal consultations with the Services, 2002 - 2009

Goal is 135 days review time with either federal service



Data source: WSDOT Environmental Services.

Data note: The following 'mega-projects' included a formal consultation with the Services but were eliminated from the data set because their consultations greatly exceeded the duration and complexity for formal consultation processes: SR 167-15th Street NW - Construct HOV/HOT lanes, I-90 Snoqualmie Pass East.

# Endangered Species Act Documentation Annual Report

## Future ESA Developments that May Affect WSDOT Projects

### New recommendations by NOAA Fisheries for projects in National Flood Insurance Areas

WSDOT faces some uncertainty in developing projects in the Puget Sound region that require local approval in areas designated under the National Flood Insurance Program (NFIP). Currently, local governments are responsible for reviewing and approving projects that occur within areas designated by the Federal Emergency Management Agency's (FEMA) NFIP (normally in low-lying watersheds, riparian areas, and floodplains.) In 2006, FEMA submitted a biological evaluation to NOAA Fisheries to update the Puget Sound's NFIP requirements to bring it into compliance with the ESA. NOAA Fisheries found FEMA's biological evaluation to be insufficient to protect federally-listed species such as Puget Sound Chinook and the Southern-resident Killer Whale. As an alternative, NOAA Fisheries crafted a set of parameters as a 'reasonable and prudent alternative' for both FEMA and local governments to administer the NFIP and future development.

NOAA Fisheries' parameters have been developed into guidance documents, including the Floodplain Management and the Endangered Species Act – A Model Ordinance. Local governments under the NFIP have until September 22, 2010 to adopt the model ordinance or, to submit an alternative ordinance to FEMA. WSDOT is unsure of what additional documentation (if any) will be necessary to gain approval from local governments that review developments under the NFIP. Any additional requirements could affect consultation timelines with the Services in the future.

### Noise testing under way for impact and vibratory-pile installations

Impact and vibratory-pile installations have the potential to affect marine mammals. Impact installations create loud, pulsating noises that can cause temporary hearing loss or behavioral changes in marine mammals that come within several hundred feet of an installation, or injury or permanent damage at close ranges such as within 40 feet. NOAA Fisheries requires that projects documenting effects on federally-listed marine mammals to begin visual monitoring during impact-pile installations for these species, and if identified, requires a shut-down of the impact-pile installations until the species leave the area. The modeled estimates on the extent of impact-pile installations noise propagation can extend several miles from an installation site. Actively monitoring such an extensive area presents a challenge to WSDOT; the addition of extra noise monitors and potential shut-down time could add to construction costs.

WSDOT has begun to systematically collect background sound data at all 19 Washington State Ferries terminals and actual sound propagation characteristics at each terminal during pile-driving operations. Data will be analyzed to establish accurate monitoring zones at each terminal. WSDOT's initial data suggests that the threshold areas for impact-pile installation can be substantially reduced from the modeled areas at some terminals, resulting in a smaller area to monitor and less chance of a pile installation shut-down due to the presence of listed marine mammals.



*New NOAA Fisheries guidelines are intended to protect threatened and endangered Puget Sound species such as this Chinook Salmon.*



*Impact-pile installation at WSDOT's Eagle Harbor facility on Bainbridge Island. A 'bubble wall' is being used to help absorb underwater noise.*

# Programmatic Permits Annual Report

## Programmatic Permits Help Simplify Agency Processes

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

Programmatic 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 two tables on the following page display the active programmatic permits issued to WSDOT activities by either the Ecology or WDFW. In 2010, two Ecology permits were renewed: *'Washing and painting bridges and ferry terminals'* and *'Aquatic mosquito control.'* In addition, three WDFW programmatic permits were renewed or amended: *'Marine sediment test boring,'* *'Marine pile removal and replacement,'* and *'Statewide bridge and ferry terminal maintenance.'* One WDFW permit that had expired in 2009, the *'Culvert replacement in non-fish-bearing waters,'* was not reissued based on that agency's analysis of the activities covered under the permit, not because of any effects resulting from WSDOT's use of the permit (see footnote three of the WDFW programmatic permit table on the following page.)

### WSDOT saves time using programmatic permits for its activities

In 2009, the WDFW programmatic permits covered 1,022 separate activities. This saved WSDOT an estimated 2,100 hours that would have otherwise been required to fill out the required permit applications; in most cases this would have been an individual Joint Aquatic Resource Permit Application (JARPA) to receive individual permits for specific in-water activities. The programmatic permits also allow the work to be performed expeditiously, without having to wait up to 45 days to receive a permit from WDFW. In addition, notification prior to starting work ranges from no notification to three days for WDFW programmatic permits.

The Ecology permits for aquatic herbicide applications and mosquito control are issued to private individuals and companies as well as public agencies like WSDOT. Again, the programmatic permit helps WSDOT utilize its resources better: to seek coverage for each separate aquatic plant or mosquito control activity could total to 350 hours. WSDOT's *'Washing and painting bridges and ferry terminals'* permit issued by Ecology saved an estimated 450 hours of staff time; the permit covers washing or painting the department's ferry terminals and metal bridge structures (for more information on bridge preservation, see pp. 12-18).

The real savings to WSDOT is in the ability to perform the work when needed, without a long lag time between planning the activity and performing the work. Notification for the activities covered under the aforementioned permit ranges from no notification to 10 days. Obtaining individual permits to perform these activities could take 45 days to six months (or longer) depending on the specific permit. Overall, WSDOT estimates that the programmatic permits issued by Ecology and WDFW saved the department approximately 2,900 hours of staff time in 2009.

### Programmatic Permits Highlights:

In 2010, the Department of Ecology renewed two of the four programmatic permits issued to WSDOT.

In 2010, the Department of Fish and Wildlife renewed one of the 10 programmatic permits it issued to WSDOT. One permit was not reissued.

WSDOT estimates that for 2009, these programmatic permits saved the agency 2,900 hours (equivalent to 362.5 8-hour work days) in staff time.

Programmatic permits issued by the Department of Fish and Wildlife covered 1,022 activities and saved an estimated 2,100 hours of staff time in 2009.



The SR 433 Lewis & Clark Bridge before Phase 3: repainting of the superstructure of the bridge - an example of an activity covered by a Department of Ecology programmatic permit.



# Programmatic Permits Annual Report

## Inventory of Programmatic Permits Issued by State Agencies

### Programmatic permits issued by the Department of Ecology

Activity covered	Description and guidance	Effective	Expires	Number of activities using permit			
				2006	2007	2008	2009
Washing and painting bridges and ferry terminals	Covers the following washing and painting activities: • Bridge washing • Ferry terminal washing • Bridge painting • Ferry terminal painting • Spot cleaning for inspection	1/12/2010	1/12/2015	31	21	6	11
Aquatic mosquito control	Allows the application of pesticide to control mosquito species within WSDOT's right-of-way	6/18/2010	6/18/2015	62	16	103	92
Aquatic plant and algae management general permit	Allows the application of herbicide to control non-noxious invasive plant species within WSDOT's right-of-way	4/28/2006	4/01/2011	7	2	1	0
Noxious aquatic plant control	Allows the application of herbicides to control noxious invasive plant species within WSDOT's right-of-way	1/16/2008	2/16/2013	7	0	1	4

### Programmatic permits issued by the Department of Fish & Wildlife

Activity covered	Description and guidance	Effective	Expires	Number of activities using permit			
				2006	2007	2008	2009
Channelized stream maintenance	Allows sediment removal to pre-existing conditions	6/02/2009	6/01/2014	51	31	25	12
Fishway structures in fresh waters statewide	Allows removal of sediments and other debris from fishways as well as minor repairs of the structure	6/02/2009	6/01/2014	5	1	2	9
Statewide culvert maintenance in freshwater <sup>1</sup>	Allows structural repair and sediment removal	6/02/2009	6/01/2014	60	54	39	94
Debris removal from WSDOT bridge structures	Allows the removal and relocation of non-embedded large woody debris and material from WSDOT bridges	6/02/2009	6/01/2014	68	50	13	17
Statewide bridge and ferry terminal maintenance	Covers bridge and ferry terminal maintenance and repair on over-water structures	6/02/2009	1/21/2013 <sup>2</sup>	1449	1089	547	816
Beaver dam removal	Allows the removal of beaver dams within WSDOT's right-of-way statewide	6/02/2009	5/01/2013 <sup>2</sup>	126	56	53	63
Freshwater sediment test boring	Covers freshwater sediment test boring activities statewide	6/09/2009	6/09/2013 <sup>2</sup>	5	12	3	5
Marine sediment test boring	Allows test boring and sediment sampling for WSDOT projects in all state marine waters	2/13/2009	2/13/2014	2	7	3	4
Marine pile removal and replacement	Allows the replacement and removal of up to 40 piles per project in marine waters	2/18/2010	2/17/2015	2	2	2	1
Culvert replacement in non-fish-bearing waters	Allows replacement of culvert in same location	6/01/2004	6/02/2009 <sup>3</sup>	8	0	0	1

Data source: WSDOT Environmental Services Office.

Data notes: 1 Culvert maintenance activities have increased due to WSDOT's culvert inspection program

(See p. 103 of *Gray Notebook 27* for more information).

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 ensure new culverts are properly sized for current conditions. This is beyond the scope of a general Hydraulic Project Approval.



# Economic Vitality

## Statewide policy goal:

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

## WSDOT's business goal:

WSDOT's business response to this new policy goal is under development through WSDOT's updated Strategic Plan, due to be released in fall 2010.



### In this section

An introduction to economic vitality issues and transportation 48

### See also

Federal Recovery Act-funded Projects 50

### Earlier articles concerned with economic vitality

Trucks, Goods & Freight, GNB 37

CVISN, GNB 37

# Introduction to the Economic Vitality Goal

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## WSDOT prepares its business direction statement for the agency's 2011-2017 Strategic Plan

A new state policy goal for 'Economic Vitality' was enacted in the March 2010 legislative session. This new goal reflects transportation's integral role in supporting Washington's economy through the movement of goods and people, support of job creation, and the purchase and consumption of commodities and services.

### WSDOT drafts its business direction response

As part of its 2011-17 Strategic Plan development process, WSDOT is reviewing all its business directions – the agency's responses to legislative policy goals – and is drafting a direction for economic vitality. The agency's strategic plan will be completed by fall 2010; the discussion that follows draws upon a June 2010 draft.

### Mobility and Economic Vitality goals mutually support each other

In addressing economic vitality, WSDOT built on its existing Mobility policy goal – *To improve the predictable movement of goods and people throughout the state* – and will draw upon its dual roles in the state's economy:

- Producer of and provider for transportation and mobility facilities and services.
- Consumer and purchaser of goods and services.

As a business framework for these roles, WSDOT's draft business direction statement is:

*To provide and operate a strong and reliable state transportation system that efficiently connects people with jobs, communities, services, and recreational and tourist destinations; moves freight; builds partnerships with public agencies and the private sector; supports economic recovery; and establishes a long-term foundation for Washington's economy.*

### Draft key objectives and strategies to support the goal of encouraging economic vitality

#### Freight mobility

A large part of Washington's economy relies on the swift and safe movement of freight into, out of, and across the state. WSDOT's primary objective here is to improve the ability of truck and freight rail systems to serve industry needs, support regional economies, and build competitive advantage for the state's products in the global marketplace.

To achieve this, WSDOT will develop a comprehensive state freight transportation plan in collaboration with private and public partners. And to better identify needs, WSDOT will expand the use of freight data and analytic tools, such as corridor classification and benefit-cost analysis, when making planning, design, and operational investments.

The agency will also liaise with the federal government to promote development of national strategic plans for freight systems that will support interstate commerce and international trade.

### Public-private and public-public partnerships

Another important objective is to leverage WSDOT's owned or managed properties and programs by partnering with the private sector and public agencies on mutually beneficial projects. Among those already in the pipeline are advancing the West Coast Green Highway Initiative (see page 74), and exploring opportunities for public/private developments at ferry terminals, aboard vessels, and in safety rest areas.

### Contracting and purchasing decisions

WSDOT intends to promote the development of Washington's businesses by purchasing goods and services in a way that maximizes competition, builds opportunities for disadvantaged businesses, supports a 'green' economy, and creates family-wage jobs. Among the strategies under development are collaborations with private and public sector organizations to expand the base of qualified contractors, suppliers, and workers – a goal related to WSDOT's support of construction industry apprenticeships and its support of local shipyards, helping maintain local employment and a stable workforce in necessary shipbuilding trades.

### Supporting rural economic growth by creating access to transportation services

WSDOT will be evaluating how the state transportation system should connect to and support development of a regional network, both surface and marine, to support reliable, year-round movement of "Made in Washington" freight.

In this, and many other initiatives, WSDOT will work cooperatively with the Department of Commerce, regional transportation planning agencies, tribal and federal partners, and business and tourism enterprises across the state.

# Stewardship

## Statewide policy goal

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

## WSDOT's business direction

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



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# Special Report on Federal Recovery Act-funded Projects

## Recovery Act-funded Projects Overview

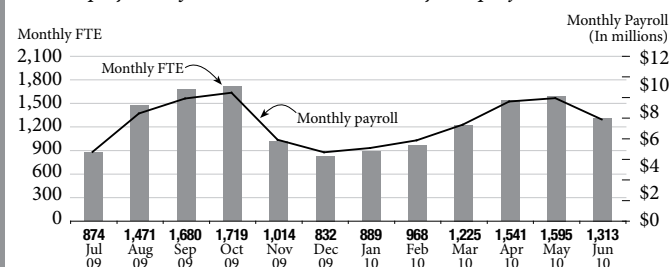
### Recovery Act Highlights

More than half of the Recovery Act highway projects (57%) were completed as of June 30, 2010.

Employees have earned over \$106 million in payroll on local and state Recovery Act highway projects.

### Recovery Act employment

Total employment for state and local Recovery Act projects



\* Monthly FTE are based on a standard 2,080 hour work year, which is equivalent to 173 hours each month. Information is based on data as of June 30, 2010.  
Data source: Monthly Recovery Act employment data is collected from contractors, subcontractors, and WSDOT, then uploaded to the FHWA Recovery Act Database (RADS).

WSDOT and local governments completed 24 projects during the quarter.

TIGER projects advance in Spokane and Seattle.

WSDOT continues to work with the Federal Railroad Administration to implement the high-speed rail program.

For additional information on Recovery Act-funded projects please visit [www.wsdot.wa.gov/funding/stimulus](http://www.wsdot.wa.gov/funding/stimulus)

The American Recovery and Reinvestment Act (Recovery Act) provides funds to help preserve the transportation system while helping create and retain jobs during the national recession. Through June 30, 2010, Washington and its local governments have completed more than 120 highway projects, with at least 90 more certified to use the remaining funds.

Contractor crews working on I-405 completed one of WSDOT's largest, stimulus-funded projects on June 16. The I-405/195th Street NE to SR 527 Auxiliary Lane project received more than \$20 million in Recovery Act highway funds. The project, which added an extra lane on a very congested stretch of the highway, was one of 23 state or local projects completed between April 1 and June 30.

A pedestrian tunnel under busy SR 14 in the city of Washougal and a Port of Vancouver freight access rail project were two of the 20 local agency projects completed in the quarter. Ninety-eight of the 123 projects completed to date are funded by the \$152 million in highway funds dedicated to local government transportation projects. More information on state and local project delivery, including highlights of completed projects, is on page 52.

Between April 1 and June 30, workers earned \$30.2 million during more than 769,000 hours on the job. To date, projects receiving stimulus funds have provided to more than \$106 million in payroll on state and local projects. Employees have worked more than 2.7 million hours on the projects since the Recovery Act was approved on February 17, 2009.

WSDOT faces a September deadline to finish assigning all surplus Recovery Act dollars to new or existing stimulus projects. While all highway stimulus funds were obligated to specific projects in February, before a March 2 deadline, low bids have resulted in surplus Recovery Act funds that must be obligated to other projects. WSDOT is committed to obligating funds by the September 30, 2010, deadline.

In addition to the highway funds, state and regional transportation agencies received \$179 million for transit improvements. Washington also won competitive grants for \$590 million in high speed rail and \$65 million for improvement projects for a WSDOT project in Spokane and a city of Seattle project. More information on these projects is on page 54.



In June, WSDOT's contractor completed the project adding an auxiliary lane on I-405 between NE 195th St and SR 527, the largest state Recovery Act project completed to date.



# Special Report on Federal Recovery Act-funded Projects

## Recovery Act Progress Summary

### Recovery Act-funded highway projects through June 30, 2010

Number of projects by jurisdiction; dollars in millions

Project information	State	Local	Total	Notes
Individual highway projects	48	166	214	State projects specified in the Legislative Evaluation & Accountability Program (LEAP) list. Fifteen state and 21 local projects were added to the list and received federal approval. Six local projects are no longer receiving funds.
Certified by Governor	48	166	214	Governor must certify that projects were reviewed and represent an appropriate investment of taxpayer dollars. Including the two safety buckets separated below, 211 projects have been certified.
Projects advertised	47	161	208	
Contracts awarded/Under construction	45	156	201	
Projects completed	25	98	123	This is an increase from 99 reported complete as of March 31, 2010.
Financial information	State	Local	Total	Notes
Recovery Act dollars provided	\$340	\$152.1	\$492.1	\$4 million in state enhancement funds provided to locals. While WSDOT controls \$340 million, its total obligation authority was \$344 million.
Recovery Act dollars obligated to date	\$340	\$152.1	\$492.1	Obligated dollars represent projects approved by the federal government with an executed project agreement. All funds were obligated by the March 2, 2010 deadline. Final obligation must be completed by September 30, 2010.
Total cost of obligated projects	\$828	\$800	\$1,628	Also includes non-Recovery Act leveraged fund sources; represents total project funds positioned to enter the economy.

Data source: WSDOT Capital Program Development & Management Office, Highways and Local Programs Office. Data as of June 30, 2010.

Note: Project totals are cumulative, so "advertised projects" include projects awarded and completed, and "projects awarded" include projects already completed.

### Recovery Act-funded state highway 'bucket' projects through June 30, 2010

Number of bucket projects by type; dollars in millions

	Rumble strips	Cable median barrier	Total
Project status			
Certified by Governor	28	13	41
Projects advertised	28	13	41
Contracts awarded / Under construction	28	13	41
Projects completed	17	7	24
Financial information			
Funds available for buckets	\$3.1	\$9.2	\$12.3
Recovery Act dollars obligated	\$2.9	\$8.9	\$11.8
Total cost of obligated projects	\$3.0	\$11.5	\$14.5

Data source: WSDOT Capital Program Delivery & Management Office.

### Recovery Act project definitions and notes

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

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

**Tier 3** Additional projects identified in December 2009 to receive surplus 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.

**Next Obligation deadline:** Funds that were obligated by March 2, 2010 can be removed and obligated to other projects by September 30, 2010. Some funds may be moved as contracts are closed and following favorable bids.

**Newsletter:** The latest information on stimulus projects is at [www.wsdot.wa.gov/funding/stimulus/newsletter](http://www.wsdot.wa.gov/funding/stimulus/newsletter).



# Special Report on Federal Recovery Act-funded Projects

## Recovery Act Project Delivery

Between April 1 and June 30, WSDOT completed four Recovery Act highway projects. The following summaries describe the projects' costs, benefits, and performance. The employment data is reported as of June 30, 2010, and though the projects are operationally complete, additional close-out work may take

place. The number of employees is a best estimate of monthly employment, but, it is not an exact count and may include double-counting or exclude some workers.

More information can be found at the WSDOT stimulus webpage: [www.wsdot.wa.gov/funding/stimulus/](http://www.wsdot.wa.gov/funding/stimulus/).

### ***I-405/NE 195th to SR 527 – Northbound Auxiliary Lane (King and Snohomish)***

This project installed a new 1.8 mile lane northbound that will help accommodate drivers exiting and entering I-5 between NE 195th Street and SR 527 in King and Snohomish Counties.

*Project benefits:* The project will help improve afternoon congestion and increase speeds for commuters by providing more room for vehicles to enter and exit the highway in Bothell. The area had experienced more than 100 collisions in the three years before construction, many due to congestion and weaving traffic.

*Highlights and challenges:* This project was part of a larger 2005 Transportation Partnership Account project that had faced delays into 2011. The Recovery Act funds allowed the state to advance the project. The project was awarded to Kiewit Pacific Co. for \$19.26 million, 36% below the engineer's estimate.

*Reported employment:* An estimated total of 309 employees worked 106,438 hours on this project and earned \$4.08 million in payroll.

*Budget performance:* The project is expected to spend \$23 million in Recovery Act funds, \$17 million below its initial Recovery Act award. Surplus stimulus funds can be used to help fund additional Recovery Act projects.

*Completion date:* This project was completed on June 17, six months ahead of its estimated completion date.



The new 1.8 mile northbound lane opened in June 2010 on I-405 between King and Snohomish counties.



### **Recovery Act local highway projects completed between April 1, 2010 and June 30, 2010**

Grant County – Bridge #244 Road 3 NE  
Wilbur/WSDOT – US 2/Wilbur Walkway to Sports Complex  
Moses Lake – Lakeshore and Peninsula Reconstruction  
Snohomish County – 84th Street Overlay  
Chewelah – Court Street Bridge Replacement  
Battle Ground – North Parkway Improvements  
Mountlake Terrace – 52nd Street Reconstruction  
Arlington – 188th Street Pedestrian Trail  
Renton – Rainier Avenue South  
Oroville – SR 97/5th to 93rd

Sedro Woolley – Fruitdale/McGarigle Road  
Lynden – Grover Street  
Spokane – Fish Lake Trail  
Eatonville – Rural Town Center  
Island County – Ault Field Road Widening  
Mukilteo/Snohomish County – Harbor Point Boulevard  
Orting – SR 162 Rechannelization  
Wenatchee – Historic Pipeline Bridge Painting  
Washougal – SR 14 Pedestrian Tunnel  
Port of Vancouver – West Vancouver Freight Access

## Recovery Act Project Delivery

### ***I-90 – Two Way Transit – Dowel Bar Retrofit (King)***

This project installed dowel bars on a three-mile section of I-90 between Bellevue and Mercer Island.

*Project benefits:* The project preserved and strengthened the concrete pavement to facilitate HOV lanes on the outer roadways and enable Sound Transit to begin building light rail across Lake Washington in the center lanes.

*Highlights and challenges:* This was the second WSDOT Tier 2 project completed. It received surplus Recovery Act funds due to low bids on earlier projects. The successful low bid by Interstate Improvement Inc. was 5% below the engineer's estimate.

*Reported employment:* An estimated total of 135 employees worked 36,980 hours on this project and earned \$1,731,137 in payroll.

*Budget performance:* This project was completed for approximately \$7.45 million, the original Recovery Act appropriation.

*Completion date:* This project was completed on May 13.



### ***I-5 – SR 532 vicinity to Starbird Rd vicinity – Concrete Rehab (Snohomish, Skagit)***

This project improved and replaced the concrete pavement on a heavily traveled section of southbound I-5 in Snohomish and Skagit counties.

*Project benefits:* The project replaced and repaired concrete pavement that was cracked, settling, and broken. Crews replaced 1,208 broken concrete panels, extending the pavement's useful life.

*Highlights and challenges:* This was the second completed Recovery Act project to improve pavement on the I-5 corridor. The project was awarded to Granite Construction Company for \$5.3 million, 20% below the engineer's estimate.

*Reported employment:* An estimated total of 167 employees worked 26,286 hours on this project and earned \$1,213,177 in payroll.

*Budget performance:* This project initially received \$9.2 million in Recovery Act funds and is currently obligated to receive \$6.3 million. Surplus funds can be used to help fund additional Recovery Act projects.

*Completion date:* This project was completed on May 14, about six months ahead of the original schedule expectation.



### ***I-90 – Lake Easton Vic to Bullfrog Rd I/C Vic WB – Replace PCCP (Kittitas)***

This project replaced and improved the concrete on an eight-mile stretch of westbound I-90 in Kittitas County between Lake Easton and Bullfrog Road.

*Project benefits:* The project provided a smoother, safer driving surface on the state's busiest East-West highway.

*Highlights and challenges:* The project was awarded to Gary Merlino Construction for \$13.8 million, 19% below the engineer's estimate.

*Reported employment:* An estimated total of 206 employees worked 69,893 hours on this project and earned \$2,762,957 in payroll.

*Budget performance:* This project eventually received \$15.5 million in Recovery Act funds, below the original 2009 approved budget of \$21.1 million. Surplus funds can be used to help fund additional Recovery Act projects.

*Completion date:* This project was completed on June 16.



# Special Report on Federal Recovery Act-funded Projects

## High-Speed Rail and TIGER projects

### WSDOT begins administering new Recovery Act-funded High-Speed Rail program

In January, the Federal Railroad Administration (FRA) announced that Washington would receive \$590 million in Recovery Act funds for the Pacific Northwest Rail Corridor. Projects funded by these grants will help grow the Amtrak *Cascades* service and improve on-time performance and reliability between Seattle and Portland.

Nationwide, the Recovery Act included \$8 billion for President Obama's new High-Speed Intercity Passenger Rail program, which represents a significant federal investment in the nation's passenger rail transportation network. Thirteen rail corridors across 31 states received funding for high-speed passenger rail service; Oregon received \$8 million to upgrade Portland's Union Station and plan for future track improvements.

While WSDOT proposed a series of projects in its 2009 grant applications, FRA did not identify specific projects for funding. States must resubmit project lists and negotiate funding, as described in the March 31, 2010, *Gray Notebook*. FRA must approve all projects for high-speed rail funds.

In July, Washington's high-speed rail program achieved a milestone when FRA published a draft Finding of No Significant Impact (FONSI) for the entire corridor of proposed rail infrastructure improvements funded by the 2009 Recovery Act grants. The public comment period for the draft report began on July 8 and ended on August 9.



Washington applied for more funding this year from the \$2.5 billion set aside for high-speed rail in the 2010 federal transportation appropriations bill. Funding applications were due on August 6, 2010, and grant decisions are expected on September 30, 2010. States must provide 20% matching funds to qualify for the additional grants.

More information and the latest updates on the state's high-speed rail program are available online at [www.wsdot.wa.gov/funding/stimulus/passengerrail.htm](http://www.wsdot.wa.gov/funding/stimulus/passengerrail.htm).

### TIGER projects advance toward construction

The city of Seattle and WSDOT each received Recovery Act-funded Transportation Investments Generating Economic Recovery (TIGER) grants in February to help pay for large infrastructure projects.

The city of Seattle received a \$30 million grant to help fund improvements to the flow of traffic on and off I-5 near Mercer Street. In June, the city awarded the project to Gary Merlino Construction on a bid 23% below the engineer's estimate.

The project is part of a \$160.7 million plan to improve the Mercer Street Corridor. A groundbreaking is scheduled for September, and the project is expected to be completed in late 2011 or early 2012.

WSDOT received a \$35 million grant to build the southbound lanes on the North Spokane Corridor between Farwell and Freya Roads. The project adds to the existing northbound lanes, which opened to traffic last year.

The \$35 million US 395 project was initially advertised in March, but was readvertised in June due to ambiguity related to the Buy American requirements in the bid documents. The contract was awarded in July to Graham Construction and Management on a bid 12% under the engineer's estimate.

Nationwide, the U.S. DOT awarded \$1.5 billion in TIGER grants to 51 projects. The grants attracted nearly 1,400 applications.

#### TIGER project details

##### City of Seattle's Mercer Corridor Project

*TIGER grant award:* \$30 million

*Grant date:* February 17, 2010

*Ad date:* March 10, 2010

*Award date:* June 16, 2010

*Construction start:* September 2010

*Estimated completion:* Late 2011 or early 2012

##### US 395/Frances Ave to Farwell Rd – Southbound lanes

*TIGER grant award:* \$35 million

*Grant date:* February 17, 2010

*Ad date:* Readvertised June 7, 2010

*Award date:* July 28, 2010

*Construction start:* August or September 2010

*Estimated completion:* Late 2011 or early 2012

# WSDOT's Capital Project Delivery Program

## Highway Construction: Nickel and TPA Project Delivery Performance Overview

As reported in last quarter's *Gray Notebook 37*, WSDOT continues to refine the reporting format and information provided to communicate performance results in delivering the 2003 Nickel and 2005 TPA transportation packages in the Beige Pages. This edition continues this series of refinements.

### Dashboard shows progress against 2010 Transportation Budget and includes individual programmatic and bucket projects

The 2010 Supplemental Transportation Budget signed into law by Governor Gregoire on March 30, 2010, directs WSDOT to develop and construct a specified list of projects in the course of the biennium. The greater part of these line-item projects were itemized in the original 2003 and 2005 Nickel and TPA programs (see below). Some projects may be newly added, reflecting changing needs and priorities, while some projects that were present in previous budgets are no longer listed because they are already complete.

To provide a comprehensive account of the the current Transportation Budget, the Beige Pages' tables now show individual "unbundled" projects from programmatic budget items (such as guardrail improvements, fish passage, or the Bridges Seismic Retrofit Program), and identify subprojects within mega-projects (such as the Alaskan Way Viaduct project). By "unbundling" these previously rolled-up projects, the total combined number of projects in WSDOT's capital project delivery program is now 421, as shown in the table below.

Program element	Number of projects	Value of program (\$ in thousands)
Projects completed in earlier biennia that are <i>not</i> included in the current Transportation Budget	70	\$239,794*
Projects completed that are included in the current Budget	202	\$3,655,566
<b>Subtotal of completed projects</b>	<b>272</b>	<b>\$3,895,360</b>
Projects included in the current Budget that are not yet completed	149	\$11,631,821
<b>Total</b>	<b>421</b>	<b>\$15,537,181</b>

Data source: WSDOT Capital Program Development & Management.

\* Note: This value was incorrectly reported last quarter as \$241,742.

### Progress against the Original Program lists in the 2003 and 2005 funding packages

This edition continues the presentation of status reports on the 2003 and 2005 LEAP (Legislative Evaluation & Accountability Program) lists; the tables on pages 65 and 66 address all budget items including highway and other modes, pre-construction and environmental studies, that were listed in the original funding packages. In addition, they address performance against scope and original appropriation, so these elements are no longer shown in the Schedule & Budget tables on page 58.

Immediately following those pages are WSDOT's financial planning reports, showing actual revenue against planned revenue for both the Nickel and TPA programs.

### Project Delivery Highlights

WSDOT has completed 57 projects so far in the 2009-2011 biennium, and a total of 272 projects that were shown in previous or current Transportation Budgets.

87% of all Nickel and TPA projects were completed early or on time.

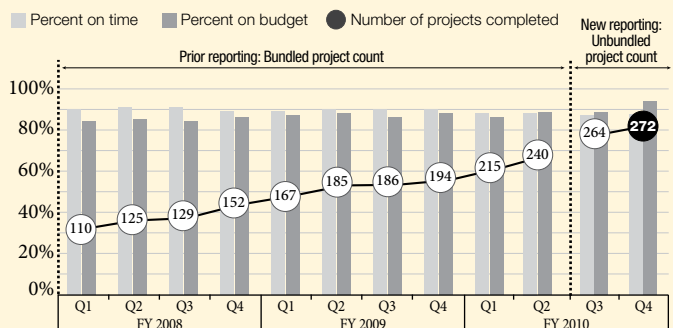
94% of Nickel and TPA completed projects combined were on or under budget.

83% of Nickel and TPA completed projects were both on time and on budget.

For details of WSDOT's Federal Recovery Act-funded projects, please see pages 50-54.

### Cumulative on time and on budget performance of Nickel and TPA projects

272 of 421 projects completed as of June 30, 2010



Data source: WSDOT Capital Program Development & Management.

# WSDOT's Capital Project Delivery Programs

## Current 2010 Legislative Transportation Budget: Highways

### Highway construction performance dashboard

As of June 30, 2010; Dollars in thousands

Combined Nickel and TPA programs	Number of projects	Value of program
Projects completed in earlier biennia that <i>are not</i> included in the current Transportation Budget	70	\$239,794
Projects completed that <i>are</i> included in the current Transportation Budget	202	\$3,665,566
Projects included in the current Transportation Budget but not yet completed	149	\$11,631,821
<b>Total number of projects<sup>1</sup> in Improvement &amp; Preservation budget<sup>2</sup></b>	<b>421</b>	<b>\$15,537,181</b>
<b>Schedule and Budget Summary:</b> Results of completed projects in the current Transportation Budget detailed on page 58.		<b>Combined Nickel &amp; TPA</b>
<b><i>Number of projects in current Transportation Budget completed to date: 2003 – June 30, 2010</i></b>		<b>202</b>
Percent completed early or on time		87%
Percent completed under or on budget		94%
Percent completed on time and on budget		83%
Baseline estimated cost at completion		\$3,665,566
Current estimated cost at completion		\$3,628,077
Percent of total program over or under budget		-1% Under
<b><i>Total number of projects completed in 2009-11 biennium to date</i></b>	<b>57</b>	
Percent completed early or on time	86%	
Percent completed under or on budget	95%	
Percent completed on time and on budget	84%	
Baseline estimated cost at completion this biennium	\$1,216,920	
Current estimated cost at completion this biennium	\$1,181,206	
<b>Advertisement Record:</b> Results of projects entering into the construction phase or under construction detailed on pages 59-63.		<b>Combined Nickel &amp; TPA</b>
<b><i>Total cumulative number of projects in construction phase to date, 2003 – June 30, 2010</i></b>		<b>60</b>
Percent advertised early or on time		82%
<b><i>Total number of projects advertised for construction in 2009-11 biennium to date</i></b>	<b>35</b>	
Percent advertised early or on time	89%	
<b>Projects To Be Advertised:</b> Results of projects now being advertised for construction or planned to be advertised, detailed on page 64.		<b>Combined Nickel &amp; TPA</b>
<b><i>Total projects being advertised for construction bids July 1, 2010 – December 31, 2010</i></b>		<b>10</b>
Percent on or better than anticipated advertisement schedule		50%

<b>Budget status: 2009-2011 biennium</b>		<b>WSDOT biennial budget</b>
<i>Dollars in thousands</i>		
<b>Budget amount for 2009-2011 biennium</b>	<b>\$3,234,650</b>	
Actual expenditures to date 2009-2011 biennium	\$1,200,849	
Total 2003 Transportation Funding Package (Nickel) expenditure	\$335,235	
Total 2005 Transportation Partnership Account (TPA) expenditure	\$623,660	
Total Pre-Existing Funds (PEF) expenditure <sup>3</sup>	\$241,954	

Data source: WSDOT Capital Program Development & Management.

1. This project total has been updated to show "unbundled" projects which may have been previously reported in programmatic construction program buckets (such as Roadside Safety Improvements or Bridges Seismic Retrofit). See page 55.

2. Per the 2005-2007 Transportation Budget, Section 603.

3. For full details of the PEF program, see pages 86-88.



# WSDOT's Capital Project Delivery Program

## Current 2010 Legislative Transportation Budget Performance Dashboard: Rail and Ferries

A total of eight Nickel and six Transportation Partnership Account (TPA) rail construction projects have been delivered on time and on budget as of June 30, 2010, for \$56.6 million. Seven projects (four Nickel-funded, three TPA-funded) in construction have total award amounts of \$34 million. One rail project is planned to advertise before December 31, 2010.

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

### Rail construction performance dashboard

As of June 30, 2010; Dollars in thousands

	Nickel (2003)	Transportation Partnership Account (TPA 2005)	Combined Nickel & TPA
<b>Schedule, scope and budget summary:</b> completed projects			
Cumulative to date, 2003 – June 30, 2010	8	6	14
% Completed early or on time	100%	100%	100%
% Completed within scope	100%	100%	100%
% Completed under or on budget	100%	100%	100%
% Completed on time and on budget	100%	100%	100%
Baseline estimated cost at completion	\$30,710	\$25,965	\$56,675
Current estimated cost at completion	\$30,710	\$25,965	\$56,675
% of total program on or under budget	0.0%Over	0.0%Over	0.0%Over
<b>Advertisement record:</b> projects under construction or entering construction phase			
Biennium to date, 2009-11			
Total advertised	4	3	7
% Advertised early or on time	100%	100%	100%
Total award amounts to date	\$25,296	\$8,728	\$34,024
<b>Advertisement schedule:</b> projects now being advertised or planned to advertise			
July 1, 2010 through December 31, 2010			
Total being advertised for construction	1	0	1
% On schedule or earlier	100%	N/A	100%

### Ferries construction performance dashboard

As of June 30, 2010; dollars in thousands

<b>Schedule, scope and budget summary:</b> completed projects			
Cumulative to date, 2003 – June 30, 2010	3	0	3
% Completed early or on time	100%	N/A	100%
% Completed within scope	100%	N/A	100%
% Completed under or on budget	100%	N/A	100%
% Completed on time and on budget	100%	N/A	100%
Baseline estimated cost at completion	\$10,712	N/A	\$10,712
Current estimated cost at completion	\$10,712	N/A	\$10,712
% of total program on or under budget	0.0% Over	N/A	0.0% Over
<b>Advertisement record:</b> projects under construction or entering construction phase			
Cumulative to date, 2003 – June 30, 2010	0	3	3
% Advertised early or on time	N/A	100%	100%
Total award amounts to date	N/A	\$224,835	\$224,835*

Data source: WSDOT Capital Program Development & Management. N/A means not applicable.

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

# WSDOT's Capital Project Delivery Program

## Schedule and Budget Summary

### Biennial summary of all projects completed 2003-2010

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
<b>Cumulative to date</b>								
2003-2005 Biennium summary See <i>Gray Notebook</i> for quarter ending September 30, 2005, for project listing	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
May be accessed at <a href="http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm">www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm</a> .								
2005-2007 Biennium summary See <i>Gray Notebook</i> for quarter ending June 30, 2007, for project listing	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
May be accessed at <a href="http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm">www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm</a> .								
2007-2009 Biennium summary See <i>Gray Notebook</i> for quarter ending June 30, 2009, for project listing	42 Nickel 60 TPA	18 early 62 on time 22 late	45 early 43 on time 14 late	102	\$1,764,364	\$1,769,732	52 under 38 on budget 12 over	80 on time and on budget
May be accessed at <a href="http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm">www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm</a> .								

To view projects completed in the 2009-2011 biennium, please see *Gray Notebook* 35 for the quarter ending September 30, 2009, *Gray Notebook* 36 for the quarter ending December 31, 2009, and *Gray Notebook* 37 for the quarter ending March 31, 2010.

May be accessed at [www.wsdot.wa.gov/Accountability/GrayNotebook/gnb\\_archives.htm](http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm).

### 8 Projects completed as of June 30, 2010

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

Project description	Fund type	On time advertised	On time completed	Baseline estimated cost	Current estimated cost at completion	On budget	Completed on time and on budget
SR 20 — Roadside safety improvements (Island) This project was one of several in the WSDOT programmatic budget line item Statewide Roadside Safety Improvements Program.	TPA	√	√	\$1,246	\$1,280	√	√
I-90/I-5 to 12th Ave South — Seismic retrofit (King) This project was one of several in the WSDOT programmatic budget line item Bridge Seismic Retrofit Program.	TPA	√	√	\$9,078	\$9,078	√	√
SR 900/SE 78th St vicinity to I-90 vicinity — Widening and HOV (King) This project's operationally complete date was delayed one quarter because the contractor missed the paving window due to wet weather.	Nickel	√		\$44,902	\$43,811	√	
SR 519/ I-90 to SR 99 Intermodal Access Project — Interchange improvements (King)	Nickel	√	√	\$8,406	\$84,007	√	√
I-90/Two Way Transit — Transit and HOV improvements — Stage 2 & 3 (King)	Nickel/ TPA	√	√	\$42,729	\$42,653	√	√
I-5/5th Ave NE to NE 92nd St — Noise wall (King)	TPA	√	√	\$9,086	\$9,165	√	√
US 2/N Glen-Elk Chattaroy Rd Intersection — Intersection improvements (Spokane)	TPA	√	√	\$804	\$797	√	√
SR 241/Dry Creek Bridge — Replace bridge (Yakima)	TPA	√	√	\$710	\$744	√	√

Data source: WSDOT Capital Program and Delivery Management.

# WSDOT's Capital Project Delivery Program

## Advertisement Record

### 60 Projects in construction phase as of June 30, 2010

*Nickel & 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
Concrete Rehabilitation Program	Nickel					
Although this budget line item is active, no projects are currently planned for construction in the 2009-2011 biennium.						
SR 285/George Sellar Bridge — Additional EB Lane (Chelan, Douglas)	TPA	Late	Jan-09	Max J. Kuney Company	Mar-11	\$12,885
Advertisement date was delayed one month to address additional bridge analysis, design, and detailing requirements and to purchase railroad easements.						
SR 503/Gabriel Rd Intersection (Clark)	TPA	√	Oct-07	Nutter Corp. dba Nutter Underground Utilities Co. Inc	Nov-10	
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/SR 501 Ridgefield Interchange — Rebuild Interchange (Clark)	TPA	Early	Jun-09	Tapani Underground, Inc.	Nov-11	\$15,795
This project has been identified to receive \$10 million in federal Recovery Act stimulus funds.						
SR 17/Othello Vic to Soap Lake Vic — Install Lighting (Grant, Adams)	TPA	Early	Dec-07	Central Washington Asphalt, Inc.	Aug-10	\$5,134
Advertisement date was advanced to construct a portion of this project as a part of a larger PEF program for construction efficiencies.						
I-405/South Renton Vicinity Stage 2 — Widening	Nickel/TPA					
• I-405/SR 167 to SR 169 — NB Widening (King)	TPA	√	Oct-08	I-405 Corridor Design Builders	Dec-10	\$83,599
• I-405/SR 167 to SR 169 — Add new SB Lane (King)	Nickel	√	Combined with project above for construction efficiencies.			
• I-405/SR 515 — New Interchange (King)	TPA	√	Combined with 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 Flyover ramp portion of this project has been delayed to January, 2007 due to stormwater and wetland design changes. The Flyover ramp is currently open to traffic and the widening portion of the project was advertised in October, 2008.						
I-405/NE 8th St to SR 520 Braided Ramps — Interchange Improvements (King)	TPA	√	Mar-09	Guy f Atkinson Construction, Llc	Dec-12	\$107,500
This project has received federal Recovery Act stimulus funds.						
I-90/Eastside Bridges — Seismic (King)	TPA	√	Oct-08	Imco General Construction, Inc.	Sep-11	\$5,999
This is a project within the Bridge Seismic Retrofit Program.						
SR 169, SR 410, SR 525, SR 900 and SR 520 — Roadside Safety Improvements (King)	TPA	√	Feb-10	Coral Construction Company	Jul-10	\$638
This is a project within the Statewide Roadside Safety Improvements Program.						
SR 203 — Roadside Safety Improvements (King)						
This is a project within the Statewide Roadside Safety Improvements Program.						
SR 99/Alaskan Way Viaduct — Replacement (King)						
• SR 99/S Massachusetts St to Union St — Electrical Line Relocation (King)	TPA	√	May-08	Frank Coluccio Construction	Jun-13	\$17,040
• SR 99/S Holgate St to S King St — Viaduct Replacement (King)	TPA	√	Oct-09	Signal Electric, Inc.	Sep-13	\$4,902
The advertisement date was delayed from June 2009 to October 2009 in order to design the tunnel portal entry for the new 1.7 mile bored tunnel through downtown Seattle. The bored tunnel design alternative was not known until January 2009.						
• SR 99/Battery St Tunnel — Fire and Safety Improvement (King)	TPA	√	Combined with project above for efficiencies.			
Additional sign-bridges have some elements that were not initially planned. New environmental right-of-way siting work and review was needed.						

# WSDOT's Capital Project Delivery Program

## Advertisement Record

### 60 Projects in construction phase as of June 30, 2010

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

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
SR 99/SR 518 Interchange Bridge Crossing Seismic Retrofit (King)	TPA	Late	Mar-10		Jun-10	
This is a WSDOT project that is tied to the Sea-Tac Airport rental parking facility which is being administered by the Port of Seattle. Due to the failure of the bond market, the Port of Seattle wasn't able to secure funding for the Sea-Tac Airport Rental Parking Facility project and the advertisement was delayed. Funding has been secured and the project was scheduled to advertise December 2009 but was delayed an extra quarter to March 2010. This is a project within the Bridge Seismic Retrofit Program.						
SR 520/I-405 Vicinity Seismic Retrofit (King)	TPA	√	Mar-10		Sep-11	
This is a project within the Bridge Seismic Retrofit Program.						
SR 11, SR 525, and SR 900 — Roadside Safety Improvements (King, Snohomish, Skagit)	TPA	√	Feb-08	Coral Construction Company	Jul-10	\$1,463
This is a project within the Statewide Roadside Safety Improvements Program.						
I-90/Snoqualmie Pass East — Hyak to Keechelus Dam — Corridor Improvement (Kittitas)						
• I-90/Snoqualmie Pass East Phase 1A Hyak to Crystal Springs — Detour (Kittitas)	TPA	Early	Feb-09	KLB Construction, Inc.	Oct-09	\$3,298
• I-90/Snoqualmie Pass East Phase 1B Hyak to Snowshed Vicinity — Add Lanes and Bridges (Kittitas)	TPA	√	Nov-09	Max J. Kuney Co.	Oct-13	\$76,699
SR 142/Roadside Safety — Roadside Improvements (Klickitat)	TPA	Early	Mar-08	Dirt And Aggregate Interchange/James Dean Construction	Oct-10	\$1,022
Cost increase includes pooled funds from other roadside safety projects to address high benefit locations. This is a project within the Statewide Roadside Safety Improvements Program.						
I-5/Tacoma HOV Improvements (Pierce)	Nickel/TPA					
• I-5/Port of Tacoma Rd to King Co Line — Add HOV Lanes (Pierce)	Nickel	Late	Jun-09	Tri-State Construction, Inc.	Nov-11	\$31,015
Advertisement date was delayed due to design challenges associated with stormwater and floodplain issues; a formal consultation with US Fish & Wildlife (USFW) and National Oceanic & Atmospheric Administration (NOAA) was required. Inflation factor applied in early July 2008 added \$6.6M to project cost estimate. This project has received federal Recovery Act stimulus funds.						
• I-5/SR 16 Interchange — Rebuild Interchange (Pierce)	TPA	√	Jul-08	Guy F. Atkinson Construction, LLC	Dec-11	\$119,925
I-5/Ardena Road Bridge — Upgrade Bridge Rail (Pierce)	Nickel	Late	Jun-09		Nov-11	
This project was combined for construction with I-5/Port of Tacoma Rd to King Co Line — HOV. This is a project within the Bridge Rail Retrofit Program.						
236th St SW Bridge — Seismic Retrofit (Snohomish)						
This is a project within the Bridge Seismic Retrofit Program.						
SR 532/Camano Island to I-5 Corridor Improvements (Snohomish, Island)	TPA					
• SR 532/270th St NW to 72nd Ave NW — Improve Safety (Snohomish)	TPA	Late	Oct-08	Parsons/Kuney Joint Venture	Dec-10	\$50,416
This is a design-build project. Advertisement date was delayed due to additional time needed to acquire environmental permits and right-of-way parcels.						
• SR 532/Sunrise Blvd to Davis Slough — Improve Safety (Island, Snohomish)	TPA	Early	Combined with project above for construction efficiencies.			
• SR 532/General Mark W. Clark Memorial Bridge — Improve Safety (Snohomish)	TPA	Early	Combined with project above for construction efficiencies.			
• SR 532/64th Ave NW to 12th Ave NW — Improve Safety (Snohomish)	TPA	Early	Combined with project above for construction efficiencies.			
SR 532/General Mark W. Clark Memorial Bridge — Replace Bridge (Snohomish)	TPA	Early	Combined with project above for construction efficiencies.			



# WSDOT's Capital Project Delivery Program

## Advertisement Record

### 60 Projects in construction phase as of June 30, 2010

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

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
I-405/Kirkland Vicinity Stage 2 — Widening (Snohomish, King)	Nickel/TPA					
• I-405/NE 195th St to SR 527 — NB Widening (Snohomish, King)	TPA	Early	May-09	Kiewit Pacific Co.	Jun-10	\$19,263
SR 9/Lake Stevens Way to 20th St SE — Improve Intersection (Snohomish)	TPA	√	Apr-08		Jun-10	
This is a WSDOT project administered by Snohomish County in order to coordinate more effectively with locally managed projects, and improve cost and efficiency.						
US 395/NSC-US 2 to Wandermere and US 2 Lowering — New Alignment (Spokane)	Nickel	√	Aug-08		May-11	
• NSC — US 2 to Wandermere Vicinity (Spokane)	Nickel		May-09	Graham Construction & Management, Inc.	May-11	\$37,541
• US395/NSC — US 2 Lowering (Spokane)	Nickel		Aug-08	Graham Construction and Management, Inc.	May-11	\$42,849
US 395/NSC-Francis Ave to Farwell Rd — New Alignment (Spokane)	Nickel	Late	Jan-04		Dec-11	
The advertisement delay on this project was due to delays in the Right-of-Way acquisition.						
• NSC-Farwell Road Lowering (Spokane)	Nickel		Jan-04	Max J. Kuney Company	Jul-05	\$4,976
• NSC-Gerlach to Wandermere — Grading — CN (Spokane)	Nickel		Nov-04	KLB Construction Inc.	Sep-06	\$9,987
• NSC-Francis Avenue to US 2 Structures — REBID (Spokane)	Nickel		May-06	Max J. Kuney Company	Jul-08	\$17,236
• US 395/NSC-Freya to Fairview Vic — Grading and Structures (Spokane)	Nickel		Jan-07	Steelman-Duff	Apr-09	\$10,571
• US 395/NSC-Freya St to Farwell Rd — PCCP Paving (Spokane)	Nickel		Feb-07	Acme Concrete Paving	Aug-09	\$19,490
• US 395/NSC — BNSF RR Tunnel (Spokane)	Nickel		Sep-07	Scarsella Bros. Inc.	Aug-09	\$17,295
I-5/Grand Mound to Maytown Stage One — Add Lanes (Thurston)	Nickel	√	Dec-07	Scarsella Bros., Inc.	Jun-10	\$61,495
US 12/Frenchtown Vicinity to Walla Walla — Add Lanes (Walla Walla)	TPA	√	Dec-07	Apollo, Inc	Jul-10	\$33,733
This project's operationally complete date has been delayed to July 2010 due to harsh winter and numerous unworkable days.						
SR 542/Nooksack River — Redirect River and Realign Roadway (Whatcom)	TPA	Late	Jan-09	Tapani Underground, Inc.	Oct-11	\$395
Ad 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. FHWA RW certification requirements were not met prior to bid opening. Advertisement was rescheduled for Jan, 2009 to keep the in-water construction work within the July 1 to September 30th fish window.						
US 12/Tieton River W 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 Resources permit from the county and local agencies.						
US 12/Tieton River E Crossing — Replace Bridge (Yakima)	TPA	Late	Combined with project above for construction efficiencies.			
The scheduled advertisement date was delayed due to the extended time obtaining the Joint Aquatic Resources permit from the county and local agencies.						

# WSDOT's Capital Project Delivery Program

## Advertisement Record

### 60 Projects in construction phase as of June 30, 2010

Nickel & 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
<b>Biennium to date (2009-11)</b>						
SR 26/W of Othello — Add Passing Lane (Adams)	TPA	Early	Dec-09	Selland Construction, Inc	Oct-10	\$609
SR 150/W of Chelan — Install Lighting (Chelan)	TPA	√	Oct-09	McCandlish Electric	Aug-10	\$164
SR 971/S Lakeshore Rd — Install Lighting (Chelan)	TPA	√	Oct-09	McCandlish Electric, Inc.	Aug-10	\$164
The advertisement was delayed one year as part of the proposed Governor's 2009-11 Transportation budget in an effort to adjust the overall budget constraints.						
SR 503/Lewisville Park Vicinity — Add Climbing Lane (Clark)	TPA	√	Jan-10	Rotschy, Inc.	Nov-10	\$3,702
I-5/SR 432 Talley Way Interchanges — Rebuild Interchanges (Cowlitz)	TPA	√	Sep-09	Northwest Construction, Inc.	Dec-11	\$20,529
SR 28/Jct US 2 and US 97 to 9th St, Stage 1 — New Alignment (Douglas)	TPA	Late	Sep-09	Selland Construction, Inc	Oct-12	\$735
The advertisement date was advanced so that construction on the irrigation canal could occur during the 2009/10 winter while the irrigation water is shut off.						
US 97/S of Chelan Falls — Add Passing Lane (Douglas)	TPA	Early	Feb-10	Granite Northwest, Inc.	Oct-10	\$1,623
This project received federal Recovery Act stimulus funds.						
I-5/Ship Canal Bridge — Noise Mitigation Study (King)	TPA	√	Dec-09	Penhall Company	Aug-10	\$1,560
The design is based on an acoustical optimization model recommended by the acoustic Expert Review Panel (ERP). Added design work was needed for the team of acoustical and structural engineering experts work for updated design scope, final noise modeling, structural capacity analysis, and final design. Because of the delay in finalizing a design concept, the project Ad date was changed from April 2009 to December 2009.						
SR 203/Corridor Safety Improvements (King)	TPA	√	Nov-09	Tri-State Construction.	Nov-10	\$2,969
Lake Washington Congestion Management (King)	TPA	√	May-09	Elcon Corporation	11/12/2010	\$ 34,450
Portions of this project are now in construction, but were not previously captured in Gray Notebook 'Projects to be Advertised' tables. If necessary, new subprojects will be recorded in the advertisement pipeline tables in future editions.						
SR 520/ Bridge Replacement and HOV (King)	TPA					
• SR 520 Pontoon Construction (King)	TPA		Aug-09	Kiewit-General, A Joint Venture	4/30/2014	\$367,330
SR 410/214th Ave E to 234th — Add Lanes (Pierce)	TPA	Late	Dec-09		Sep-10	
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	√	Nov-09	Interwest Construction, Inc.	Dec-10	\$4,795
SR 203/Corridor Safety Improvements (Snohomish)	TPA	√	Nov-09	Tri-State Construction	Nov-10	\$2,969
SR 9/Lundeen Parkway to SR 92 — Add Lanes and Improve Intersections (Snohomish)	TPA	√	Mar-10		Dec-11	
SR 510/Yelm Loop — New Alignment (Thurston)	TPA	Early	Dec-09	Scarsella Bros., Inc.	Oct-10	\$4,147
I-5/Mellen Street interchange to Grand Mound interchange — Add Lanes (Thurston, Lewis)	TPA					
• I-5/Blakeslee Junction Railroad Crossing to Grand Mound I/C — Add Lanes (Thurston, Lewis)	TPA	√	Feb-10		Dec-11	
• I-5/Mellen St Interchange — Interchange Improvements (Thurston, Lewis)	TPA		Apr-11		Dec-13	
• I-5/ Mellen Street to Blakeslee Junction — Add Lanes, I/C Improvements (Thurston, Lewis)	TPA		Apr-12		Dec-14	

# WSDOT's Capital Project Delivery Program

## Advertisement Record

### 60 Projects in construction phase as of June 30, 2010

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

Project description	Fund type	On time advertised	Ad date	Contractor	Operationally complete date	Award amount
SR 27/Pine Creek Bridge — Replace Bridge (Whitman)	TPA	√	Nov-10	Thompson Bros. Excavating, Inc.	Nov-10	\$2,301
I-82/Valley Mall Blvd Interchange — Rebuild Interchange (Yakima) This project received federal Recovery Act stimulus funds.	TPA	√	Nov-09	Apollo, Inc.	Oct-11	\$19,080
SR 22/I-82 to Toppenish — Safety Improvements (Yakima) The completion date for the second stage of this project has been delayed one year due to work that could not be performed inside the irrigation window.	Nickel	√	Oct-09	Steele Trucking, Inc.	Nov-11	\$143
SR 823/Selah Vicinity — Re-route Highway (Yakima) The project will be readvertised in fall 2010 due to right of way issues. Its completion date has been delayed one year to 2012.	TPA	√	Dec-09		Jul-12	
SR 9/Lundeen Parkway to SR 92 — Add Lanes and Improve Intersections (Snohomish)	TPA	√	Mar-10		Dec-11	

### Quarter ending June 30, 2010

I-5/SR 161/SR 18 — Interchange Improvements (King)	Nickel/TPA	√	Apr-10		Oct-12	\$3,702
SR 303/Port Washington Narrows Bridge — Upgrade Bridge Rail (Kitsap) This is a project within the Bridge Rail Retrofit Program.	Nickel	√	May-10		Oct-10	
SR 305/Unnamed Tributary to Liberty Bay — Fish Barrier (Kitsap) This is a project within the Fish Passage Barriers Program.	TPA	√	Apr-10		Dec-10	\$1,623
US 97/Blewett Pass — Add Passing Lane (Kittitas)	TPA	√	May-10		Oct-10	
SR 522/Snohomish River Bridge to US 2 — Add Lanes (Snohomish)	Nickel	√	Apr-10		Nov-14	
I-5/196th St (SR 524) Interchange — Build Ramps (Snohomish)	TPA		Apr-10	Northwest Construction Inc.	Aug-11	\$18,727
SR 529/Ebey Slough Bridge — Replace Bridge (Snohomish)	TPA		Apr-10	Granite Construction Co.	Apr-13	\$21,541
I-5/36th St Vicinity to SR 542 Vicinity — Ramp Reconstruction (Whatcom)	TPA	√	May-10		Oct-11	

Data source: WSDOT Capital Program Development and Management.

# WSDOT's Capital Project Delivery Program

## Projects To Be Advertised

### 10 Projects in delivery pipeline for July 1, 2010, through December 31, 2010

*Nickel & 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 500/St Johns Blvd - Build Interchange (Clark) Advertisement delayed due to design revisions which required revisiting environmental documentation and negotiation with FHWA on applying for new permits.	TPA	Apr-10	Oct-10	Delayed	\$57,241	\$57,401
SR 14/Camas Washougal - Add Lanes and Build Interchange (Clark) Delays in obtaining local agency permit and right of way certification has delayed the advertisement date.	TPA	Apr-10	Oct-10	Delayed	\$57,000	\$57,000
SR 243/S of Mattawa - Install Lighting (Grant)	TPA	Nov-10	Dec-10	√	\$246	\$247
SR 161/24th St E to Jovita - Add Lanes (Pierce) Advertisement delay is due to WSDOT having to find another location for a wetland mitigation site.	Nickel	Apr-10	Nov-10	Delayed	\$37,600	\$37,956
SR/11 Chuckanut Park and Ride - Build Park and Ride (Skagit) Advertisement was delayed due to a delay in Skagit Transit's receipt of federal transit funds.	TPA	May-11	Dec-10	Delayed	\$12,991	\$11,082
SR 530/Sauk River Bank Erosion - Realign Roadway (Skagit)	TPA	Oct-10	Oct-10	√	\$8,022	\$7,108
I-5/Capitol Blvd Bridge - Upgrade Bridge Rail (Thurston)	Nickel	Jul-10	Aug-10	√	\$295,161	\$1,221
I-5/Queets Dr E Tanglewild - Add Noise Wall (Thurston)	TPA	Nov-10	Nov-10	√	\$3,135	\$3,134
I-5/14th Ave Thompson Pl - Add Noise Wall (Thurston)	TPA	Nov-10	Nov-10	√	\$4,435	\$4,395
US 12/SR 124 Intersection - Build Interchange (Walla Walla) Negotiations with US Fish and Wildlife on an exchange parcel has taken longer than expected and has delayed the advertisement date.	TPA	Mar-10	Oct-10	Delayed	\$24,014	\$24,807

Data source: WSDOT Capital Program Development and Management.



# WSDOT's Capital Project Delivery Programs

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

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

The dashboards below and on page 66 provide a status report on how WSDOT is delivering the program compared to the original Legislative intent as presented in the 2003 and 2005 LEAP (Legislative Evaluation & Accountability Program) lists. These dashboards include all budget items including preconstruction and environmental studies that were included in the original funding packages.

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

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

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

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

Status as of June 30, 2010

Project number and phase	Total program		Highways		Ferries		Rail	
	Number of projects	Percent of program	Number of projects	Percent of program	Number of projects	Percent of program	Number of projects	Percent of program
<b>Total number of projects</b>	<b>156</b>		<b>127</b>		<b>5</b>		<b>24</b>	
Completed projects	105	67%	95	75%	1	20%	9	38%
Total projects under way	41	26%	32	25%	3	60%	6	25%
<i>In preconstruction phase</i>	20		18		2		0	
<i>In construction phase</i>	21		14		1		6	
Projects starting in the future	3	2%	0	0%	0	0%	3	13%
Projects deferred, or deleted from program	7	4%	0	0%	1	20%	6	25%
<i>Number of Legislatively approved scope changes</i>	20	13%	18	14%	0	0%	2	8%
<i>Preconstruction starts within 6 months</i>	0		0		0		0	
<i>Construction starts within 6 months</i>	1		1		0		0	

Data source: WSDOT Capital Program Development & Management.

Note: Totals do not include Local Programs projects.

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

Status as of June 30, 2010; Dollars in thousands

	Total program		Highways		Ferries		Rail	
	Budget	Percent of total	Budget	Percent of program	Budget	Percent of program	Budget	Percent of program
<b>Total original Legislative planned budget</b>	<b>\$3,887,483</b>		<b>\$3,380,124</b>		<b>\$297,851</b>		<b>\$209,508</b>	
Original plan, 2003 through 2007-09 biennium	\$2,450,750	63%	\$2,102,667	62%	\$219,285	74%	\$128,798	61%
Actual expenditures, 2003 through 2007-09 biennium	\$2,641,045	68%	\$2,469,953	73%	\$80,904	27%	\$90,188	43%
Original plan through 2009-11 biennium	\$3,278,038	84%	\$2,813,701	83%	\$293,919	99%	\$170,418	81%
Current plan through 2009-11 biennium	\$3,438,132	88%	\$3,189,471	94%	\$132,787	45%	\$115,874	55%
Actual expenditures, 2003 through June 30, 2010	\$3,027,316	78%	\$2,805,237	83%	\$111,440	37%	\$110,639	53%

Data source: WSDOT Capital Program Development & Management.

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

# WSDOT's Capital Project Delivery Programs

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

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

Status as of June 30, 2010

Project number and phase	Total program		Highways		Ferries		Rail	
	Number of projects	Percent of program	Number of projects	Percent of program	Number of projects	Percent of program	Number of projects	Percent of program
<b>Total number of projects</b>	<b>248</b>		<b>229</b>		<b>4</b>		<b>15</b>	
Completed projects	127	51%	121	53%	0	0%	6	40%
Total projects under way	102	41%	96	42%	1	25%	5	33%
<i>In preconstruction phase</i>	49		47		1		1	
<i>In construction phase</i>	54		50		0		4	
Projects starting in the future	8	3%	4	2%	1	25%	3	20%
Projects deferred, or deleted from program	11	4%	8	3%	2	50%	1	7%
<i>Number of Legislatively approved scope changes</i>	23	9%	23	10%	0		0	
<i>Preconstruction starts within 6 months</i>	0		0		0		0	
<i>Construction starts within 6 months</i>	8		8		0		0	

Data source: WSDOT Capital Program Development & Management.

Note: Totals do not include Local Programs projects.

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

Status as of June 30, 2010; Dollars in thousands

	Total program		Highways		Ferries		Rail	
	Budget	Percent of total	Budget	Percent of program	Budget	Percent of program	Budget	Percent of program
<b>Total original Legislative planned budget</b>	<b>\$6,982,128</b>		<b>\$6,678,468</b>		<b>\$185,410</b>		<b>\$118,250</b>	
Original plan, 2005 through 2007-09 biennium	\$2,274,805	33%	\$2,224,451	33%	\$1,940	1%	\$48,414	41%
Actual expenditures, 2005 through 2007-09 biennium	\$1,336,628	19%	\$1,296,476	19%	–	0%	\$40,152	34%
Original plan through 2009-11 biennium	\$4,042,962	58%	\$3,886,331	58%	\$81,701	44%	\$74,930	63%
Current plan through 2009-11 biennium	\$3,171,106	45%	\$3,037,418	45%	\$67,234	36%	\$66,454	56%
Actual expenditures, 2005 through June 30, 2010	\$2,005,389	29%	\$1,902,147	29%	\$31,045	17%	\$54,197	46%

Data source: WSDOT Capital Program Development & Management.

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

#### Definitions

**Completed projects** Projects operationally complete, open to traffic.

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

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

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

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

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

#### Note

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

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

### Revenue forecast update

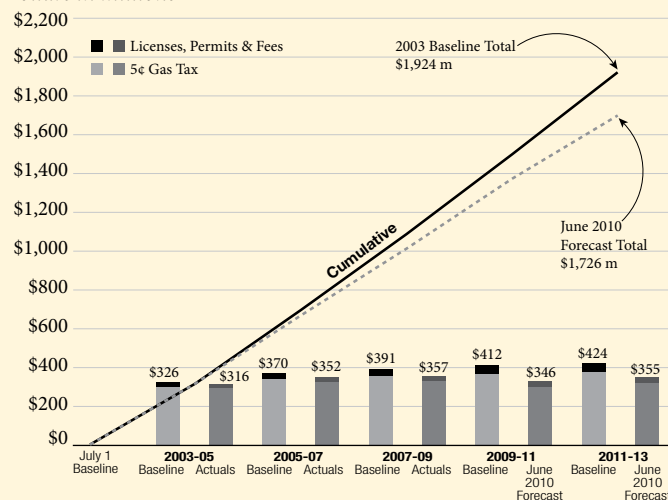
The following information incorporates the June 2010 transportation revenue forecast projections. The accompanying charts compare the current projected revenue forecast to the baseline forecast used in the budget making process when the 2003 Funding Package was adopted. The 2003 Funding Package was developed 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 2010 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 11.5%. 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 2003 (Nickel) account revenue forecast

March 2003 Legislative baseline compared to the June 2010 Transportation Revenue Forecast Council  
Dollars in millions



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

### 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

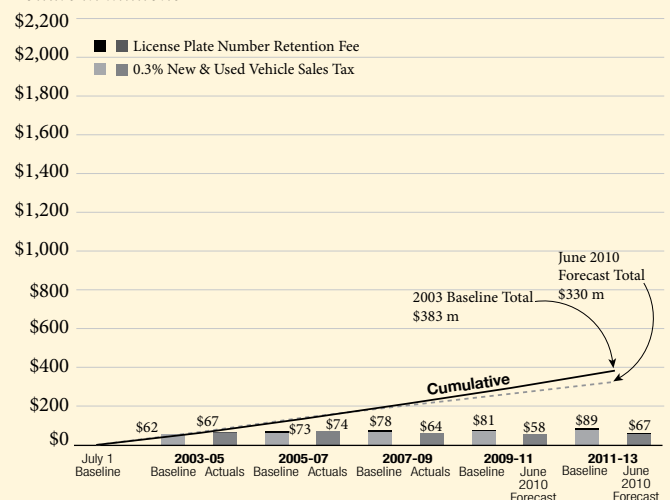
#### Deposited into the Multimodal Account (established in 2000)

- 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 16.3% in the ten-year outlook. This decrease is primarily due to the decline in vehicle sales.

### Multimodal Account (2003 Package) revenue forecast

March 2003 Legislative baseline compared to the June 2010 Transportation Revenue Forecast Council  
Dollars in millions



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

# WSDOT's Capital Project Delivery Programs

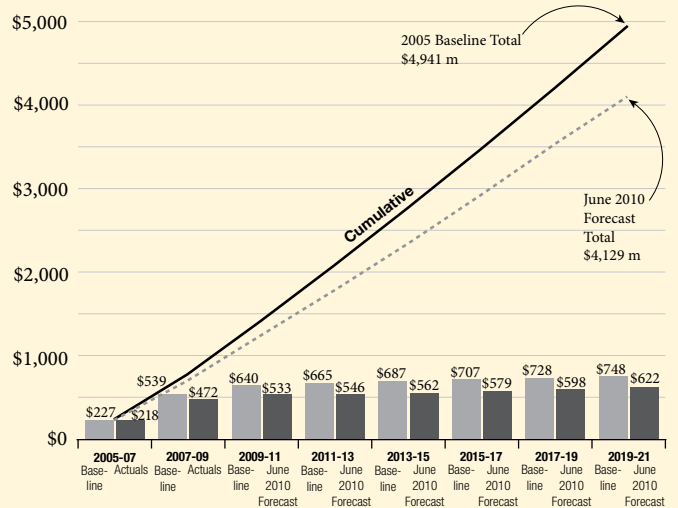
## Paying for the Projects: 2005 Transportation Partnership Account (TPA) financial information

### Revenue forecast update

The accompanying chart compares the current June 2010 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 2010 forecast for gas tax receipts over the 16-year period decreased by 20% 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 2010 Transportation Revenue Forecast Council  
 Dollars in millions



Numbers may not add due to rounding.  
 Data source: WSDOT 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 April 1 and June 30, 2010, WSDOT completed 10 projects that preserved the roadway, increased capacity, improved bridges, reduced noise, and enhanced safety features. Each project improved travel by making roads safer, trips faster and more reliable, and helping the environment and the economy. Each project also faced unique challenges to be delivered on time and on budget.

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

Project delivery performance reporting regarding budget and schedule is measured against last approved budgets in accordance with criteria established by the Legislature; for this quarter, it is the 2009 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 and is scaled to show the dollar range in greater detail.

Three of the 10 projects completed this quarter also received federal Recovery Act stimulus funds. Summaries of completed projects receiving stimulus funds are included in the Recovery Act section on page 50. More information on completed projects is available online at [www.wsdot.wa.gov/projects](http://www.wsdot.wa.gov/projects).

### SR 20 – Roadside Safety Improvements (Island and Skagit)

This project install guardrail, remove fixed objects, and improved roadsides to enhance motorist safety along SR 20 in Island County and Skagit County. The projects were intended to reduce the severity of collisions on these routes.

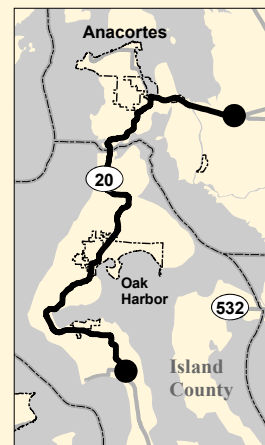
*Project benefits:* This project replaced outdated guardrail along SR 20 with new guardrail that met safety standards to reduce the severity of collisions.

*Project highlights and challenges:* A portion of the work on SR 20 runs through Ebey's Landing National Historic reserve. The historic guardrail was originally built in 1935 by the Civilian Conservation Corps with rock-and-mortar posts and logs and does not meet current safety standards. WSDOT worked with the National Park Service, Washington State Parks, and the Office of Archaeology and Historic Preservation to select new guardrail that will maintain the integrity of the park. The new Ironwood Guide Rail, which has passed FHWA crash testing, provided safety benefits while also maintaining the area's rural character. The selected guardrail was much more expensive than traditional guardrail, increasing the cost of the project.

*Budget performance:* The final project cost is \$1.28 million, \$34,000 above the last approved budget.

*Schedule performance:* The project was completed in May 2010, five months ahead of the last approved schedule.

### Map of SR 20 Roadside safety improvements (Island)



*Part of this project used guardrail that meets current safety standards but also preserved the historic integrity of the site.*

# WSDOT's Capital Project Delivery Programs

## Completed Projects: Delivering performance and system benefits

### I-90/I-5 to 12th Ave S — Seismic retrofit (King)

The project provided seismic retrofits of three existing bridges on I-90 in King County near the I-5 interchange to minimize and avoid catastrophic bridge failures.

**Project benefits:** Earthquakes pose substantial risks to transportation infrastructure in Washington. Seismic improvements to selected bridges are intended to reduce the risk of serious damage or failure during an earthquake. The project's retrofits will reduce potential damage from earthquakes, and improve motorist safety on I-90.

**Project highlights and challenges:** The project is part of WSDOT's Seismic Retrofit Program, which strengthens bridges and structures statewide to resist future earthquakes. About 900 bridges are scheduled for improvement. The confined work area and time constraints extended the work into two construction seasons, delaying the operationally complete date from 2009 to 2010. Costs increased because the work was located in confined areas difficult to access and could only be accomplished at night due to traffic impacts, but the project benefited from a bid 39% below the engineer's estimate.



This project performed seismic retrofits on three I-90 bridges near the I-5 interchange in King County. The project strengthens bridges to prevent catastrophic failure during an earthquake.

**Budget performance:** The project cost \$9.1 million at completion, below its last approved budget of \$10.4 million due to a low bid.

**Schedule performance:** The project was completed in May 2010, on time with the last approved schedule.

### SR 900/SE 78th St vicinity to I-90 vicinity — Widening and HOV (King)

The project widened SR 900 between SE 78th Street and I-90 in King County and constructed HOV lanes between the Newport park and ride lot and the I-90 interchange. The project also widened two bridges, restored two culverts and improved traffic signals.

**Project benefits:** The project widened increased roadway capacity and improved traffic operations on a section of SR 900 in Issaquah that is severely congested due to heavy traffic volumes and major commercial development, and has been identified as a high accident location.

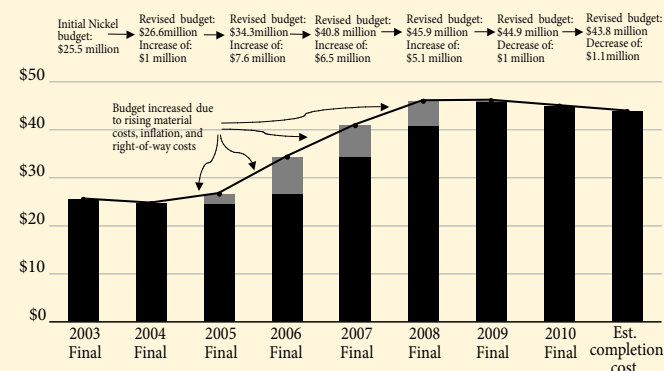
**Project highlights and challenges:** The new HOV lanes and prioritized signals will improve access for buses entering and exiting I-90, reducing travel times for public transit. Prior to the project, buses serving the park and ride lot were trapped in peak period congestion.

**Budget performance:** The project cost \$43.8 million at completion, \$1.1 million below the last approved budget. The project cost \$18.3 million more than its initial 2003 budget due to inflation and cost increases for materials and right-of-way.

**Schedule performance:** The project was operationally complete in April 2010, six months behind the last approved schedule. Due to wet fall weather, the contractor was unable to complete the final paving during the 2009 paving window that ended in October 2009.

### SR 900/SE 78th Street to I-90 - Widening and HOV

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



Data source: WSDOT Capital Project & Delivery Management Office.

## Completed Projects: Delivering performance and system benefits

### *SR 519/I-90 to SR 99 Intermodal Access Project — Interchange improvements (King)*

The project improved connections for traffic in Seattle's SODO neighborhood, including the Port of Seattle, Colman Ferry Dock, and Seattle sports stadiums. The project built a bridge for vehicles, pedestrians and bicyclists along S. Royal Brougham Way, built a westbound off-ramp from I-90 and I-5 that connects to the existing S. Atlantic Street overpass, and reconstructed Third Avenue between S. Royal Brougham Way and S. Atlantic Street.

*Project benefits:* The project will reduce delays for drivers by adding the I-5/I-90 offramps to the S. Atlantic Street overpass and improves access to events at the stadiums, reducing congestion for all travelers on game days. The project separated car, freight, pedestrian, and rail traffic to improve mobility and pedestrian safety and reduce the risk of collisions. The bridges over railroad tracks improve reliability for freight travel between the Port of Seattle and the freeways.

*Project highlights or challenges:* The schedule was advanced three years in order to complete all major work before the start of construction to replace the Alaskan Way Viaduct between S. Holgate and S. King streets. The city of Seattle and WSDOT provided significant outreach to try to help drivers avoid the construction zone in the heavily traveled Seattle area during the construction period.

*Budget performance:* The project cost \$84 million at completion, the last approved budget. The project cost \$41.5 million more than its initial FY 2006 budget of \$42.5 million due to initial investment and a revised design. The budget also increased due to inflation and material costs.

*Schedule performance:* The project was complete in June 2010, on time with the last approved schedule.

### SR 519/I-90 to SR 99 Intermodal Access Project



Above: The new I-90 off-ramp next to Safeco Field connects drivers with Seattle destinations, including the stadiums and Port of Seattle. Below: This project build the new Royal Brougham Way Bridge, which separates vehicle and pedestrian traffic from the railroad tracks.





# WSDOT's Capital Project Delivery Programs

## Completed Projects: Delivering performance and system benefits

### *I-5/5th Avenue NE to NE 92nd Street – Noise wall (King)*

The project added noise barriers on both sides of I-5 on a nearly one-mile stretch of I-5 in King County.

*Project benefits:* Noise walls are designed to provide a minimum five decibel reduction in average background traffic noise for the first row of residences located directly behind the wall.

*Project highlights and challenges:* The new noise walls will reduce noise levels along I-5 in Seattle's Green Lake and Licton Springs neighborhoods. The neighborhoods experienced high noise levels and had been high priorities on the statewide noise retrofit list. WSDOT used community surveys to prioritize construction and address the greatest needs. Because this project is installed where Sound Transit is planning to build a light rail line in the future, WSDOT used a sound barrier system of interlocking fiberglass composite planks filled with recycled rubber called Carsonite AcoustaShield that can be taken down and reassembled.

*Budget performance:* The project was completed for \$9.16 million, \$79,000 above its last approved budget.

*Schedule performance:* The project was completed in June 2010, on time with the last approved schedule.



### *I-5/5th Avenue NE to NE 92nd St — Noise wall (King)*



*The project installed new noise walls along I-5 near Seattle's Green Lake and Licton Springs neighborhoods.*

### *US 2/North Glen – Elk Chattaroy Road intersection – Intersection improvements (Spokane)*

This project added a northbound turn lane at the intersection of US 2 with North Glen Drive and North Elk Chattaroy Road in Spokane county.

*Project benefits:* The new intersection improvements will aim to reduce the number of collisions by providing better visibility to drivers on Elk Chattaroy Road.

*Project highlights:* The project was awarded to Inland Construction Co. with a bid 26% below the engineer's estimate.

*Budget performance:* The project cost \$797,137 at completion, just below the last approved budget of \$804,000. The cost initially increased from an original FY 2005 budget of \$1 million due to inflation and material cost escalation, but later decreased due to a low bid below the engineer's estimate.

*Schedule performance:* The project was completed in May 2010, three months ahead of the last approved schedule.



# WSDOT's Capital Project Delivery Programs

## Completed Projects: Delivering performance and system benefits

### SR 241/Dry Creek Bridge — Replace bridge (Yakima)

This project replaced a structurally deficient bridge on SR 241 in Yakima County near the Benton County line.

**Project benefits:** The project provided a new crossing to replace an aging timber bridge. The completed culvert improves the safety and preservation of the highway.

**Project highlights and challenges:** The original project planned to replace the bridge with a new bridge. In 2008, WSDOT hydraulics experts determined that replacing the bridge with two box culverts would meet the project's intent at a lower cost. In August 2009, a wildfire further damaged the existing bridge. WSDOT maintenance crews installed a temporary culvert to re-open the road to traffic the following day. The project installed a three-sided box culvert south of the original bridge and realigned the channel to flow into the new box culvert.

**Budget performance:** This project cost \$744,000 at completion, \$34,000 above the 2010 approved budget. Thanks to a bid from Apollo Inc. that was 44% below the engineer's estimate and the decision to use the culvert, the project's final budget was well below its original FY 2003 budget of \$2 million.

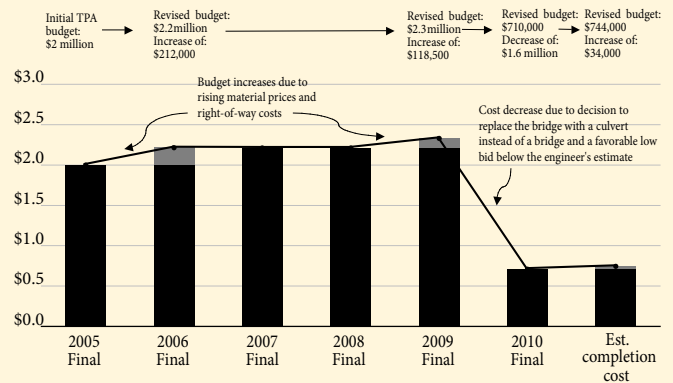
**Schedule performance:** The project was completed in April 2010, on time with the last approved budget.



The original timber bridge (below left) on SR 241 over Dry Creek in Yakima County was structurally deficient and slated for replacement. In August 2009, a wildfire completely destroyed the bridge (right). The project, replacing the bridge with a three-sided box culvert (below right), was completed in May.

### SR 241/Dry Creek Bridge – Replace bridge (Yakima)

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



Data source: WSDOT Capital Project & Delivery Management Office.





# WSDOT's Capital Project Delivery Programs

## Project Spotlight: I-5 Electric Highways Project

### West Coast Green Highway/I-5 Electric Highways Project Highlights

President Obama has established a national goal of having one million electric vehicles by 2015.

WSDOT, Oregon Department of Transportation, California Transportation Department, & the British Columbia Ministry of Transportation are the four public partners of the West Coast Green Highway Initiative.

The three-state DOTs partnership aims to have enough charging station infrastructure available to support two million electric vehicles in all three states by 2020.

Washingtonians will be able to purchase/lease electric vehicles from two manufacturers: Nissan and Tesla. Other models from Ford, GM, and Toyota may

### West Coast Green Highway Initiative

WSDOT, along with other public transportation agencies and private partners, are collaborating on the West Coast Green Highway initiative (WCGH). This multi-faceted initiative supports the adoption of alternative fuels, sustainable infrastructure, and in particular, newly available electric and electric-hybrid vehicles traveling along the I-5 corridor from the Mexican border through southwest Canada (BC 99). The WCGH will be one of WSDOT's most visible efforts to show how the agency can help the state reduce its greenhouse gas (GHG) contributions without inhibiting the state's need for greater mobility and economic vitality.

WSDOT and its partners will be deploying several independent and joint programs to encourage the use of alternative fuels, improve mobility, offer travelers new transportation choices, and to mitigate congestion. For example, British Columbia is promoting the adoption of hydrogen fuel vehicles to reduce tailpipe GHG emissions. Oregon is continuing with its solar highway initiative, reducing the use of fossil fuels to light and power sections of I-5. Washington will leverage WSDOT's new smarter highways program ([see pp. 48, Gray Notebook 35](#)), alternative fuel testing programs, and the commute trip reduction program ([see pp. 28-32](#)).

### I-5 becomes an 'electric highway'

WSDOT stepped up its plans to accommodate the wider adoption of electric vehicles after several car manufacturers announced that Washington would become a key test market for their new electric vehicles. One of WSDOT's most visible projects as part of the WCGH initiative will be the creation of the 'electric highway' – developing the necessary infrastructure along I-5 to allow easy recharging for next-generation electric vehicles. At present, most charging stations are located within major urban centers that are connected by I-5 (Portland, Tacoma, Seattle, and Vancouver, B.C.), but there are very few charging stations inbetween, making longer-distance travel in electric vehicles difficult.

To help overcome this challenge, WSDOT and the state Department of Commerce were awarded a \$1.3 million grant from the federal stimulus program to install 'fast charge' electric vehicle charging stations on I-5 between Oregon and British Columbia. The long-term goal is to have stations positioned every 40 to 60 miles on the interstate between urban centers in order to prevent travelers from being stranded between charging stations. WSDOT has developed a project with two stages to help transform I-5 into the 'electric highway.'

#### Stage I

WSDOT has selected two safety rest areas, Gee Creek north of Vancouver, WA, and Custer south of Blaine, for the installation of level 2 chargers in fall 2010. Following the launch of level 2 charging stations, WSDOT will investigate locations for installing level 3 "fast charge" stations for deployment by the end of 2010. WSDOT will analyze both the level 2 and level 3 charging stations to learn more about usage and user feedback.

#### Stage II

Stage II of the 'electric highway' project will involve deploying additional level 3 charging stations along I-5 as well as exploring locations along west-east corridors in Washington. WSDOT will complete its study of additional I-5 and east-west locations by spring 2011, and will begin installing these level-3 charging stations by summer 2011.



A Wheego electric vehicle being charged using a level 2 electric vehicle charging station in Seattle. For more information, visit [www.westcoastgreenhighway.com/](http://www.westcoastgreenhighway.com/)

## Special Report: Southwest Washington I-5 Expansion Program

WSDOT is designing and constructing a series of projects along the I-5 corridor in southwest Washington to accommodate the growing mobility needs in Thurston and Lewis Counties. The existing I-5 was completed in the late 1960s and has not been substantially modified since. The current capacity is exceeded during peak travel periods and cannot accommodate future growth. Thanks primarily to the Nickel and TPA funding packages, \$380 million is being invested to reduce congestion and improve safety over nearly 20 miles of the corridor. The projects will widen the corridor in both directions, improve existing and add new interchanges, and add new ITS-traffic management features to efficiently operate the system.

### WSDOT rearranges Stage One and Stage Two work plans to smooth the transition to the new road for travelers

Two construction activities – paving and striping – planned for *I-5 Grand Mound to Maytown – Add lanes, Stage One* are being deleted from that project and added to the *I-5/Grand Mound to Maytown Stage Two – Replace interchange* project. When Stage One was designed, WSDOT did not know when Stage Two's construction would be funded. Because a significant time-lag between the two projects was a real possibility, WSDOT included restriping through the new interchange in Stage One. Since Stage Two will now immediately follow Stage One, this work will be moved to Stage Two, providing several benefits.

Delaying this construction work to Stage Two allows WSDOT to paint the temporary stripes required to shift lanes of traffic around new bridge construction before the final paving is completed. Doing so eliminates the need to restripe on the final overlay which may create 'ghost' stripes. Also, while a small amount of this paving (at the south end of the project) could have been kept in Stage One, doing so would have resulted in additional butt joints and a less smooth pavement surface.

Moving the final overlay and striping of the third lane from Stage One to Stage Two will provide a finished product with fewer joints and reduce the potential for ghost striping.

### Projects under construction

#### *I-5 Grand Mound to Maytown – Add lanes, Stage 1 (Thurston)*

This \$90 million project will construct an additional lane in both directions of I-5 between the communities of Grand Mound and Maytown in Thurston County. The Prairie Creek and Scatter Creek bridges are now complete. Work continues on the bridge at the Maytown interchange, which is expected to be complete in November. The third lanes will be opened to traffic once the bridge work is complete. There will be some final paving at the north end of the project that will need to be completed next spring.

### Southwest Washington I-5 Corridor Highlights:

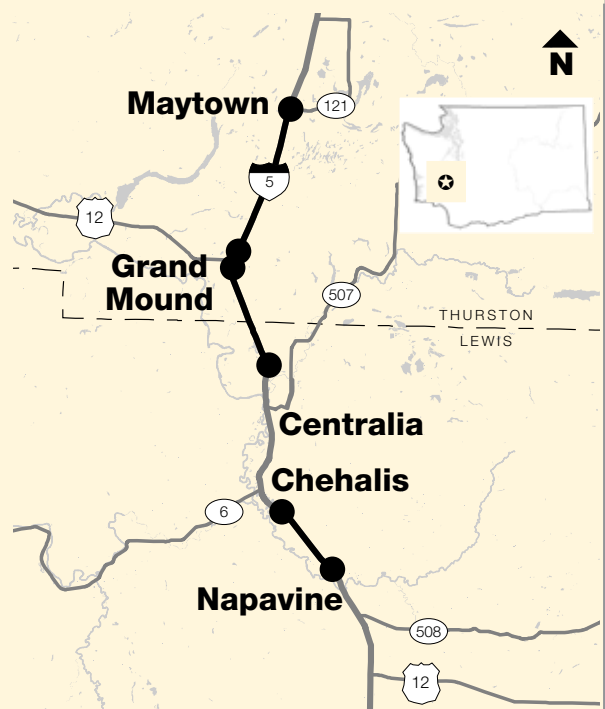
Five large projects valued at \$380 million make up the corridor enhancements.

The first major project, I-5 Rush Road to 13th Street, was opened to traffic in June 2009.

The next major project to be open to traffic is the I-5 Grand Mound to Maytown Stage 1 project.

Both projects add an additional lane for traffic in both directions of I-5 in their respective vicinities.

### Southwest Washington I-5 corridor expansion projects



# WSDOT's Capital Project Delivery Programs

## Special Report: Southwest Washington I-5 Expansion Program

### *I-5 Blakeslee Junction to Grand Mound (Thurston & Lewis)*

This project widens I-5 from two lanes to three lanes for approximately four miles in both directions, and ties into the I-5 Ground Mound to Maytown Stage 1 project north of the site. The project was awarded to Tri-State Construction for \$19.7 million, 29% below the engineer's original estimate (\$28 million). Construction began on June 1: WSDOT shifted traffic towards the median, allowing construction to begin outside of the travel lanes. The project is scheduled to be operationally complete by 2012.

### **In preliminary engineering phases**

### *I-5 Ground Mound to Maytown – New interchange, Stage 2 (Thurston)*

The \$32 million Stage Two project will construct a new interchange at I-5 and SR 12 at Grand Mound, including replacing the bridge over I-5. The new bridge will be built next to the old bridge so that construction on the new bridge will not interfere with traffic on the old bridge, minimizing delays to drivers. This construction staging may reduce the overall duration of the project by up to six months. By using "Accelerated Bridge Construction" methods, which require the contractor to precast portions of the center pier off-site instead of the traditional method of casting these elements in place, the work will be completed faster and further minimize the disruption to traffic on I-5.

WSDOT will install new ITS devices, including traffic cameras, variable message signs, and fiber optic lines for traffic management. Updated traffic signals will make traffic flow more efficiently and will benefit the flow of freight and automotive traffic in the area. The project will also lessen the sharpness of the curve on I-5 just south of the interchange. The project is scheduled for advertisement in mid-August, with construction due to begin in November 2010.

### *I-5 Mellen Street to Blakeslee Junction (Lewis)*

This project, the fourth and final funded phase of the widening of I-5, will construct new collector-distributor lanes between the existing Mellen Street and Harrison Avenue interchanges and will widen I-5 from two to three lanes in each direction north of Harrison Avenue. WSDOT will improve the Harrison Avenue interchange, build a new bridge over I-5 south of Mellen Street and new bridges over the railroad tracks at Blakeslee Junction, and repair and repaint the existing Skookumchuck River Bridges. The project is currently in the design phase, with construction schedule to start in 2012; it will be operationally complete in 2014.

### **Future improvements that will also help smooth traffic flow, add other benefits**

### *13th Street to Mellen Street (Lewis)*

When funded, this project will complete the corridor in the Chehalis/Centralia area. However, widening this five mile section of I-5 is complicated.

The work would require reconstructing four interchanges, two railroad overcrossings, a city street overcrossing, several stream crossings, flood plain mitigation, and amending numerous frontage roads and city streets. WSDOT has submitted federal reauthorization and appropriation requests to fund scoping and preliminary design.

If the requests are successful, WSDOT can begin working with the community and stakeholder agencies to develop the best set of solutions to this remaining chokepoint on the southwestern stretch of I-5.



Crews work on the bridge approach for the new structure that will soon carry southbound I-5 traffic over SR 121 at Maytown in Thurston County. This is part of the \$61.5 million project that adds a third lane in both directions of and eight-mile stretch of I-5.

## Special Report: New Ferry Construction

WSDOT is building new ferries to replace its aging fleet. WSDOT has been without a state-owned ferry to serve the challenging Port Townsend/Keystone route since November 2007.

The \$65.5 million contract to construct the first Kwa-di Tabil ferry, *Chetzemoka*, was awarded to Todd Pacific Shipyards in December 2008. The contract delivery date was June 30, 2010. Todd has requested a no-cost extension from June 30 to July 29. This request was approved by WSDOT. WSDOT's Ferries Division (WSF) and Todd have developed an integrated delivery schedule which will allow Todd to complete final outfitting while WSF conducts dockside training and crew familiarization.

In July 2010, the Washington State Transportation Commission selected the name *Salish* for the second Kwa-di Tabil Class ferry and *Kennewick* for the third.

### Chetzemoka construction progress and next steps

The *Chetzemoka* was towed to Everett Shipyard in April for final outfitting, machinery start-up, and system testing. Shipyard crews installed flooring, walls, and ceilings in the passenger cabin, outfitted the vessel's galley, painted the car deck tunnel, and installed furniture on the exterior decks. Crews also outfitted both pilot houses with navigation and propulsion control equipment. Todd successfully demonstrated to the U.S. Coast Guard (USCG) and WSF inspectors the engine room fire suppression system, Marine Evacuation System deployment (including future crew members sliding down into the rafts), and operational tests on the main engines, ship service generators, and the emergency generator.

#### Press-time updates on Chetzemoka sea trials

July sea trial tests of the *Chetzemoka* have uncovered excessive vibration in the engine drive train. Such tests at sea include running the vessel at different speeds and in uncommon as well as ordinary circumstances; these trials are a cooperative effort between the ship builders, engineers, and WSDOT.

During the tests, instruments on board collected data that revealed the vibrations in the drive train (which includes the main diesel engine, couplings, shafts, reduction gears, and the propellers). Experts from WSDOT's Ferries Division and Todd Shipyard are working together with design engineers, manufacturers' representatives, and contract engineers to determine the cause of the vibrations, and ultimately to find and implement a solution. There are daily conversations and data exchanges so information is updated frequently. Online updates are available at [www.wsdot.wa.gov/News/](http://www.wsdot.wa.gov/News/)

### Construction started on *Salish*

The keel was laid in April and hull sections are being assembled at Todd. The completed end units were delivered to Todd by barge from Jesse Engineering in Tacoma. The superstructure is under construction at Nichols Brothers Boat Builders on Whidbey Island. Crews have installed major piping runs and wire ways in the vessel modules, and have prepared and primed the steel. Crews will continue assembling the modules at Todd through the summer and early fall in preparation for an early October roll-out to the dry dock. Also in October, the superstructure will be shipped by barge from Nichols Brothers for installation on the hull. In December, the vessel will be towed to Everett Shipyard for final outfitting, dock trials, and sea trials. It is scheduled to begin service in summer 2011.

Steel is being cut this summer for third Kwa-di Tabil vessel, *Kennewick*, and assembly of the panels will begin in August.

### Project Highlights

Final construction continues on the new 64-car ferry *Chetzemoka*.

The Washington State Transportation Commission selected the name *Salish* for the second Kwa-di Tabil Class ferry and *Kennewick* for the third.

Construction highlights this quarter:

- April: Moved *Chetzemoka* from Todd Pacific Shipyards in Seattle to Everett Shipyard for final outfitting and system testing.
- April: Struck first weld on second Kwa-di Tabil Class ferry.

For more information: [www.wsdot.wa.gov/Projects/Ferries/64CarFerries](http://www.wsdot.wa.gov/Projects/Ferries/64CarFerries).



Controllable pitch propeller and tail shaft for the second Kwa-di Tabil Class ferry, *Salish*.



# WSDOT's Capital Project Delivery Programs

## Special Report: Tacoma Pierce County HOV Program Quarterly Update

### Project Highlights

Construction risks were realized on the Westbound Nalley Valley viaduct; see gray box below for details.

Port of Tacoma Road to King County Line construction:

- Pile-driving, deck-pouring completed on northbound I-5 West Hylebos bridge
- Median work complete on three-mile stretch of I-5

Stage 1 of the I-5: Portland Avenue to Port of Tacoma Road project:

- 100% of piles driven in Port of Tacoma to King County Line project
- 92% Westbound Nalley Valley shafts completed
- 88% Westbound Nalley Valley columns & bridge caps completed
- 82% Westbound Nalley Valley NB to WB bridge segments completed

For more information:  
[www.tacomatraffic.com](http://www.tacomatraffic.com).

### I-5: Port of Tacoma Road to King County Line – HOV

This quarter, all median work was completed on the northbound and southbound HOV lanes along a three-mile stretch of I-5. This allowed crews to shift all traffic closer to the median, creating new work space in the highway shoulders. WSDOT also completed all the pile-driving and deck-pouring work on the north- and southbound I-5 bridge spanning West Hylebos Creek. The next stage entails paving all lanes of I-5 through the project limits.

In 3rd quarter (CY 2010), crews will finish building the southbound I-5 bridge spanning West Hylebos Creek. That work will be followed by paving north- and southbound I-5. Electrical and drainage work will also continue throughout the project.

### I-5: Portland Avenue to Port of Tacoma Road – Northbound HOV Stage 1

Stage One consists of preliminary work that must be done prior to constructing the larger northbound project coming in 2012. WSDOT completed Stage One project design this quarter, with the construction contract advertised and awarded to Scarsella Brothers for \$16.3 million, 26% below the engineer's estimate. Stage One's construction will span two seasons.

Stage One work includes the following elements: widening the I-5 bridges over Bay Street and Portland Avenue in Tacoma; making ground improvements and building retaining walls; lowering the profile of Portland Avenue under I-5 to maintain vertical clearance; building erosion control ponds, and other necessary work.

### I-5/SR 16: Westbound Nalley Valley construction progress update

Construction of the new Westbound Nalley Valley viaduct continues at an aggressive pace. As of early June, crews have drilled all 84 shafts, constructed 68 of 77 columns, and completed 30 of 34 bridge caps. They have built 88 of 107 segments of the new bridge that will connect northbound I-5 to westbound SR 16, and placed 180 of 265 precast concrete girders.



Completed median work on Port of Tacoma Road to King County Line I-5 HOV lanes.

### Westbound Nalley Valley Watch List issues

Two significant construction risks have been realized on this project. A design error on the eastbound off-ramp to Sprague Avenue resulted in an incorrect profile for the roadway, which was not caught until the construction of this ramp was approximately 90% complete. To correct it, WSDOT will remove and lower 700 feet of the newly constructed off-ramp to Sprague Avenue. The additional cost of the ramp reconstruction is \$889,958 along with \$45,600 in additional engineering, and will be covered by the contingency fund.

During the excavation process at another area of the site, WSDOT discovered greater quantities of both hazardous and unsuitable foundation soil materials than were expected. Both kinds of soils had to be removed and replaced, but the

amount substantially exceeded the quantities estimated in the contract. The estimated quantities were developed based on soil borings done during the design process; the estimated cost for removal and replacement was about \$200,000. However, the amount paid to date is about \$3.2 million, which includes shoring, excavation, backfill, paving, and other costs associated with this extra work. The excavation risks were identified earlier in the project and allowed for in the project contingencies.

Despite these setbacks, WSDOT anticipates the project can still be completed on schedule and within or under budget. More information will be provided as it becomes available. (See also page 80 in the Watch List.)



## Watch List: Projects with schedule or budget concerns

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

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

The summary on page 80 lists projects currently facing schedule or budget concerns with a reference to these overarching descriptions; a more detailed description of the precise problem or its resolution appears on the following pages. Still more information is presented on the individual project pages on the WSDOT website at [www.wsdot.wa.gov/projects](http://www.wsdot.wa.gov/projects). Projects paid for through Pre-Existing Funds are discussed on pages 85-88.

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.

### Coordination

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

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

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

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

### Environmental

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

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

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

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

### Design

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

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

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

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

### Utilities

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

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

### Right-of-Way

**Design changes:** Project revisions that may require additional land.

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

**Land appreciation:** Property value increases that exceed projections.

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

### Construction

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

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

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

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

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

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

### Litigation

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

# WSDOT's Capital Project Delivery Programs

## Watch List: Projects with schedule or budget concerns

Added to Watch List	Project type	Watch List issue
SR 518/Bridges — Seismic retrofit (King)	Highway	Construction: Cost increase of materials
SR 28/E End of the George Sellar Bridge — Construct bypass (Douglas)	Highway	Right-of-Way: land acquisition
I-5/SR 16 Interchange — Rebuild interchange (Pierce)	Highway	Design: design element changes; Construction: site problems
I-5/Grand Mound to Maytown, Stage 2 — Replace interchange (Thurston)	Highway	Design: design element changes
Updates to Watch List		
SR 99/Aurora Ave — George Washington Memorial Bridge — Seismic retrofit (King)	Highway	Design: alternatives
SR 161/24th St E to Jovita — Add lanes (Pierce)	Highway	Environmental: mitigation
SR 522/Snohomish River Bridge to US 2 — Add lanes (Snohomish)	Highway	Environmental: permitting; Design: alternatives
US 12/SR 124 Intersection — Build interchange (Walla Walla)	Highway	Right-of-way: land acquisition
SR 823/Selah vicinity — Reroute highway (Yakima)	Highway	Right-of-way: land acquisition
Stanwood — Siding upgrade (Snohomish)	Rail	Design: new Federal requirements; Environmental: permitting
Stanwood — New station (Snohomish)	Rail	Design: new Federal requirements; Environmental: permitting
Removed from Watch List		
SR 14/Camas Washougal — Add lanes and build interchange (Clark)	Highway	Coordination: Inter-agency issues; Environmental: permitting; Right-of-way: land acquisition
SR 500/St John's Boulevard — Build interchange (Clark)	Highway	Environmental: reviews and approvals; Right-of-way: land acquisition
SR 28/Junction US 2 and US 97 to 9th Street, Stage 1 — New alignment (Douglas)	Highway	Right-of-way: land acquisition
SR 900/SE 78th St vicinity to I-90 vicinity — Widening and HOV (King)	Highway	Construction: weather
I-5/Rush Road to 13th Street — Add lanes (Lewis)	Highway	Construction: cost increase of materials
SR 9/Pilchuck Creek — Replace bridge (Snohomish)	Highway	Design: design element changes
SR 529/Ebey Slough Bridge — Replace Bridge (Snohomish)	Highway	Environmental: permitting; Design: alternatives
I-5/Grand Mound to Maytown, Stage 1 — Add lanes & replace intersection (Thurston)	Highway	Construction: cost increase of materials, timing problems

Source: Capital Program Development & Management Office, WSDOT Regions.

## Watch List: Projects with schedule or budget concerns

### Added to Watch List

#### ***SR 518/Bridges – Seismic retrofit (King)***

Bridges 518/8; 518/9; 518/10; 518/12; 518/13; and 518/14NW.

This project, budgeted for \$7.8 million, will retrofit six bridges on SR 518 in south King County so they can better withstand an earthquake.

About 30% of the project's design phase is complete; the budget is at risk. Preliminary cost estimates were made in October 2008, before full analysis of seismic test data could be conducted. In April 2010, WSDOT engineers completed the seismic analysis, and were able to refine cost estimates as follows:

- The column jacketing costs have increased on all six bridges, as more materials and labor will be needed than anticipated.
- Bridges 518/8, 518/9, 518/10, and 518/12 will require less work than expected, for a net reduction in costs on these four bridges.
- Bridges 518/13 and 518/14NW will require more retrofitting work to the crossbeams and superstructures than anticipated, for a net increase in cost on these two bridges.

Overall, costs will increase \$900,000, bringing the revised total project cost to \$8.7 million. The updated cost will be included in WSDOT's 2011 budget request to the Legislature.

The project is on schedule to be advertised in March 2011.

#### ***SR 28/E End George Sellar Bridge – Construct bypass (Douglas)***

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

The project is in design; the schedule is at risk. WSDOT's negotiations for one parcel of land needed for right-of-way have been unsuccessful, and condemnation procedures have begun. This will delay the advertisement date from July 2010 to November 2010.

#### ***I-5/Grand Mound to Maytown, Stage Two – Replace interchange (Thurston)***

Related projects: 300581A) I-5/Grand Mound to Maytown Stage One – Add lanes

This project will widen US 12 between Ivan St SE and Elderberry St SW, replacing the US 12 bridge over I-5 and the US 12 bridge over the railroad. It will also realign and lengthen on- and off-ramps at the interchange to provide more room for vehicles to safely enter and exit the highway, add signals and improve driver sight distance. When complete, this project

will relieve congestion and improve safety by reducing the risk of collisions.

The project is in the design phase; the schedule is at risk. WSDOT determined that the staging strategy should be mandated by the contract and therefore additional time is required to incorporate the strategy into the plans and specification for the contract. A portion of the final paving from Stage One in the vicinity of the interchange has been deleted and will be added to Stage Two to facilitate construction staging and prevent scarring on the newly constructed pavement. The advertisement date has been delayed two months, from June to August 2010.

At the completion of Stage One construction, a third lane northbound will begin at the northbound on-ramp, and the third lane southbound will end at the off-ramp at Grand Mound (approximately milepost 88.5).

More information on the benefits of moving Stage One work to Stage Two can be found in the *Special Report: Southwest Washington I-5 Expansion and Improvement Program* on pp. 75-76.

#### ***I-5/SR 16 Interchange – Rebuild interchange (Pierce)***

Related project: I-5/SR 16 Westbound Nalley Valley

Please see page 79 for the full story.

### Updates to Watch List

#### ***SR 99/Aurora Ave – George Washington Memorial Bridge – Seismic retrofit (King)***

This project, budgeted for \$9.3 million, completes the remaining seismic retrofit work on the historically significant George Washington Memorial Bridge. When complete, it will reduce the probability of catastrophic damage to the structure from an earthquake.

The project is in the preliminary engineering phase; the budget is at risk. The status of the project remains the same as reported in the March 2010 *Gray Notebook* 37. More information will be provided next quarter.

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

This project, budgeted at \$37.4 million (reported at \$35.3 million in the March 2010 *Gray Notebook* 37, which reflected only the Nickel funds on the project) will improve mobility on a busy section of SR 161 in the City of Edgewood. When completed, it will reduce congestion and allow safer, more efficient movement of people and vehicles.

The project is in the design phase; the schedule remains at risk. Since reporting this project in the March 2010 *Gray*

# WSDOT's Capital Project Delivery Programs

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## Watch List: Projects with schedule or budget concerns

*Notebook 37*, WSDOT has acquired a satisfactory wetland mitigation site, which resolved an ongoing schedule issue. Advertisement for construction has been further delayed due to right-of-way purchases, utility coordination, and changes to the design addressing temporary erosion control and other construction concerns. The advertisement date is delayed from August to November 2010.

The budget is also at risk. Schedule delays and continued design work increased the cost of the preliminary engineering; increased design costs and pending right-of-way issues also put the budget at risk.

### **SR 522/Snohomish River Bridge to US 2 — Add lanes (Snohomish)**

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

As reported in the March 2010 *Gray Notebook 37*, Stage 2 of the project (improvements from the Snohomish River Bridge to the new interchange) is in the design phase. Design is about 85% complete; the schedule continues to be at risk.

In June 2010, WSDOT received final geotechnical recommendations from a geological survey of soil conditions at the site of the new Snohomish River bridge. Soil conditions require using steel instead of the concrete girders originally planned for half of the superstructure. Redesigning the bridge will delay advertisement from December 2010 to March 2011. WSDOT is also still awaiting the Snohomish County shoreline permit and permits from the US Army Corps of Engineers (USACE), as well as confirmation that a time extension for in-water work will be approved by the Washington Department of Fish & Wildlife (WDFW). Delay in the issuance of these permits and extensions could further delay the schedule.

The operationally complete date is still scheduled for 2014.

### **US 12/SR 124 Intersection — Build interchange (Walla Walla)**

This project, budgeted for \$24 million in the 2010 Transportation Budget, will build a new interchange and bridge to replace two existing intersections. Removing the signal-controlled intersections will improve safety, reduce congestion, and enhance the area's economic vitality.

The project is in the design phase; both schedule and budget are at risk. As reported in the March 2010 *Gray Notebook 37*, problems in completing a suitable land exchange with U.S.

Fish and Wildlife Service (USFWS), to accommodate project impacts to the McNary National Wildlife Refuge delayed the advertisement date to April 2010. WSDOT has further delayed the advertisement to October 2010 to allow more time to complete the land exchange. Construction is scheduled to begin in spring 2011 and the project should be operationally complete in fall 2012, three months later than the schedule approved in the 2010 Transportation Budget.

Several factors have contributed to an increase in the total estimated cost, now revised to \$24.8 million, \$800,000 over the approved budget. Design costs increased as additional work was required to mitigate the impacts on the wildlife refuge. The construction budget has increased because of additional anticipated inflation due to a one-year construction delay. Local funding from the Port of Walla Walla also increased the construction budget for work added to the project on their behalf. The increase will be included in the 2011 budget request to the Legislature.

### **SR 823/Selah vicinity — Re-route highway (Yakima)**

This project, budgeted for \$11 million, will improve SR 823 to relieve congestion during peak commuting times and provide an alternate route around Selah's business district.

This project is in the design phase; the schedule is at risk. As reported in the March 2010 *Gray Notebook 37*, WSDOT pulled the project from advertisement on March 15, due to lack of progress in completing right-of-way acquisitions. WSDOT has acquired two of the four remaining parcels through condemnation. The same process will be used to acquire the last two parcels.

Once the right-of-way is acquired, the project will be re-advertised in fall 2010. The project is expected to be operationally complete in July 2012, thirteen months later than originally planned.

## **Rail Updates to Watch List**

### **Stanwood — New station (Snohomish)**

### **Stanwood — Siding upgrade (Snohomish)**

These two projects, budgeted for \$21 million, will construct a new train platform to serve Amtrak *Cascades* passengers, and upgrade and extend the siding in Stanwood. As reported in the December 2009 *Gray Notebook 36*, the Stanwood New Station has been completed.

As reported in the March 2010 *Gray Notebook 37*, Stage 2 of the Siding upgrade project is in the design phase; both the budget and the schedule are at risk. The anticipated United States Army Corp of Engineers (USACE) 404 permit was not received in July. Once the permit is received, WSDOT will provide an update.



## Watch List: Projects with schedule or budget concerns

### Removed from Watch List

#### ***SR 14/Camas Washougal – Add lanes & build interchange (Clark)***

This project, budgeted for \$57 million, will improve safety and relieve congestion on SR 14 from 6th Avenue to east of Union Street (SR 500). The project will widen SR 14 to four lanes from Lady Island through 2nd Avenue, with work on both the East and West Camas Slough bridges.

The project is in the design phase; the schedule was at risk. As reported in the March 2010 *Gray Notebook 37*, problems with right-of-way acquisition, local permitting requirements, and consequent environmental constraints on the construction timeline have delayed advertisement from April 2010 to October 2010. While much of the work is delayed from 2010 to 2011, the project is anticipated to be completed on schedule in the fall of 2012.

#### ***SR 500/St John's Boulevard – Build interchange (Clark)***

This project, budgeted for \$57 million, will replace the intersection at SR 500 and St. John's Boulevard with a new interchange. The complex construction elements include tall walls, high-voltage power lines and utility relocations, culverts, and a multi-use trail. When complete, it will improve safety and traffic flow.

The project is in the design phase; the schedule is at risk. As reported in the March 2010 *Gray Notebook 37*, WSDOT designers have encountered several design and constructability challenges, such as relocating utilities, constructing ramp bridges under high voltage power lines, and protecting a culvert. Following a Value Engineering study, WSDOT revised certain design elements to keep the project within budget.

The design revisions meant revisiting environmental documentation and WSDOT spent several months negotiating with the Federal Highway Administration (FHWA) on the appropriate level of documentation required before the agency could apply for permits. All permits have been submitted and are being processed. Advertisement has been delayed from April 2010 to October 2010.

#### ***SR 28/Junction US 2 and US 97 to 9th Street, Stage 1 – New alignment (Douglas)***

Related project: (B02800E) SR 28/ US 2/97 Intersection improvements

This multi-phase project, budgeted for \$54.5 million, will extend Eastmont Avenue to the junction of US 2/97 and SR 28 and construct intersection improvements to improve traffic flow. SR 28 is heavily congested due to both local vehicles and

through traffic connecting to US 2/97. When completed, an additional north-south arterial will connect the northern and southern ends of the Wenatchee Valley, reducing congestion and congestion-related collisions on SR 28.

Of the project's seven stages, five are directly administered by Douglas County and two by WSDOT; the first WSDOT contract was completed in early April and the other is scheduled for advertisement in October 2010.

The schedule was at risk because one of the Douglas County stages was delayed due to problems acquiring a parcel of land for the right-of-way. This has since been resolved, and the Canyon B Bridge construction contract was advertised and awarded. The operationally complete date has been delayed by one year, to October 2012.

WSDOT and the county continued to build related projects unaffected by the right-of-way problem, but it is possible the delayed Canyon B Bridge contract may still affect their completion dates. WSDOT will provide information as issues arise.

#### ***SR 900/SE 78th vicinity to I-90 vicinity – Widening and HOV lanes (King)***

This project, budgeted for \$44.9 million, will widen SR 900, provide shoulders for the I-90 westbound off-ramp, add turn lanes to an intersection, add HOV lanes, and remove fish barrier culverts. When completed, the project will reduce congestion and improve traffic flow and safety.

The project is in the construction phase; the schedule was at risk. As reported in the March 2010 *Gray Notebook 37*, wet weather prevented the contractor from completing final paving and striping. Drier spring weather allowed the roadway to open to traffic on April 14, 2010. Final paving was completed in May and crews will install permanent striping in the warmer weather. The project is currently under budget.

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

This project, budgeted for \$53 million, will improve a 3.7 mile section of I-5 from Rush Road to 13th Street in Lewis County. By constructing an additional lane in each direction and a new interchange at LaBree Road, the project will reduce congestion and improve traffic flow.

As reported in the March 2010 *Gray Notebook 37*, WSDOT has evaluated cost adjustments for completed bid items. Negotiations with the contractor are complete and the final project costs will be approximately \$20,000 more than previously budgeted. Construction is scheduled to be complete in October 2010 and final budgeting matters will be addressed then.



# WSDOT's Capital Project Delivery Programs

## Watch List: Projects with schedule or budget concerns

### **SR 9/Pilchuck Creek — Replace bridge (Snohomish)**

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

The project design is approximately 16% complete; the budget is at risk and the schedule was at risk. The March 2010 *Gray Notebook* 37 reported an \$11.6 million cost increase above the current budget. Since then, WSDOT has been able to re-evaluate the project's right-of-way needs and the construction estimate. Based on the selected design for the bridge realignment, the right-of-way cost increased by \$290,000 from \$500,000 to \$790,000. The construction cost increased by \$1.3 million from \$14.9 million to \$16.2 million due to WSDOT applying a \$1.2 million construction inflation factor that was not included in the cost reported last quarter, and \$120,000 for increased roadside restoration costs. The total project cost is now \$19.4 million, which is a \$13.2 million increase above the current budget. The increase will be included in WSDOT's 2011 budget request to the Legislature.

The current January 2012 advertisement schedule was at risk based on environmental permitting issues as reported last quarter; however, WSDOT now anticipates meeting the advertisement date on schedule.

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

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

This project, budgeted for \$49.5 million, will replace the old Ebey Slough Bridge with one new bridge that meets current design standards.

The project is in the construction phase; the schedule was at risk. As reported in the March 2010 *Gray Notebook* 37,

WSDOT was able to complete the water quality analysis requested by the Environmental Protection Agency (EPA) in time to receive the outstanding US Army Corps of Engineers (USACE) permit to advertise the project in April 2010.

The project was awarded in June 2010, 21% under the Engineer's Estimate, and is scheduled to be operationally complete in spring 2013.

### **I-5/Grand Mound to Maytown Stage One – Add lanes (Thurston)**

Related projects: (300581B) I-5/Grand Mound to Maytown, Stage Two – Replace interchange

This project, budgeted for \$90 million, will construct one additional northbound lane and one southbound lane south of SR 12 at Grand Mound Interchange to the interchange at Maytown. Work includes replacing several bridges and extending both on- and off-ramps for improved safety.

The project is in the construction phase. As reported in the March 2010 *Gray Notebook* 37, the schedule was at risk due to bad weather in the 2008-2009 winter season as extra staging work was required during construction for traffic management and the Maytown Bridge. The operationally complete date has been delayed from June 2010 to October 2010, and no further delays to the construction schedule have occurred.

In addition, WSDOT has taken advantage of the opportunities presented by the advancement of the Maytown Stage Two — Replace Interchange project, which now immediately follows completion of Stage One, to move several work items – particularly final paving and striping work – to Stage Two. For more details on the benefits of moving these items to Stage Two, please see the *Special Report on Southwest Washington I-5 Expansion and Improvement Program* on pages 75-76.

## 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.

### Changes to PEF project reporting: The number of projects under construction

This edition of the *Gray Notebook* (GNB) continues the refinements to capital project reporting begun in December 2009 (see page 50, December 2009 GNB 36), addressing reporting for Pre-Existing Funds projects. In the previous reporting method, new projects added to the Highway Construction Program could be added to already existing “bins,” rather than being counted as individual projects throughout the course of the reporting cycle. Just as WSDOT now reports on individual Nickel and TPA projects that may have been reported as one “bucket” of projects or a project “bundle” (see page 61, March 2010 GNB 37), PEF reporting will now count and track all individual components of a project bin.

By ‘unbundling’ these previously rolled-up bins, the total number of PEF projects has increased substantially from the numbers reported last quarter. In GNB 37, WSDOT reported a commitment to advertise 99 PEF projects in the current biennium; this quarter, the unbundled number of projects rises to 252.

### Additional changes to PEF project reporting: Budgets for projects under construction

Budget reporting has also been refined, to reflect the revised project counts. In previous reporting, WSDOT presented the actual-to-estimated value of awarded contracts for the current quarter. Now, the table *PEF project advertisements schedule performance* will show the original value of all projects planned for

advertisement in the biennium; the original value of projects planned to advertise through the current quarter; the original value of projects currently under construction; and the current estimated cost at completion for projects under construction.

This method of reporting progress against budget more closely aligns PEF reporting with Nickel and TPA reporting (see pages 55-65).

### PEF project performance is reported at two levels

#### *Six individually tracked projects*

Six projects are reported individually due to their size or significance (see page 88 for schedule and budget information on these projects).

#### *All other projects*

WSDOT reports on:

- Actual versus planned cash flow for the overall PEF program, see below; actual versus planned project advertisements, see page 86; advertisement record, see page 87.
- Before & After results for selected types of projects such as highway safety and congestion relief. (For examples, please see the Highway Safety Annual Report, pp. 5-10, and Travel Time Trends Semi-Annual Report, pp. 24-27.)

### 125 PEF projects advertised as of June 30, 2010

The 2009-11 Highway Construction Program includes a commitment to advertise 252 Pre-Existing Funds (PEF) projects in the current biennium, valued at \$843.7 million. From July 1, 2009, through the quarter ending June 30, 2010, WSDOT planned to advertise 120 PEF projects, valued at \$512.7 million. As discussed above, these numbers are significantly higher than those reported last quarter (a commitment to advertise 99 projects; 40 project advertisements planned for the quarter), due to ‘unbundling’ projects from previously rolled-up bins.

Of the 120 projects planned for advertisement through this quarter, six were delayed to future quarters of this biennium, three were deferred out of the biennium, and one project was deleted. (See the table ‘*PEF project advertisements schedule performance*,’ on page 86.)

Of the 22 planned PEF advertisements scheduled for this quarter, 17 were advertised as scheduled. Four were delayed to later in this biennium, and one project was deferred to a future biennium. In addition, one project was advanced from a future quarter, six projects delayed from a previous quarter were advertised, and seven emergent projects were advertised.

# WSDOT's Capital Delivery Programs

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

The original value for the projects advertised in the quarter is \$519.4 million; the current estimated cost at completion for all projects under construction is \$450.1 million. (See the table *Value of planned PEF advertisements: 2009-11 biennium.*)

### Value of planned PEF advertisements: 2009-11 biennium

July 1, 2009 through June 30, 2010; Dollars in millions

	Number	Original value	Current cost to complete
Total PEF advertisements planned 2009-2011	252	\$843.7	–
Planned advertisements through June 30, 2010	120	\$512.7	–
Actual advertisements through June 30, 2010	125	\$519.4	\$450.1*

Data source: WSDOT Capital Program Development & Management.

\* In cases where WSDOT's estimates 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.

### PEF project advertisements schedule performance

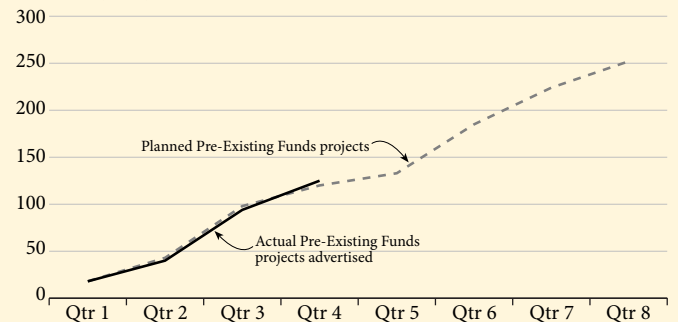
July 1, 2009 through June 30, 2010

	Number
Projects advertised as scheduled	103
Projects advertised Early	7
Projects advertised Late	8
Emergent projects advertised	7
<b>Total projects advertised</b>	<b>125</b>
Projects delayed (delayed within the biennium)	6
Projects deferred (delayed out of the biennium)	3
Projects deleted	2

Data source: WSDOT Capital Program Development & Management  
See page 89 for PEF advertisement definitions.

### Pre-Existing Funds projects construction program

Planned vs. actual number of projects advertised  
2009-2011 biennium, quarter ending June 30, 2010  
Number of projects



Data source: WSDOT Capital Program Development & Management.  
Note: As of Quarter 4 (April 1 - June 30, 2010), Original Planned project counts have been updated based on the 2010 Supplemental Budget.

### Paying for the Projects: Financial information

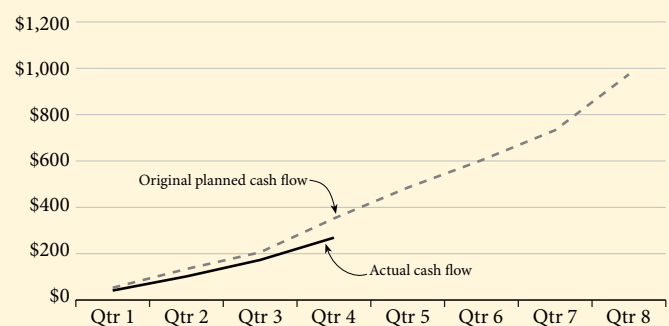
The 2010 Supplemental Budget provides for approximately \$683 million in PEF expenditures through the fourth quarter of the biennium. As of June 30, 2010, actual expenditures totaled \$539 million, a variance of \$144 million, or about 21%, from the biennial plan. The variance for the Highway Construction Program was divided between the Improvement and Preservation programs.

The Preservation Program planned cash flow was \$331 million, and actual expenditures were \$270 million. This was \$62 million, or 19%, under plan.

The Improvement Program planned cash flow was \$352 million, and actual expenditures were \$269 million. This was approximately \$83 million, or 23%, under plan.

### Pre-Existing Funds improvement program cash flow

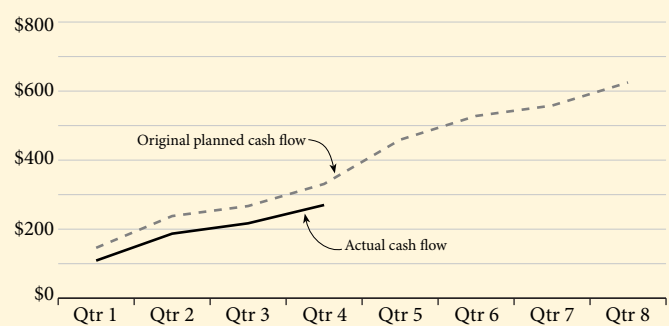
Planned vs. actual expenditures  
2009-2011 biennium, quarter ending June 30, 2010  
Dollars in millions



Data source: WSDOT Capital Program Development & Management.  
Note: As of Quarter 4 (April 1 - June 30, 2010), Original Planned Cash Flow values have been updated based on the 2010 Supplemental Budget.

### Pre-Existing Funds preservation program cash flow

Planned vs. actual expenditures  
2009-2011 biennium, quarter ending June 30, 2010  
Dollars in millions



Data source: WSDOT Capital Program Development & Management.  
Note: As of Quarter 4 (April 1 - June 30, 2010), Original Planned Cash Flow values have been updated based on the 2010 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, 2010

Project description	Advertised as scheduled
SR 24/Vernita Safety Rest Area - Replace Building	Late
I-5/Variable Message Signs - Replacement	√
I-5/Vicinity Lakeway Drive - Replace Sign Br	√
SR 18/Peasley Canyon - Unstable Slope On January 14'-2,0 10, following several days of heavy rains, a landslide developed on a steep hillside on the north side of SR 18 in Peasley Canyon.	Emergent
SR 18/Issaquah-Hobart Rd. - Retaining Wall Repair	√
I-90/EB West Portal Mercer Island Lid - Drainage Repair	√
SR 532/Pioneer Highway to 72nd Ave NW - Construct sidewalk	Emergent
SR 542/Marshall Hill Rd. - Culvert Replacement Advertisement was late due to delay in acquiring HPA permit.	Late
US 2/Stevens Pass - Recessed Plastic Edge Lines	Delayed
SR 20/Wauconda Summit East - 2010 Pavement Repair	Emergent
US 97A/North of Wenatchee -- Wildlife Fence - 2010 Addition	Emergent
Olympic Region Low Cost Pavement Repair - Paving	√
Olympic Region Centerline Rumble Strips 2009 - Safety	Late
SR 3/Hood Canal Bridge Vicinity - Improvements	√
SR 7/E 38th St to I-5 - Concrete Pavement Rehabilitation Based upon a field review with the Olympic Region Materials Engineer, this pavement repair project is no longer needed. The roadway distress is caused by an unstable slope under the road. Fixing the concrete panels will not fix the problem.	Deleted
US 12/Anderson Rd to Old Hwy 9 SW - Paving	√
US 101/Simdars Rd to Old Gardiner Rd - Paving	√
US 101/Chehalis River Br to Oak St - Paving	√
SR 161/Mashel River Bridge - Bridge Scour Advertisement delayed to complete NEPA and ESA approvals.	Delayed
SR 161/0.24 miles SE of Mashel River Bridge - Slope Stabilization Advertisement delayed to complete NEPA and ESA approvals.	Delayed
SR 305/Bjorgen Creek - Fish Barrier	√
I-5/Interstate Bridge - Miscellaneous Electrical/Navigation Repairs	Late
SR 6/Pe Ell to I-5 - Paving with Chip Seal	√
SR 14/Cape Horn Bridge Vicinity to Cape Horn Rd - Safety Improvements	√
SR 14/I-5 to SE 164th Avenue Interchange - Paving Advertised late to accommodate scope change.	Late
SR 14/Cape Horn Trail Pedestrian Tunnels	Emergent
SR 432/38th Ave Signal Replacement	√
SR 508/Davison Rd Vicinity Bank Erosion Repair	Emergent
I-90/Intelligent Transportation System - Communication Upgrade	√
I-90/Keechelus Dam to Cabin Creek WB - Paving	Late
Regionwide Crack Sealing	Emergent
US 2/Euclid Ave to Francis Ave - Paving	√
SR 21/Keller Ferry Boat - Preservation	Early
SR 21/1 Mile N of Manila Creek Rd - Slope Stabilization	Delayed

# WSDOT's Capital 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, 2010

Project description	Advertised as scheduled
SR 31/Pend Oreille County - Pedestrian Improvements	Delayed
I-90/Broadway Interchange East - Signal System Rehabilitation	√
SR 290/Division St to Riverpoint Blvd - Paving	√

Data source: WSDOT Capital Program Development and Management.

### Six individually tracked Pre-Existing Funds (PEF) projects: results through June 30, 2010

Dollars in millions

Project description	First legislative budget & year	Baseline current legislative approved & year	Scheduled date to begin preliminary engineering		Scheduled date for advertisement		Schedule date be operationally complete	
			Date	On time	Date	On time	Date	On time
US 2/Ebey Island Viaduct and Ebey Slough Bridge (Snomish)*	\$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 complete	√
• US 2/43rd Ave SE vicinity to 50th Ave SE vicinity – Bridge rehabilitation	\$26.7 2009	\$14.0 2010	Jan-09	√	Dec-10	Delayed	Dec-11	√ Early
SR 202/SR 520 to Sahalee Way – Widening (King) Project operationally complete February 2008.	\$36.9 2001-03	\$81.2 2010	May-98	√	Aug-05	√	Feb-08	√ Early
SR 539/Horton Road to Tenmile Road – Widen to Five Lanes (Whatcom) Project operationally complete November 2008.	\$32.0 2001-03	\$68.3 2010	Oct-90	√	Jan-07	√	Nov-08	√
SR 28/E End of the George Sellar Bridge – Construct Bypass (Douglas)	\$9.4 2004	\$28.0 2010	May-04	√	Jul-10	√	Dec-11	
US 101/Purdy Creek Bridge – Replace Bridge (Mason) Advertisement delayed due to additional design needed to bring Plans up to WSDOT Standards when they were returned from the consultant. Project operationally complete August 2009.	\$6.0 2004	\$10.2 2010	Aug-04	√	May-08	Late	Aug-09	Early
SR 303/Manette Bridge Bremerton Vicinity – Replace Bridge (Kitsap)	\$25.5 2002	\$82.9 2010	Sep-96	√	Mar-10	√	Jun-13	

Data source: WSDOT Capital Program Development & Management.

### A glossary of PEF advertisement terms

#### Advertisement date

The date that WSDOT schedules to publicly advertise a project for bids from contractors. When a project is advertised, it has a completed set of plans and specifications, along with a construction cost estimate. A √ mark in the Advertisement record indicates that a project advertised on time within the quarter.

#### Advanced

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

#### Early

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

#### Late

A project that was advertised in the 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

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

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

WSDOT tracks utility risks for all Nickel, TPA, and PEF projects. Fifteen Nickel and TPA projects with utility impacts were advertised between January 1 and June 30, 2010. Of these 15 projects, 10 were assigned the lowest utilities risk, Risk Level 1, compared to 17 for the previous six months. The remaining projects include two assigned Risk Level 2 and five were assigned Risk Level 3. The three risk levels are described in the table below.

**Utilities risk levels for advertised Nickel and TPA projects**

Level	Description	July-Dec 2009	Jan-June 2010
1	<b>Low</b> – Utilities have been relocated, and/or are clear of construction.	17	10
2	<b>Moderate</b> – Utility companies are actively pursuing relocation and the department has assurances the utilities will be clear by the date bids are opened.	4	1
3	<b>High</b> – 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.	0	4
<b>Total</b>		<b>21</b>	<b>15</b>

Data source: WSDOT Utilities Office.

Data note: Totals do not include project funded primarily by Pre-Existing Funds (PEF), but specific projects are described after this table.

### Background information for projects assigned Risk Level 2

#### Projects funded by the 2005 Transportation Partnership Account (TPA)

##### *SR 520/I-405 Vicinity – Seismic retrofit*

This project is part of WSDOT's seismic retrofit program. The purpose is to minimize and avoid catastrophic failures by strengthening bridges and structures to resist future earthquakes. This project is awaiting the Port of Seattle signing the right-of-entry agreement. One option is to defer the work at one location until the right-of-entry is completed. This issue is still pending.

#### Projects funded with Pre-Existing Funds

##### *SR 112 - Murphy Road to Charlie Creek/Weel Road – Pedestrian safety (Clallam)*

This project improved pedestrian safety on SR 112 from MP 16.98 to MP 17.15 in Clallam County by installing curbs, gutters, and traffic markings. Utilities owned by Century Link needed to be relocated; utilities work was completed before the March 3, 2010, bid opening.

#### Utilities Highlights:

Of the 22 Nickel and Transportation Partnership Account projects that were advertised between January 1 and June 30, 2010, one was given a Utilities Risk Level 2 and four were given a Utilities Risk Level 3.

For Pre-Existing Funds projects advertised between January 1 and June 30, 2010, one project was given a Utilities Risk Level 2 and one a Utilities Risk Level 3.

For more information about projects with utilities delays or concerns, please consult the Watch List on pp. 80-85.

# Cross-Cutting Management Issues

## Utilities

### Background information for projects with utilities Risk Level 3

#### Projects funded by the 2003 Nickel package

##### ***SR 522 - US 2 interchange: widening and safety (Snohomish)***

This project will build a new direct ramp to improve traffic flow and reduce the risk of congestion-related collisions. There are numerous utilities in this area which could pose a problem during construction, and those that do will be addressed during the contract. This project went to advertisement at Risk Level 3 to indicate to bidders the complexity of the project and the multiple utility installations that would need to be relocated.

Pre-construction relocation is progressing smoothly and WSDOT anticipates that utilities relocations will all be addressed before the contractor's work begins. Puget Sound Energy electrical, Snohomish County Public Utilities District electrical, Verizon Communications, and Sprint-Nextel Corporation's relocations are complete. The city of Monroe's waterline is in process of being moved, as is a Puget Sound Energy gas line.

#### Projects funded by the 2005 Transportation Partnership Account (TPA)

##### ***I-5 - Portland Avenue to Port of Tacoma Road - Northbound HOV - Stage 1 (Pierce)***

This project provides mobility improvements on I-5 by constructing a new northbound bridge with High Occupancy Vehicle lanes across the Puyallup River in Tacoma. Buried facilities owned by Puget Sound Energy and Qwest conflicted with two separate planned elements, the first being a temporary erosion and sediment control pond, and the second being soil-cement column construction. Qwest facilities will be relocated by early August; Puget Sound Energy estimates an August 5, 2010, completion date, which has been addressed by addendum to the contract.



*The bridge on the right is the proposed new northbound I-5 bridge over the Puyallup River in Tacoma.*

##### ***SR 305 - Unnamed tributary to Liberty Bay - Replace culverts/fish barriers (Kitsap)***

This project removes fish barriers at two locations on SR 305 near Poulsbo using trenchless construction methods: installing a 10-foot diameter steel casing in the unnamed tributary and a 12-foot diameter steel casing in Bjorgen Creek. Two parcels have wells that will be decommissioned and connected to the Kitsap Public Utility District (PUD) system. The State Department of Health was expected to approve both connections by April 9, 2010. Unfortunately, because of the location's shallow wells, the contract special provision precluded contract work from starting before July 7, 2010 to accommodate the well connection process. The PUD's work was completed by June 30, 2010.

##### ***SR 510 - Yelm Loop Stage 1 (Thurston)***

This project will help reduce congestion on Yelm Avenue and First Street, and improve freight mobility, safety, and traffic circulation through the city of Yelm. The new road allows traffic to move more efficiently between Spanaway, Roy, and McKenna in Pierce County and destinations in Thurston County. This contract had a special provision for a delayed start date of March 1, 2010, to accommodate utility relocations by Puget Sound Energy, Comcast, and Fairpoint Communications. All relocations were completed as planned.

#### Projects funded with Pre-Existing Funds

##### ***SR 303 Manette Bridge Replacement (Kitsap)***

This project will replace the Manette Bridge over the Port Washington Narrows in Bremerton. The current bridge is both structurally deficient and functionally obsolete (see p. 15 for more details on this project and bridge condition ratings.)

Qwest utilities currently exist on the bridge, but a temporary relocation will be completed by July 2010 to accommodate construction. The city of Bremerton's water utilities will be relocated onto the new bridge. Utilities from Comcast, Convergence Tech, and Wave Cable are on adjacent poles and cannot be moved until the bridge is closed to traffic, which is scheduled for mid-2011. These relocations are defined in the project schedule.

## Right-of-Way

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, including: Title 8 and Title 47 RCW, Title 468 WAC, 23 and 49 CFR, and Title 23 USC: the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended). WSDOT's goal is to deliver 100% on-time certification for all projects.

Forty-four projects with a right-of-way phase were scheduled to be certified in the first six months of 2010. Eight certification dates slipped. Of those eight, one was ready to certify, but certification was delayed due to a change in the ad date. Thirty-six of the 44 (82%) were certified on time.

### Certification delayed for eight projects

#### ***SR 99/South King Street Vicinity to Roy Street - Viaduct Replacement***

The project uses a design-build contract, in which right-of-way will be certified as needed during each phase.

#### ***I-5/196th Street Interchange - Build Ramps***

The certification was delayed due to an Interchange Justification Report and geotech issues.

#### ***SR 161/24th Street East to Jovita - Add Lanes***

The certification date was delayed due to plan revisions.

#### ***I-5/Grand Mound to Maytown Stage Two - Replace Interchange***

The certification date was delayed due to a series of design changes. Certification cleared in July.

#### ***US 12/SR 124 Intersection - Build Interchange***

The certification date was delayed because property acquisitions with U.S. Fish & Wildlife and the U.S. Army Corps of Engineers have not been completed.

#### ***SR 500/St. Johns Boulevard - Build Interchange***

The certification date was delayed due to utilities relocation, culvert protection, and environmental permitting.

#### ***SR 14/Cape Horn Bridge Vicinity to Cape Horn Rd - Safety Improvements***

The certification date was delayed due to plan revisions designed to minimize impacts to property owners who had objections to the original project design.

#### ***SR 14/Camas Washougal - Add Lanes and Build Interchange***

The certification date was delayed due to the death of a property owner and extended negotiations with an attorney representing multiple property owners.

### Right-of-Way Highlights

82% of right-of-way certifications were completed on-time in the first six months of 2010.

### On-time right-of-way certification results

	Jan-Jun 2009	Jul-Dec 2009	Jan-Jun 2010
Number of projects with a right-of-way phase	15	16	44
Number of projects with a right-of-way certification related delay	0	4	8
Number of projects delayed due to Real Estate Services right-of-way activity management	0	0	1
Percent of projects with a right-of-way phase that had an on-time certification	100%	75%	82%

Data source: WSDOT Real Estate Services.

# Cross-Cutting Management Issues

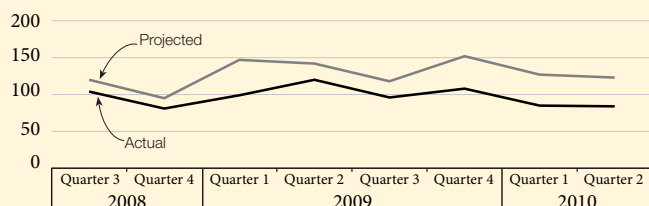
## Right-of-Way

### Acquisitions expected to increase in 2010

There were 169 total parcel acquisitions in the first six months of 2010, compared with 219 parcel acquisitions in the first six months of 2009. Projections for the remainder of 2010 equal 267 parcels, for a total estimate of 436 parcels to be acquired in 2010. This would be very close to the total of 423 parcels acquired in 2009. The graph below shows actual acquisitions compared to projections from July 1, 2008 to June 30, 2010.

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

*July 1, 2008 - June 30, 2010, actuals vs. projections*



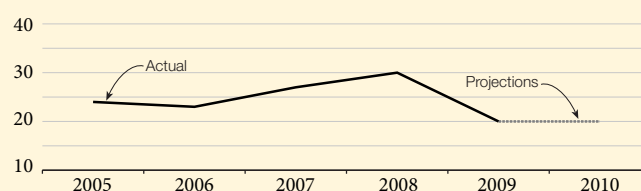
Data Source: WSDOT Real Estate Services.

### Right-of-Way condemnations remain steady

Condemnation involves legal action to acquire property by operation of law. Of the 18 open condemnation cases, 10 are new cases opened in the first six months of 2010, on pace for 20 this year. There has been one Judgment and Decree issued in the first six months of 2010. There were 20 for the entire year of 2009. The graph below shows actual condemnations from 2005 to 2009 and projections for 2010.

### Condemnations for all Nickel, TPA, and PEF projects

*2005-2009 actuals vs. 2010 projections*



Data Source: WSDOT Real Estate Services.

## Construction Cost Trends

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 and materials that are used on highway construction projects. The bids for these seven activities include the cost of all materials, labor, and equipment needed to complete the activity. The resulting index captures the rate of construction cost inflation experienced by WSDOT.

### WSDOT's Construction Cost Index increased by 8.9% in first half of 2010

WSDOT is still enjoying lower average cost inflation than in the recent past despite a nearly 9% increase in construction costs. Construction cost inflation has slowed significantly over the past three and a half years. From 2003 through 2006, WSDOT's CCI increased an average of 13.6% per year. Since that time, the CCI increased an average of just 1.8% annually – on track with WSDOT's inflation forecast as well as the rate of general inflation.

The graph shows the past 20 years of CCI data for Washington, the CCI for the Federal Highway Administration (FHWA), and the combined averages of CCI data for several western states: California, Colorado, Oregon, South Dakota, and Utah. Other states, as well as the FHWA, experienced price increases similar to those seen in Washington: the line representing the nearby states indicates similar swings in construction costs, moving up and down in line with WSDOT's CCI for the past five years.

The 8.9% increase in WSDOT's CCI during the first half of 2010 followed a 7.4% decrease during 2009, leaving current construction costs about where they ended in 2008. Current economic circumstances have contributed to the CCI dropping and rebounding so quickly. Despite the American Reinvestment and Recovery Act, other construction sectors (power, manufacturing, retail, warehouse, healthcare, office, lodging) provided limited work opportunities for contractors during the first half of 2010.

This decrease in work forced contractors to bid extremely competitively, reducing profits to stay in business. In times with little construction activity, contractors try to keep their employees and equipment as busy as possible while waiting for conditions to improve. Decreased construction activity caught material producers by surprise, creating a surplus of materials such as structural steel, steel reinforcing bar, asphalt, and fuel. The increase in the CCI shows that increasing demand for heavy construction materials is more in line with supply, and has allowed prices for some materials like concrete and steel to rebound moderately this year.

### Construction Cost Trends Highlights

WSDOT's Construction Cost Index (CCI) increased 8.9% in the first two quarters of 2010.

From 2006 - 2010 (YTD) the CCI increased an average of 1.8% per year.

### Components that make up WSDOT's CCI

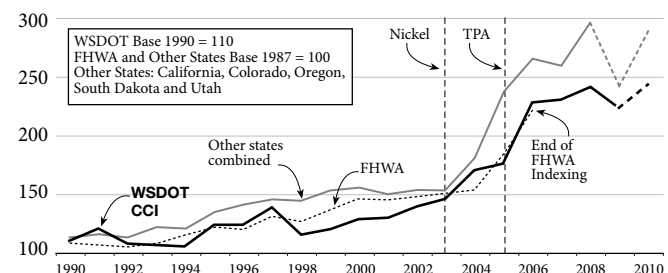
By material and corresponding weight as a percentage

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

Data source: WSDOT Construction Office.

### Construction Cost Indices Washington State, FHWA, and selected western states

1990 - 2010 (year to date)



Data source: WSDOT 2010 index is for quarters 1 and 2.

Notes: FHWA index discontinued in 2007. Other states 2009 data is the average of California, Colorado, Oregon and South Dakota annual data and Utah quarters 1, 2 and 3 data. Other states 2010 data is the average of California, Colorado and Oregon first quarter data. The 2003 and 2004 WSDOT CCI data points were adjusted to correct for spiking bid prices on structural steel.



# Construction Contracts Annual Report

## Award Award to Engineer's Estimate

### Construction Contract Highlights

In FY 2010, 130 of 150 contracts (86.7%) were awarded below the engineer's estimate.

The total final cost of contracts completed in FY 2010 exceeded the total award amount by 5.5%.

WSDOT completed 167 highway and ferry contracts in FY 2010, 2.5% more than FY 2009.

Final contract costs for FY 2010 were below the engineer's estimates by 3.7%, 10.3% less than completion costs in FY 2009.

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 after federal acceptance rather than when a project is operationally complete and open to traffic.

WSDOT estimators strive to produce estimates that accurately predict contractor bids. The past few years have challenged estimators because it has been difficult to predict how low the contractors will bid in this troubled market. In recent months, the difference between estimates and bid amounts has been shrinking, and estimates are becoming more accurate. This trend should continue into fiscal year (FY) 2011, as market conditions stabilize.

### 12.8% fewer construction contracts awarded in 2010

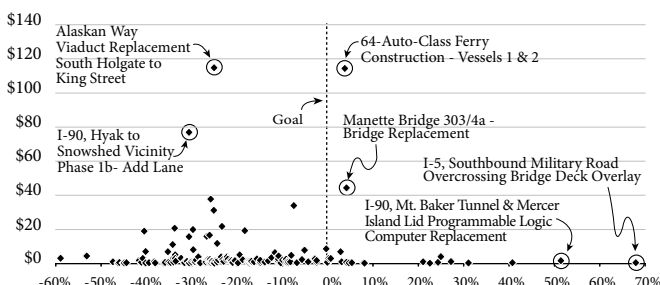
WSDOT awarded 150 highway construction and ferry contracts during FY 2010, 12.8% fewer than the number of contracts awarded in FY 2009. WSDOT awarded 29 Recovery Act contracts in FY 2010 and 18 in FY 2009.

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 2010 was \$832,703,781, which was 20.9% lower than the total engineers' estimates of \$1,053,141,129. In FY 2009, contract bids came in 18% lower than estimates. The additional 3% of awarded contracts that were signed at amounts lower than the estimates continues a trend seen in FY 2008 and 2009. For more information about why contractors' bids are lower than agency estimates, see Construction Cost Trends on page 93.

The scatter plot, below left, shows the award value for each contract and the total percent that were above or below the engineer's estimate. One hundred thirty contracts (86.7%) were awarded below the engineer's estimate. The remaining 20 contracts were awarded at a cost greater than the engineer's estimate. The graph, below right, shows the dollar values of awards above and below estimates.

### Individual contracts: award amount to engineer's estimate, FY 2010

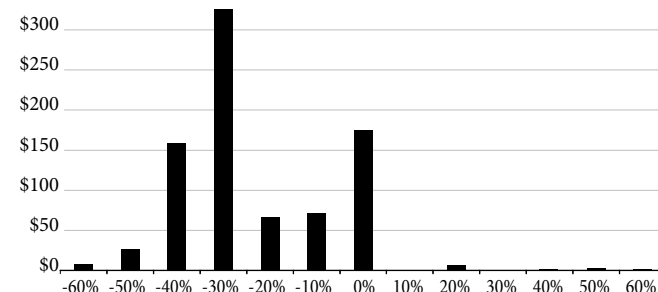
Percent award amount above or below engineer's estimate  
Dollars in millions



Data source: WSDOT Construction Office.

### Distribution of contract value over/under: award amount to engineer's estimate, FY 2010

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<sup>1</sup>

Dollars in millions

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Number of contracts awarded	155	135	160	149	172	150
Total award amount for these contracts	\$506.3	\$386.0	\$539.0	\$544.4	\$677.8	\$832.7
Total engineer's estimate for these contracts	\$518.1	\$370.3	\$533.1	\$605.4	\$816.2	\$1,053.1
Avg. % total awards were above/below the total estimate value	1.9%	1.7%	0.4%	-5.9%	-17.0%	-18.0%
% Total award is above/below the engineer's estimate	-2.3%	4.2%	1.1%	-10.1%	-17.0%	-20.9%
Combined contract value awarded below the estimate	74.4%	32.6%	35.5%	77.8%	82.8%	78.3%
Number of contracts awarded below the estimate	86	64	77	99	150	130
% of contracts awarded below the estimate	55.5%	47.4%	48.1%	66.4%	87.2%	86.7%

Data Source: WSDOT Construction Office.

<sup>1</sup> Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or ferry vessel repair contracts. Ferry Terminal contracts were added in 2008.

### 3.1% more construction contracts completed in FY 2010 compared to FY 2009

WSDOT completed 167 highway and ferry contracts in FY 2010, representing a 2.5% increase from FY 2009, when 163 contracts were completed. Twelve completed contracts were funded by the federal Recovery Act. 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.

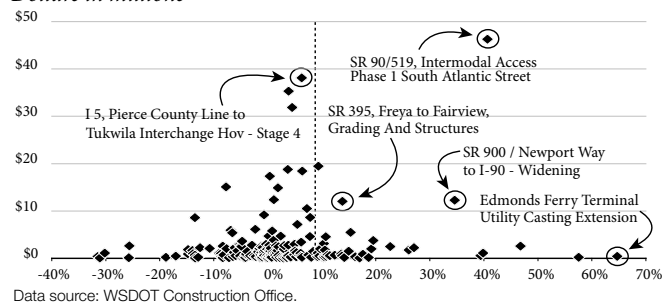
The total final cost of the contracts completed in FY 2010 was \$535,519,767. This exceeds the total contract award cost of \$507,760,470 by 5.5%, a decrease from FY 2009 when total final costs exceeded total contract awards by 8.4%.

The scatter plot below shows the final cost of each contract and the percent above or below the contract award amount. The final cost for 135 contracts (80.8%) was less than 10% above the award amount. The cost-at-completion for the remaining 32 contracts was 10% or more than the contract award amount.

#### Individual contracts: final costs to award amount

Percent final cost above or below award amount, FY 2010

Dollars in millions



Data source: WSDOT Construction Office.

On average, completed contracts cost 2.5% more than the contract award amount, which is an excellent average in the building industry.

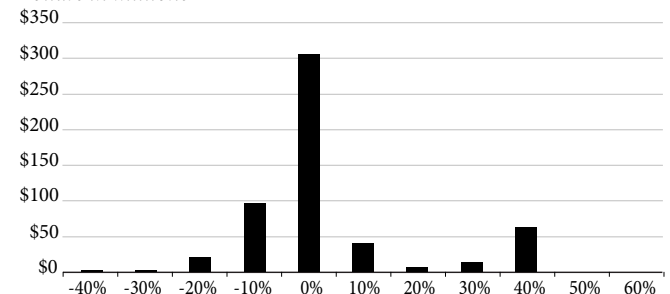
### WSDOT improves its contracting process

WSDOT already has a robust system of checks and balances related to cost control on projects delivered by the agency. In July 2010, Washington Transportation Secretary Paula Hammond announced that the agency will strengthen these systems. Changes to WSDOT contracts must be approved by key project office and region personnel with input from WSDOT's Headquarters Construction Office which reviews the changes for statewide consistency and captures best practices. These are then incorporated into WSDOT policy. The Headquarters unit will now serve as a single point of accountability for contract authority and approvals for highways, ferries and rail construction programs.

#### Individual contracts: final costs to award amount

Percent final cost above or below award amount, FY 2010

Dollars in millions



Data source: WSDOT Construction Office.

# Construction Contracts Annual Report

## Contract Final Costs to Engineer's Estimate

### Completed contracts: Final costs to award amount<sup>1</sup>

Dollars in millions

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Number of contracts completed	165	125	136	131	163	167
Total final cost for these contracts (without sales tax)	\$305.3	\$231.3	\$290.7	\$310.2	\$404.1	\$535.5
Total award amount for these contracts	\$290.7	\$207.0	\$273.2	\$295.4	\$372.6	\$507.8
Average % final costs exceeded award amount	4.1%	3.6%	3.2%	2.7%	2.7%	2.5%
% final cost exceeded award amount	5.0%	11.7%	6.4%	5.0%	8.4%	5.5%
% of contract values less than 10% above award	76.7%	54.7%	66.7%	75.8%	59.7%	79.5%
Number of contracts less than 10% above award	128	100	109	112	136	135
% of contracts less than 10% above award	77.6%	80.0%	80.1%	85.5%	83.4%	80.8%

Data Source: WSDOT Construction Office.

<sup>1</sup> 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: final costs to award

#### SR 900 Newport Way to I-90

The final cost totaled \$12.3 million, 35% higher than the bid amount due to site conditions that were less favorable than originally expected. Soft, wet soils contributed to the settling of an existing structure, causing an alignment problem with the new construction on one area of the project. In another project area, soft soil flowed out from under the shoulder of the roadway, requiring an emergency fix. More time and more construction materials were needed to construct the project and this contributed to increased costs.

#### SR 90 and SR 519, Intermodal Access Phase 1

The final contract cost totaled \$46.3 million, 41% above the awarded amount due to numerous contract changes, overruns in bid item costs, and the time spent settling problems with the contractor. The majority of the overrun was associated with underground work, as difficult soil conditions were encountered: obstructions had to be removed before work could begin, while issues around soft soils included the need for additional foundation work, problems with items that settled after installation. In addition, contaminated material that had to be removed was expensive to dispose of, and issues arose with construction of the drilled shafts. These changes – calling for unplanned additional work items and more materials – drove costs up, but there were also indirect costs that resulted in a settlement to the contractor of approximately \$2.9 million.

### Final contract costs for FY 2010 3% below engineers' estimates

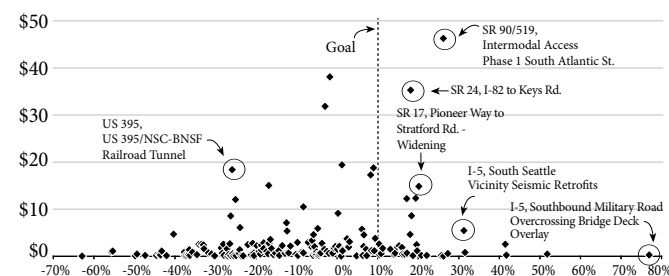
The final contract costs in FY 2010 totaled \$535,519,767. This was 3.7% below the total engineer's estimate of \$556,025,334 for these contracts. This is the first time final costs have fallen below estimates since FY 2004. By comparison, in FY 2009, contract final costs exceeded estimates by 6.6%.

The scatter plot shows the final cost of each contract and what percentage it was above or below the engineer's estimate. The final cost for 133 construction contracts (79.6%) was less than 10% higher than the engineer's estimate. The remaining 34 contracts (20.4%) cost 10% or greater than the engineer's estimate when completed.

### Individual contracts: final costs to engineer's estimate, FY 2010

Percent final cost above or below engineer's estimate

Dollars in millions



Data source: WSDOT Construction Office.

## Contract Final Costs

### Completed Contracts: Final costs to engineer's estimate<sup>1</sup>

Dollars in millions

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Number of contracts completed	165	125	136	131	163	167
Total of construction contract estimates completed	\$303.3	\$228.9	\$287.0	\$298.2	\$379.1	\$556
Total final cost for construction contracts <sup>2</sup>	\$305.3	\$231.3	\$290.7	\$310.2	\$404.1	\$535.5
% total contract values cost above/below estimate	0.7%	1.0%	1.3%	4.0%	6.6%	-3.7%
% of contract value less than 10% above estimate	72.6%	64.5%	63.5%	63.8%	49.6%	69.3%
Number of contracts less than 10% above estimate	125	93	96	89	116	133
% of contracts less than 10% above estimate	75.8%	74.4%	70.6%	67.9%	71.2%	79.6%

Data source: WSDOT Construction Office.

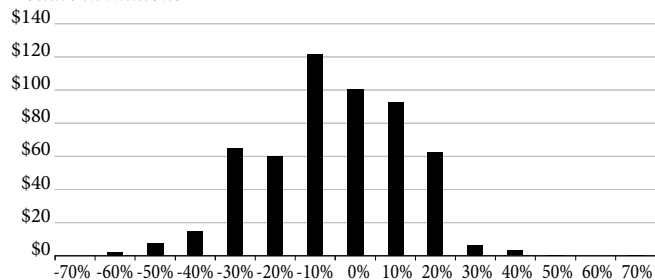
<sup>1</sup> Does not include Design-Build, Hood Canal Bridge, Emergency, On-call, or ferry vessel repair contracts. Ferry Terminal contracts were added in 2008.

<sup>2</sup> Without sales tax.

### Distribution of contract value over/under: final costs to engineer's estimate, FY 2010

Percent final cost above or below engineer's estimate

Dollars in millions



Data source: WSDOT Construction Office.



### Significant cost overruns: final costs to estimate

#### SR 17, Pioneer Way to Stratford Road – Widening

The final cost totaled \$14.9 million, 20% above the engineer's estimate due to cost escalation between the time the engineer's estimate was put together and the time bids were opened on the contract.

The lowest bid came in 18% above the engineer's estimate due to higher-than-expected cost escalation and shortages for materials like asphalt being experienced at the time bids were opened. Shortly after bids were opened on this contract, WSDOT revised the way it factors cost inflation into project estimates. This was a response to bids coming in high on projects like this, and the project on SR 24 discussed at right.

For more information on this change, see the June 2007, edition of the [Gray Notebook 26, p. 56](#).

#### SR 24, I-82 to Keys Road

The final cost was \$35.3 million, 18% higher than the engineer's estimate due to cost increases for construction materials, as well as added work. The bid submitted by the contractor to construct the project came in 14% above the engineer's estimate, accounting for the majority of the cost increase. The contract was bid during a time when costs for construction materials were rising very quickly and costs rose between the time the engineer's estimate was completed and the contract was put out to bid. The agency awarded the contract at the higher cost because it was determined that the original estimate was too low for current conditions. The remainder of the increase (4%) was experienced during construction of the project. More erosion control items were needed than originally planned to meet permit conditions. During construction, it was discovered that a utility was in conflict with the project work and needed to be relocated at an added cost.

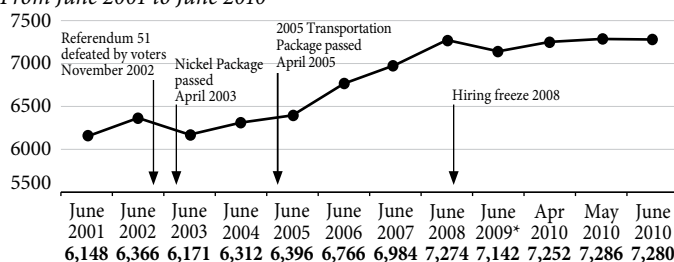
# Workforce Level and Training Quarterly Update

## Workforce Level and Training Highlights

WSDOT employed 21 more permanent full-time workers on June 30, 2010, than on March 31, 2010.

### Number of permanent full-time employees

From June 2001 to June 2010



Data Source: Dept. of Personnel Data Warehouse, HRMS, WSDOT and the ferry system payroll.

\* Between June 2009 and October 2009, up to 63 people a month were coded as employees for settlement pay purposes; from November 2009 to March 2010, 9 people were coded in this way. Those numbers are not included in the graph.

This quarter end, WSDOT employed 7,280 permanent full-time employees, 21 more employees than the previous quarter ending March 31, 2010. The increase is mainly due to the hiring of Washington State Ferries (WSF) terminal and deck staff.

WSDOT employed 138 more permanent full-time employees on June 30, 2010, than one year earlier. The increase is mainly due to non-permanent WSF staff becoming permanent as they met requirements set out in the collective bargaining agreement.

The chart at left shows the number of full-time employees since June 30, 2001. The total number of full-time equivalencies (FTEs) will generally exceed the number of permanent full-time employees, as seasonal, permanent, part-time, and non-permanent/on-call workers are funded from FTE allocations.

## Workforce training compliance steady

Training compliance for six of seven mandatory diversity and policy courses remained within one percentage point from March 31, 2010, to June 30, 2010. However, compliance in the new Information Security course fell from 65% to 52% when its annual refresher requirement came due for the first time.

WSDOT met the 90% statewide performance goal for three mandatory courses in June.

Safety and maintenance training compliance increased to 84% in June.

Compliance fell from 65% to 52% for Information Security training.

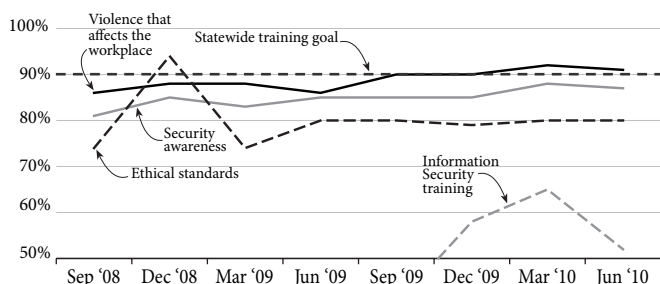
Compliance is a measure of workers who are up to date on the mandatory training as of June 30, including initial or refresher session. The agency's 90% compliance goal reflects both the ongoing hiring process and the annual cycles of when employees are more available for training. Three courses – Disability Awareness, Valuing Diversity, and Violence that Affects the Workplace – met the agency's 90% compliance goal.

## Compliance with mandatory diversity training steady

Training compliance for the three mandatory diversity courses remained nearly steady from March to June. Compliance increased in all three courses on June 30, 2010, over the quarter ending June 30, 2009, including an improvement from 79% to 88% in Sexual Harassment/Discrimination. Spurred by recent budget constraints and the need for costefficiency, WSDOT has changed the way it delivers training statewide. One eight-hour classroom session now delivers three modules of training which previously took 12 hours. The three-in-one class is now mandatory for new employees.

## Required policy training for all WSDOT employees

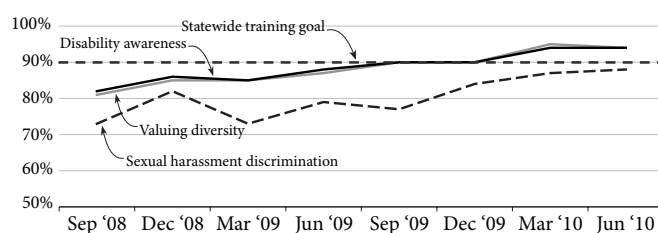
By percentage of employees in compliance, September 2008 to June 2010



Data source: WSDOT Human Resources Office, Staff Development.

## Required diversity training for all WSDOT employees

By percentage of employees in compliance, September 2008 to June 2010



Data source: WSDOT Human Resources Office, Staff Development.



# Workforce Level and Training Quarterly Update

Starting in January, WSDOT no longer required employees who have already taken Valuing Diversity or Disability Awareness to take the course again every five years. Instead, the agency is providing a quarterly newsletter on diversity issues to all employees. See the graph 'Required diversity training' (on page 98) for compliance in the courses over the last two years.

## New forecasts pinpoint training needs

Implementing the agency's Automated Training Management System (ATMS) forecasting model has made it possible for the agency to coordinate and plan for future training sessions based on the needs of each region's employees using the existing ATMS database. Most of the trainings scheduled for the remainder of 2010 are concentrated in the Headquarters, Olympic, and Northwest regions.

The inaugural Diversity Quarterly Newsletter, distributed in April 2010 to every employee and facility, is the start of more frequent contact with WSDOT employees to provide news they can use to foster positive work environments. The first newsletter provided information on mediation, conflict resolution, and services offered by the WSDOT Office of Equal Opportunity, and a brief summary of "Respect in the Workplace". The July 2010 newsletter will continue to educate employees about diversity and disability issues.

A newly updated Sexual Harassment/Discrimination training module has been introduced for 2010, expanding information on veteran status and gender identity. In addition, WSDOT is updating the training material and outlines for the Disability Awareness and Valuing Diversity courses.

## Policy training compliance

Training compliance for Ethical Standards remained steady at 80%, while compliance for Violence that Affects the Workplace and Security Awareness declined by 1% each, to 91% and 87%, respectively.

Compliance with the Information Security training declined from 65% in March to 52% in June as employees who had previously taken the course did not immediately complete the refresher. The self-administered course, which started in 2009, is the only WSDOT course required of all employees that has a one-year refresher requirement.

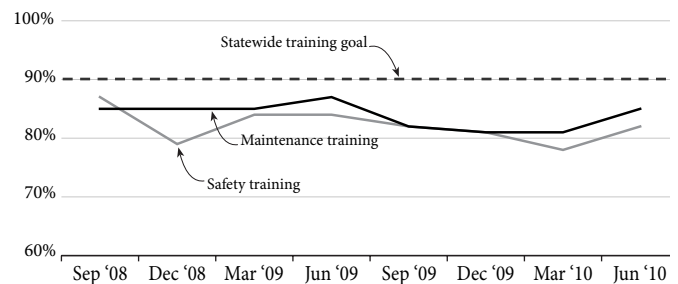
WSDOT distributed an agency-wide reminder to all employees in August about the refresher requirement and Information Security compliance is expected to increase in the quarter ending September 30, 2010.

## Compliance with statutorily required maintenance and safety training increased

WSDOT employee compliance with statutorily required maintenance and safety training was 84% this quarter, 5% better than last quarter. The safety training compliance level was 85% on June 30, 2010, 7% more than last quarter, while the maintenance training compliance was up 82%, a 1% increase over last quarter. The graph below shows employee safety and maintenance training compliance between September 30, 2008, and June 30, 2010.

## Maintenance and safety training compliance

*By percentage of employees in compliance, September 2008 to June 2010*



Data source: WSDOT Human Resources Office, Staff Development.

## Statutorily required maintenance & safety courses

### Maintenance courses

Aerial lift  
Bucket truck  
Drug & alcohol certification  
Excavation, trenching & shoring  
Emissions certification  
Forklift  
Mobile crane certification  
Hazardous materials awareness  
Railway work certification

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

### Safety courses

Blood-borne pathogens  
Confined space entry  
Drug free workplace

WSDOT's goal is to reach 90% compliance for statutorily required maintenance and safety employee training. Compliance is annually highest in the fall when more employees are available for training. Supervisors and trainers balance the workloads of maintenance staff to ensure training occurs continually while maintaining roadways safely.

# Workforce Level and Training Quarterly Update

## Crane operation certification remains a high priority

WSDOT employees operate mobile cranes for maintenance and inspections on state highways and construction projects. Following the collapse of a tower crane in Bellevue in 2006, the state Legislature adopted a new crane safety law in 2007 which took effect on January 1, 2010. The law and regulations require crane operators to meet experience requirements and pass written and hands-on exams.

WSDOT identified 54 employees who require mobile crane training and certification. As of June 30, 19 (35%) employees received certification, including 14 employees certified between April 1 and June 30. WSDOT will continue to train employees to meet this certification in order to operate cranes at maintenance and construction sites.

## Training compliance decreased in four regions

WSDOT tracks statutorily required training compliance for its maintenance workers by region. The table below documents each region's compliance with all the courses listed as a single measure. On June 30, the Southwest region met the 90% goal for safety and maintenance training compliance. Compliance increased in three regions, remained the same in two regions, and decreased in one region from March 31, 2010, to June 30, 2010.

## Region maintenance and safety training compliance

*By percentage of employees in compliance on June 30, 2010, Goal is 90%*

Region	Current quarter percent in compliance	Percent change from last quarter	Biennium average	Goal met
Northwest	77%	11%	74%	
North Central	85%	0%	83%	
Olympic	84%	-2%	80%	
Southwest	96%	4%	94%	✓
South Central	87%	0%	85%	
Eastern	88%	3%	91%	

Data source: WSDOT Office of Human Resources, Staff Development.

## Eversafe driver training compliance is 98%

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 who drive state-owned vehicles over 1,000 miles a month at least six months a year, and also for employees that have had two accidents in two years 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 2010, WSDOT identified 1,135 employees that are candidates for Eversafe training; of those, 1,112 (98%) had completed the training. All six regions met their Eversafe training compliance goals. Headquarters, with 83% in compliance, did not meet the goal.

Compliance as of June 30, 2010, is slightly higher than in June 30, 2009, when 97% had completed the training.

## Eversafe driver safety training compliance by region

*As of June 30, 2010, Goal is 90%*

Region	Employees requiring training	Training completed to date	Percent in compliance	Goal met
Northwest	346	335	97%	✓
North Central	142	139	98%	✓
Olympic	144	143	99%	✓
Southwest	234	232	99%	✓
South Central	104	103	99%	✓
Eastern	147	145	99%	✓
Headquarters	18	15	83%	
<b>Total</b>	<b>1,135</b>	<b>1,112</b>	<b>98%</b>	<b>✓</b>

Data Source: WSDOT Office of Human Resources, Staff Development.

# Highlights of Program Activities

## For the quarter ending June 30, 2010

### Project Starts, Updates or Completions

#### Project Starts

##### *I-5 Pierce & Thurston counties*

Construction on I-5 between Martin Way in Lacey and 48th Street in Tacoma began in March and is scheduled for completion in September. The \$8.4 million project replaces pavement that is more than 50 years old – twice its expected 20-year lifespan. WSDOT and contractor Penhall Company began rehabilitating the concrete roadway in Thurston and Pierce; when done, the crews will have replaced 85 of 295 concrete panels and 3,018 of 56,700 dowel bars. The project preserves the freeway's structural integrity and extends its lifespan, and will save taxpayers money in the long run by eliminating maintenance on these highly traveled sections. When work is completed, motorists will have a safer, quieter drive with fewer ruts, bumps, and cracks.



*Crews chipping out slots for replacement dowel bars on I-5 near Martin Way in Lacey*

##### *I-90, SR 520 King County*

In April, crews working for WSDOT began small but important safety projects on the I-90 Homer Hadley floating bridge and the SR 520 Evergreen Point floating bridge. Over the next five months, workers will remove and replace 30 frayed and corroded anchor cables. The floating bridge pontoons are connected to anchors on the bed of Lake Washington by dozens of the thick stranded steel cables. Some of these cables, which help the bridges withstand strong winds and pounding waves each winter, are nearing the end of their design life. The \$4.3 million project replaces 15 of 52 cables on I-90 and 15 of 58 cables on SR 520. WSDOT awarded the contract to General Construction Co. of Poulsbo.

#### Project Updates

##### *SR 532 Bridge Work in Snohomish County*

Crews reached an important milestone on May 19 when they finished pouring the largest deck portion of the new SR 532 bridge spanning the Stillaguamish River between Stanwood and Camano Island. The new bridge will be more than twice as wide as the current span, with wide shoulders for emergency responders and disabled vehicles, a lower profile for better driver visibility; it will meet more stringent earthquake standards. The project also includes safety improvements on SR 532 from I-5 to Terry's Corner on Camano Island. Crews expect to wrap up the majority of work this fall, which includes completing new truck-climbing lanes, adding turn lanes, improving intersections, adding street lighting, and paving from the Mark Clark Bridge to 72nd Ave. NW. Once the new bridge is completed and opened to traffic in August, the old bridge will be demolished.



*Crews clear debris from the controlled rock blasts on I-90 near the Keechelus Dam*

##### *I-90 Snoqualmie Pass East Widening*

WSDOT and crews from Max J. Kuney Co. on the I-90 Snoqualmie Pass East – Hyak to Keechelus Dam project braved an unseasonably cold, wet spring to construct the new bridges and detours WSDOT will use to keep two travel lanes open during construction. In order to widen the narrow I-90 corridor from Hyak to Keechelus Dam, on June 15 WSDOT and contractor crews began the first in a series of controlled rock blasts near Hyak. As part of each blast, explosives fracture or crack a rock area close to 120 feet by 120 feet by 24 feet deep, or about 12,800 cubic yards. By the end of the construction season, WSDOT will have removed about one million tons of rock – more than the weight of the Golden Gate Bridge – from the slopes next to I-90.

# Highlights of Program Activities

## For the quarter ending June 30, 2010

### Project Completions

*Two Stimulus-funded projects completed, in Snohomish and King counties*

Two projects funded by the American Recovery and Reinvestment Act were completed this quarter. In Snohomish, crews opened all lanes of southbound I-5 near Stanwood on May 20, just in time for the warmer weather and busier driving season. The \$9.2 million concrete rehabilitation project replaced broken concrete panels along six miles of southbound I-5. About 59,000 vehicles use this stretch of I-5 daily.

Bothell-area drivers enjoy a quicker drive north thanks to the opening of a new lane on northbound I-405 in Bothell from NE 195th Street to SR 527. Crews added the lane in one of the area's worst traffic bottlenecks, where more than 80 congestion-related collisions have occurred in the past three years. This \$19.3 million project was not scheduled to open to traffic until 2015, but federal stimulus funds allowed it to move forward.

For more information on Recovery Act-funded projects, see pages 50-54.



### Rail

#### WSDOT announces plan to review environmental studies for Point Defiance high speed rail project

WSDOT announced on May 10 it will conduct a project-specific Environmental Assessment (EA) of the \$91 million Point Defiance Bypass project, working closely with other agency and community stakeholders. WSDOT has invited representatives from Sound Transit, Pierce County, Joint Base Lewis-McChord, and the cities of Lakewood and DuPont to be part of an advisory team that will review and comment on updates to environmental work and analyses produced by the project team. This process supports coordinated decision-making, providing multiple opportunities and resources to identify and resolve potential setbacks.

The Point Defiance Bypass project proposes to reroute passenger trains to an existing rail line along the west side of I-5 through south Tacoma, Lakewood, and DuPont. Currently, passenger trains share the freight route along the coastline around Point Defiance. The completed project will result

in more reliable passenger rail service between Seattle and Portland and free up the congested freight rail line, ultimately improving access to Washington ports and business.

### Traveler Information and Safety

#### WSDOT starts installing US 12 “Lights on For Safety” signs May 24

In response to the Mossyrock community's request for safety improvements on US 12, WSDOT will install 14 “Lights on for Safety” signs between I-5 and the SR 410 junction near Naches. The first sign was installed just west of Mossyrock and unveiled May 24. “Lights on for Safety” signs are a low-cost safety improvement in line with Target Zero, Washington's Strategic Highway Safety Plan. Target Zero aims to eliminate traffic deaths by the year 2030 through education, engineering and enforcement on our state highways. WSDOT has recently made other safety improvements to the US 12 corridor, including the installation of rumble strips along more than 40 miles of highway in 2008. In 2011 a project will repave, restripe and install new signs on portions of US 12 between Morton and Randle. (See pages 5-10 for the Highway Safety Annual Report.)

#### WSDOT adds cameras to US 2

Summer brings higher traffic volumes on US 2 as drivers flock to fairs, festivals, campgrounds, and destinations on the east side of the state. To help keep traffic moving on holiday weekends and throughout the year, WSDOT installed and activated three new highway cameras on US 2 near Sultan at the intersections of Old Owen Road, 5th Street/Mann Road, and Sultan-Basin Road. Crews connected the cameras to WSDOT's traffic management center in Shoreline last month and made them available online in time for the busy Memorial Day holiday weekend.



*An online view of US 2-Old Owen Road in Snohomish County. This traffic camera was one of three new cameras installed on US 2*



## For the quarter ending June 30, 2010

### Announcements, awards and events

#### Preferred alternative announced for SR 520 bridge project

WSDOT marked a major milestone in its effort to replace the aging and vulnerable State Route 520 floating bridge. After 13 years of thorough analysis and input from thousands of people, the state announced a preferred alternative for the I-5 to Medina: Bridge Replacement and HOV Project.

Major safety, transit and environmental improvements are in store for the SR 520 corridor from I-5 in Seattle across Lake Washington to Medina. The SR 520 preferred alternative takes key steps to get ready for future light rail, help manage traffic in the Arboretum, and transform the future highway with a landscaped lid and median for a parkway experience. The new floating bridge and highway will have six lanes, including two general-purpose lanes and a new transit/HOV lane in each direction. Adding transit/HOV lanes makes travel in the corridor faster and more reliable for buses and carpools and supports regional plans for completing the HOV system to reduce the number of single-occupancy vehicles.



*One of the test pontoons constructed in preparation for the SR 520 floating bridge replacement project.*

#### SR 520 pontoon construction project: Environmental analysis released

WSDOT marked a major milestone toward beginning pontoon construction in Grays Harbor for a new SR 520 floating bridge by publishing the draft environmental impact statement for the SR 520 Pontoon Construction Project. The document includes

an analysis of the proposal to build a pontoon casting facility in Grays Harbor and 33 pontoons. The project prepares WSDOT to replace the SR 520 floating bridge in case of an emergency.

If the pontoons are not needed to repair a catastrophic failure, WSDOT will use them in the proposed replacement of the SR 520 bridge, which is scheduled to open to drivers in 2014.

#### Students win top prize in statewide transportation art and essay contest

More than 200 students ranging in age from six to 11 participated in the sixth annual I-90 Bridging Futures Art and Essay Contest from schools across the state, including Yakima, North Bend, Cle Elum, Easton, Burien, and Selah. The students created drawings depicting wildlife bridges – an essential part of the I-90 Snoqualmie Pass East Project – and essays highlighting the importance of considering wildlife when planning and designing our state's highways.

Taylor Moulton, a third grader from Mountainview Elementary in Yakima, and Cassidy Rudd, a fifth grader from North Bend Elementary in North Bend, were the winners. WSDOT and the I-90 Wildlife Bridges Coalition held surprise presentations at each student's school to honor them for their outstanding creativity. As part of the contest's grand prize, Moulton's artwork will be displayed on a billboard in Seattle on Dearborn Street, and Rudd's artwork will be displayed on a billboard in Ellensburg off of I-90 from July 12 to August 12.

#### Washington keeps title for the "Most Bicycling Friendly State" for the third year in a row

For the third time, Washington has been rated by the League of American Bicyclists as the nation's number one "Bicycle Friendly State." Washington's strong commitment to bicycling through its policies, programs, and facilities has again earned the state national recognition for its bicycle-friendly communities. The Bicycle Friendly State Program is a recognition program that recognizes states that actively support bicycling as a way of addressing climate change, traffic congestion, obesity, and high fuel prices. States are rated based on their support of bicycling through legislation, policies and programs, education, places to ride, and planning. Washington scored consistently high in all ranking evaluation categories.



# Gray Notebook

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Calendar year	Edition number / date (Washington 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)	35 / Sept 30, 2009 (FY10 Q1)	36 / Dec 31, 2009 (FY10 Q2)
2010	37 / Mar 31, 2010 (FY10 Q3)	38 / June 30, 2010 (FY10 Q4)		

Edition ranges (e.g. 3-12) include first and last edition in the range. All editions can be accessed at:

[www.wsdot.wa.gov/Accountability/GrayNotebook/gnb\\_archives.htm](http://www.wsdot.wa.gov/Accountability/GrayNotebook/gnb_archives.htm)

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\*Note: Some performance measures for *Gray Notebook* 35 are featured in the stand-alone Congestion Annual Report, available online at [www.wsdot.wa.gov/accountability/congestion](http://www.wsdot.wa.gov/accountability/congestion)

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\*Note: Some performance measures for *Gray Notebook* 35 are featured in the stand-alone Congestion Annual Report, available online at [www.wsdot.wa.gov/accountability/congestion](http://www.wsdot.wa.gov/accountability/congestion)

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\*Note: Some performance measures for *Gray Notebook* 35 are featured in the stand-alone Congestion Annual Report, available online at [www.wsdot.wa.gov/accountability/congestion](http://www.wsdot.wa.gov/accountability/congestion)

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\*Note: Some performance measures for *Gray Notebook* 35 are featured in the stand-alone Congestion Annual Report, available online at [www.wsdot.wa.gov/accountability/congestion](http://www.wsdot.wa.gov/accountability/congestion)



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\*Note: Some performance measures for *Gray Notebook* 35 are featured in the stand-alone Congestion Annual Report, available online at [www.wsdot.wa.gov/accountability/congestion](http://www.wsdot.wa.gov/accountability/congestion)



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- Highway Maintenance Workers Safety Training (5-13, 16-38)

### **Required Training**

- For all WSDOT Employees (7-38)
- For Human Resources Personnel (35-36)
- For Maintenance Workers by Region (20-38)
- Workforce Levels (5-38)

\*Note: Some performance measures for *Gray Notebook* 35 are featured in the stand-alone Congestion Annual Report, available online at [www.wsdot.wa.gov/accountability/congestion](http://www.wsdot.wa.gov/accountability/congestion)

## 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](http://www.wsdot.wa.gov).

For this or a previous edition of the *Gray Notebook*, visit [www.wsdot.wa.gov/accountability](http://www.wsdot.wa.gov/accountability).