Washington State
Department of Transportation

Measures, Markers and Mileposts

The Gray Notebook for the quarter ending
June 30, 2006

WSDOT's quarterly report to the Governor and the
Washington State Transportation Commission
on transportation programs and department management

Douglas B. MacDonald
Secretary of Transportation

What Gets Measured, Gets Managed

This periodic report is prepared by WSDOT staff to track a variety of performance and accountability measures for review by the Transportation Commission and others. The content and format of this report is expected to develop over time. Information is reported on a preliminary basis as appropriate and available for internal management use and is subject to correction and clarification. The *Gray Notebook* is published quarterly in February, May, August, and November. For an online version of this or a previous edition of the *Gray Notebook*, visit www.wsdot.wa.gov/accountability.

Contributors *(Beige Pages)*	**WSDOT's Capital Delivery Programs**	Project Control and Reporting Office, Claudia Lindhal, Regional Program Managers
	Tacoma Narrows Bridge Project Update	Miles Sergeant
	Hood Canal Bridge Project Update	Becky Hixson
	Cross-Cutting Management Issues	John Anderson, Craig Broadhead, Jennifer Brown, Erin Britton, Kevin Dayton, Dave Erickson, Jenna Fettig, Lee Hughes, Mike Palazzo, Project Control and Reporting Office, Tom Swafford, Carl Ward
Contributors *(White Pages)*	**Worker Safety**	Joel Amos, Cathy English, Laura Merritt, Ferry Safety Office
	Workforce Level and Training	Dave Acree, Adrienne Saunders, David Supensky, Stewart Souders
	Construction Contracts	Jennifer Brown, Kevin Dayton, Dave Erickson, Jenna Fettig, David Jones
	Highway Safety: Annual Update	Dick Albin, Dan Davis, Matthew Enders, Roger Horton, Pat Morin, Ted Trepanier, Brian Walsh, Anna Yamada
	Asset Management: Capital Facilities	Anna Crickmer, Thanh Nguyen, Ron Moorehead, Sharon Ray, Dennis Tate
	Environmental: Annual Update	Jon Peterson, Linda Pierce, Gregor Myhr, Mia Waters
	Intelligent Transportation Systems	Bill Legg
	Incident Response	Diane McGuerty, Anna Yamada
	Travel Information	Jeremy Bertrand, Eldon Jacobson, Diane McGuerty
	Washington State Ferries	David Burns, Bill Greene
	Rail: State-Supported Amtrak *Cascades* and Washington Grain Train	Kirk Fredrickson, Barbara Ivanov, Carolyn Simmonds, Mike Rowswell
	Benchmarks	Tonia Buell, Dave Bushnell, Keith Cotton, Dan Davis, Dave Giles, Daren Guyant, Mike Harbour (WSTA), Roger Horton, Linda Pierce, Evan Olsen, Cathy Silins, Ted Trepanier, Pat Whitaker, DeWayne Wilson, Marcy Yates
	Special Feature: Portable Incident Screens	Al Gilson, Rick Phillips, Harold White
	Highlights of Program Activities	Ann Briggs
GNB Production	**Production Team**	Kimberly Howard, Katherine Boyd, James Bryan, Kristina Kernan, Laura Wood
	Graphics	Steve Riddle, Connie Rus, Chris Zodrow
	Publishing & Distribution	Linda Pasta, Trudi Phillips, Dale Sturdevant, Deb Webb
	For Information Contact:	Daniela Bremmer, Director WSDOT Strategic Assessment Office 310 Maple Park Avenue SE PO Box 47374 Olympia, WA 98504-7374 Phone: 360-705-7953 E-mail: bremmed@wsdot.wa.gov

Measures, Markers and Mileposts

The Gray Notebook for the quarter ending June 30, 2006
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Contents

Navigating the *Gray Notebook* iv

Linking Measures to Strategic Objectives v

Beige Pages

Project Reporting on the Capital Project Delivery Program vii

WSDOT's Capital Project Delivery Programs 1

Roll-Up of Performance Information 1
Overview of WSDOT's Three Capital Project Delivery Mandates 2
Schedule, Scope, and Budget Summary 3
Advertisement Record 5
Advertisement Schedule and Budget 7
Selected Construction Highlights 9
"Watch List" Projects 12
Project Delivery Summary Reports 17
Financial Information 19
Pre-Existing Funds Programmatic Reporting 21
Tacoma Narrows Bridge: Quarterly Update 26
Hood Canal Bridge: Quarterly Update 27

Cross-Cutting Management Issues 28

Right of Way 28
Utilities 30
Construction Costs Trends 31
Construction Safety and Employment 33
Intergovernmental Cooperation 35
Environmental Documentation, Review, Permitting and Compliance 36

White Pages

Worker Safety: Quarterly Update 39

Recordable Injuries for WSDOT Workers: Fiscal-Year-to-Date 39
Safety Stand Down 40
Quarterly Recordable Injury Rates 41

Workforce Level and Training: Quarterly Update 42

Statutorily Required Training for WSDOT Workers 42

Construction Contracts: Annual Update 44

Contract Award Amount to Engineer's Estimate 44
Final Costs to Award Amount 45
Contract Final Costs to Engineer's Estimate 46

Asset Management: Capital Facilities Annual Update 47

Biennium Benchmarks 47
Facility Condition Trends & Prevention Activities 48
Capital Facilities Construction Projects 49

Highway Safety: Annual Update 50

Traffic Fatalities in Washington State 50
Efforts to Reduce Fatality Rates on State Highways 52
Roundabouts 54
Seatbelt Use in 2005 55

Incident Response: Quarterly Update 56

Number of Responses and Average Clearance Time 56
Response Increases to Fatality Collisions: Summer of 2005 57

Intelligent Transportation Systems Operations: First Annual Update 59

Travel Information: Quarterly Update 62

511 Travel Information Three Year Anniversary 62
WEB Quarterly Growth 62

Environmental Program: Annual Update 63

Programmatic Permits: Improving Regulatory Efficiency 63
Improving Fish Passage 64
Noise Quality: Quieter Pavement Test Sections 65
WSDOT's Operational Improvements to Support Air Quality 67

Washington State Ferries: Quarterly Report 68

Customer Feedback 68
Trip Reliablity & On-Time Performance 69
Ferries Life Cycle Preservation Performance 70
Capital Expenditure Program 71
Revenue & Ridership 71

Rail: Quarterly Update 72

State-Supported Amtrak *Cascades* 72
Washington Grain Train 73

Special Feature: Incident Response Screens ...74

Transportation Benchmarks: Annual Update 75

Safety Goal 75
Pavement Condition Goal 76
Bridge Condition Goal 77
Per Capital Vehicle Miles Traveled 78
Administrative Efficiency Goal 78
Non-Auto Share of Cummute Trips Goal 79
Transit Cost Efficiency Goal 80

Highlights of Program Activities 83

Subject Index.....87

Navigating the *Gray Notebook*

How is the *Gray Notebook* Organized?

Measures, Markers and Mileposts, also called the *Gray Notebook*, provides in-depth reviews of agency and transportation system performance. The report is organized into two main sections. The *Beige Pages* report on the delivery of the projects funded in the 2003 Transportation Funding Package, 2005 Transportation Funding Package, and Pre-Existing Funds. The *White Pages* describe key agency functions and provide regularly updated system and program performance information. The *Gray Notebook* is published quarterly in February, May, August and November. This edition and all past editions are available on-line at www.wsdot.wa.gov/accountability/default.htm

A separate detailed navigation folio is available at www.wsdot.wa.gov/publications/folio/GNBFolio.pdf

Beige Pages

The *Beige Pages* is WSDOT's project delivery performance report on the Nickel, Transportation Partnership Account, and Pre-Exisiting Funds project programs. It contains detailed narrative project summaries and financial information supporting WSDOT's "no surprises" reporting focus. See page one for details.

White Pages

The *White Pages* contain three types of transportation system and agency program performance updates:

Annual Performance Topics

System performance updates are rotated over four quarters based on data availability and relevant data cycles. Annual updates provide in-depth analysis of topics and associated issues. Examples include Pavement Condition, Congestion, and Bridge Condition.

Quarterly Performance Topics

Quarterly topics are featured in each edition since data is generally available more frequently. Quarterly topics include Worker Safety, Incident Response, Washington State Ferries, and Amtrak *Cascades*.

Special Topics

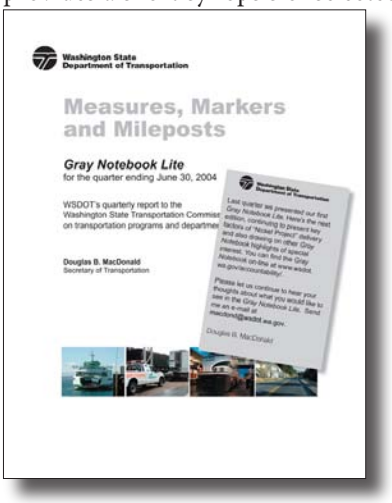
Selected Special Features and Program Highlights are provided in the back of each edition and focus on noteworthy items, special events, and innovations.

Tracking *Business Directions'* Results

WSDOT's business plan, *Business Directions,* outlines the agency's strategic initiatives and associated activities. It reflects WSDOT's program and project delivery responsibilities with the goal of demonstrating the best possible return for taxpayers' dollars. The *Gray Notebook* complements the plan and tracks progress of the six key initiatives. For a copy of *Business Directions*, please visit www.wsdot.wa.gov/accountability/publications/StrategicPlanDraft.pdf.

Gray Notebook Lite

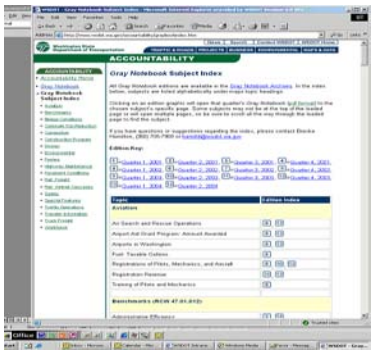
WSDOT publishes a quarterly excerpt of key performance topics and project delivery summaries from the *Gray Notebook*, called *Gray Notebook Lite*. *Lite* allows for a quick review and provides a short synopsis of selected topics. It is published as



a four page folio with a two page *Beige Page* summary insert and can be accessed at www.wsdot.wa.gov/accountability/graynotebook/Lite.pdf

How to Find Performance Information

The electronic subject index gives readers access to current and archived performance information. The comprehensive index is easy to use and instantly links to every performance measure published to date. Measures are organized alphabetically within program areas. A click on the subject topic and edition number provides a direct link to that page. A copy of the subject index is also provided in the back of each edition. To access the index electronically, visit www.wsdot.wa.gov/accountability/graybookindex.htm



Linking Measures to Strategic Objectives

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

Introduction

WSDOT's Business Directions (2007-11) is the draft summary of WSDOT's work plan based on the programs and budgets authorized by the State Legislature and the policies adopted by the Governor. The plan describes the agency strategic directions and initiatives that are part of WSDOT's program and service delivery mandates. The plan also reflects WSDOT's internal performance management needs, Priorities of Government (POG) responsibilities, the Government Management and Accountability Performance (GMAP) process, the Governor's draft Results and Action Plan, the Legislative Transportation Benchmarks, the draft OFM Budget Activities, and the Washington State Transportation Plan's current draft investment priorities.

WSDOT has important transportation system needs to meet through its day-to-day work to build and operate state highways, manage the ferry system, and implement legislative instructions and program mandates. Everything comes together, however, in demonstrating the best possible return for every dollar of taxpayer investments and legislative appropriation. The *Gray Notebook* reflects this direction for accountability, communicating performance results for all key agency programs and activities.

Priorities of Government and Government Management Accountability and Performance

"Priorities of Government" (POG) is the statewide approach used by the Governor to identify results as the basis for budget decision-making. This approach facilitates strategic thinking and uses performance evidence to make investment choices that maximize results. POG looks at all state activities and how these activities contribute to the framework for the ten statewide results that citizens expect. WSDOT's GMAP forums support the POG process by evaluating and improving the effectiveness of POG activities and reporting its progress in the *Gray Notebook*. The agency's draft strategic plan (2007-11 Business Directions draft) supports the "Improve statewide mobility of people, goods, and services" POG.

WSDOT's Strategic Plan

WSDOT's actively supports POG goals through the agency's six initiatives (objectives), defined in the agency's draft strategic plan (2007-11 Business Directions). By tracking the progress of WSDOT's initiatives with key performance measures, the *Gray Notebook* connects WSDOT's initiatives with statewide outcome goals. The table below shows the six WSDOT initiatives and key related performance measures, as well as where and how the results are reported. Some of the data is available annually, such as bridge and pavement conditions, while other data is available quarterly. The reporting cycles for the individual measures reflect this. WSDOT's draft strategic plan is available at www.wsdot.wa.gov/accountability/publications/StrategicPlanDraft.pdf.

Strategic Initiative	Performance Measure Key Measures Include	Description	Reporting Cycle	Last Report[1]
1. Manage and operate state transportation facilities to improve the safety and reliability of state transportation systems for the benefit of travelers, shippers, and communities.	Safety	Fatality rates (Vehicle, bicyclists, pedestrian)	Annual	GNB 20 pp. 54-55
	Incident Response Clearance	Number of responses and overall clearance time	Quarterly	p. 56
	Congestion: Peak Travel Times for Key Commute Routes	Percent of change in travel time performance for 20 Puget Sound Routes	Annual	GNB 19 p. 58
	On-Time Performance: Amtrak *Cascades*	Percent of trips on-time	Quarterly	p. 72
	On-Time Performance: Ferries	Percent of trips on-time	Quarterly	p. 69

[1]When no *Gray Notebook* edition is indicated above, the measure can be found in this edition of the *Gray Notebook*. Previous editions are available in the *Gray Notebook* Subject Index at www.wsdot.wa.gov/accountability/graybookindex.htm. When viewing this report electronically, edition numbers are hyperlinked to the respective Gray Notebook article.

Linking Measures to Strategic Objectives

Strategic Initiative	Performance Measure Key Measures Include	Description	Reporting Cycle	Last Report[1]
2. Maintain structures, facilities, support systems, and services to optimize their short-term and long-term usefulness and enhance environmental performance in highway and ferry operations.	Maintenance Accountability Process (MAP) targets	Rating for 33 highway maintenance activities	Annual	GNB 19, p. 40
3. Deliver asset and rehabilitation projects to preserve the state's existing infrastructure assets and utilize lowest lifecycle approaches to extend their useful life.	Ferry Life Cycle Preservation Performance	Planned projects vs. actual systems/structures preserved, change in cost rating	Quarterly	p. 70
	Pavement Conditions	Percent of pavement in good or poor condition (by type)	Annual	GNB 20 p. 37
	Bridge Conditions	Percent of bridges in good, fair, or poor condition	Annual	GNB 19 p. 50
4. Deliver high quality capital projects that add to and improve the state's transportation systems on-time and on-budget.	Schedule, Scope and Budget Summary of Nickel and TPA Projects	Planned vs. actual results of scope, schedule and budget	Quarterly	pp. 3-4
	Highway Congestion Report	Planned vs. actual number of projects achieved	Quarterly	GNB 19 p. 58
5. Communicate transportation system performance and WSDOT agency performance to the public through clear and consistent project delivery and program management reporting.	Project Delivery Milestone Reporting	Compare planned delivery milestone dates against actual completion dates	Quarterly	pp. 17-18
	Cash Flow on Highway Construction Projects	Planned vs. actual expenditures for preservation and improvement programs	Quarterly	pp. 25
	Individual Contracts: Final Cost to Award Amount	Percent of final cost above or below award	Annual	GNB 22 p.44.
	End of Season Highway Construction Summary	Design, construction management, schedule, and cost evaluation	Annual	GNB 20 p. 24
	No Surprises Reporting - Beige Pages	Reporting on capital program delivery	Quarterly	pp. 1-37
	Performance Reporting	*Gray Notebook, Accountability Website*	Quarterly	
6. Assure the capability, efficiency, and safety of WSDOT's workforce.	Workforce Training	Compliance ratings for 17 training courses	Quarterly	p. 42
	Workforce Safety	Recordable injuries per 100 workers per calendar year	Quarterly	p. 39

[1]When no *Gray Notebook* edition is indicated above, the measure can be found in this edition of the *Gray Notebook*. Previous editions are available in the *Gray Notebook* Subject Index at www.wsdot.wa.gov/accountability/graybookindex.htm. When viewing this report electronically, edition numbers are hyperlinked to the respective Gray Notebook article.

Transportation Benchmarks

In 2002, the Legislature passed RCW 47.01.012, instituting the transportation benchmarks recommended in 2000 by the Governor-appointed Blue Ribbon Commission on Transportation. The benchmarks require WSDOT to track data related to nine policy elements (see list below).

The benchmarks attempt to track transportation performance at a high level, reflecting social goals that are important to the health and safety of Washington State citizens, and to the efficiency of our state's transportation system. WSDOT does not have control over some of these benchmarks, for instance, the number of people who travel alone to work, or the number of miles they drive. However, WSDOT can and does strive to support various methods to reach their destination. Similarly, WSDOT works for citizens to meet their transportation needs by improving roadway, bridge, congestion, and safety conditions. The benchmark report is updated and published annually in the *Gray Notebook*.

- Safety
- Roadway Pavement Condition
- Bridge Condition
- Non-Auto Share of Commute Trips
- Per Capita Vehicle Miles Traveled
- Administrative Efficiency
- Traffic Congestion and Driver Delay
- Transit Cost Efficiency

Information regarding Benchmarks can be found at:

Gray Notebook Special Excerpt: Transportation Benchmarks 2005 Report: www.wsdot.wa.gov/accountability/benchmarks/default.htm

Annual Transportation Benchmarks Report: June 30, 2005 GNB, www.wsdot.wa.gov/accountability/Archives/graynotebookJun-05.pdf

Benchmarks Implementation Report: www.wsdot.wa.gov/accountability/benchmarks/BenchmarksImplementationReport.pdf

Project Reporting on the Capital Project Delivery Program

Introduction

WSDOT prepares information for legislators, state and local officials, interested citizens and the press on the progress of the capital delivery program, including the 2003 Transportation Funding Package, the 2005 Transportation Funding Package, and the Pre-Existing Funds Program. Much of the detailed information can be found on-line at the WSDOT website. The *Gray Notebook*, in these special *Beige Pages*, highlights each quarter's progress and reports on financial and other program management topics as well as detailed information on key projects.

The *Beige Pages* for this quarter are organized in the following manner:

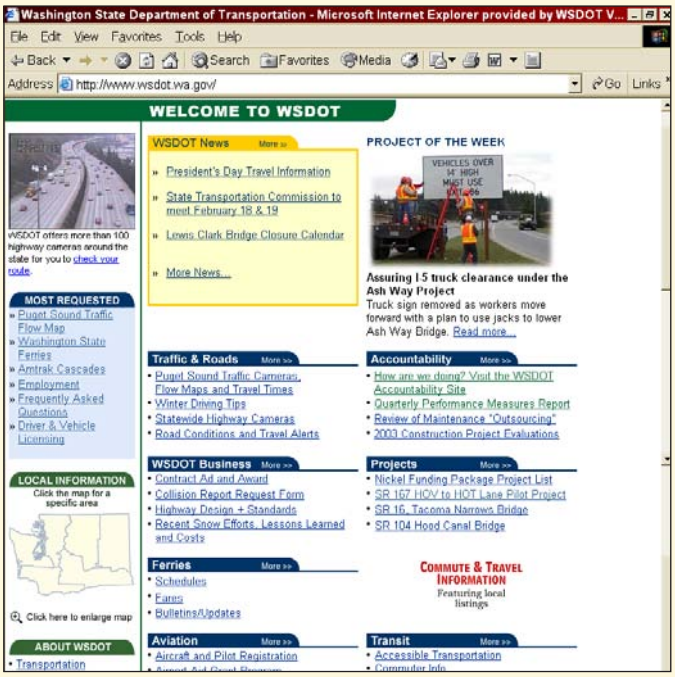
- Overview of the Three Capital Delivery Mandates
- 2003 and 2005 Transportation Funding Package Project Delivery
- Financial Information
- Pre-Existing Funds
- Special Project Updates
- Cross-Cutting Management Issues

We welcome suggestions and questions that can help us strengthen this project delivery and accountability reporting.

Overall, WSDOT's project reporting uses several different tools, including the *Gray Notebook*, 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.

Navigation to the Home Page and the Project Pages

The Home Page (shown below) has several links that allow access to the individual Project Pages. The Accountability navigation bar provides access to the on-line version of the *Gray Notebook* which provides some project "hot links." The Projects navigation bar provides direct links to several of the state's largest projects and access to WSDOT's Projects Page. The Projects Page can also be accessed from any WSDOT web page by clicking on the "projects" tab at the top of every page. WSDOT's home page can be found at www.wsdot.wa.gov/.

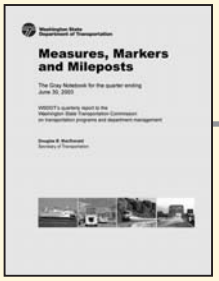


While WSDOT has developed user-friendly reports and front end applications to access project information on-line, it is important to note that the data used to generate these reports comes from antiquated legacy mainframe computer systems. Although the quality of the data is good, the time and effort needed to compile, verify and validate the data in these reports each quarter is considerable (in other words, these reports are the result of much manual input and effort, not the output of a modern project management information system).

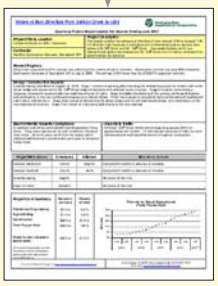
This overall issue was addressed in two recently completed reports: one from the Joint Legislative Audit Review Committee titled, "Overview of Washington State Department of Transportation Capital Project Management" and a second report, commissioned by the Transportation Performance Audit Board, titled "Review of WSDOT's Use of Performance Measurement." In each of these reports, a key recommendation was made to conduct an assessment of the effectiveness of current information systems and options for addressing any deficiencies.

Project Reporting on the Capital Project Delivery Program

Project Information Roadmap



Home Page



Gray Notebook

Project Pages

Project Pages report on all WSDOT capital delivery program projects. Project Pages provide detailed information updated regularly:

- Overall Project Vision
- Financial Table, Funding Components
- Roll-up Milestones
- Roll-up Cash Flow, Contact Information
- Maps and Links QPR
- Quarterly Project Reports

Quarterly Project Reports (QPRs) summarize quarterly activities:

- Highlights
- Milestones
- Status Description
- Problem Statement
- Risks and Challenges
- Project Costs/Cash Flow
- Contact Information

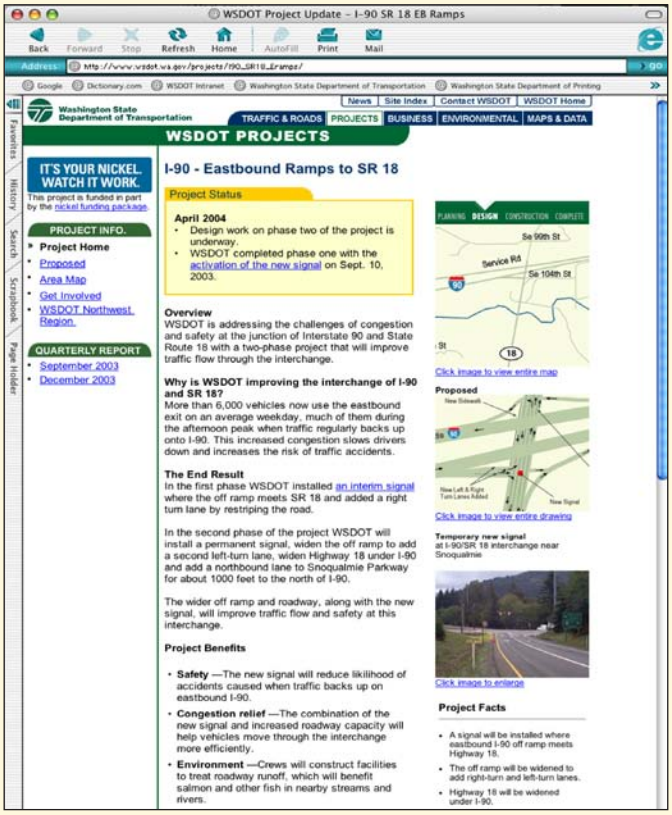
Project Pages

Project Pages contain information on all aspects of a specific project. An existing Project Page is shown below.

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.

The Quarterly Project Reports are accessible through a link on the Project Page.

Project Pages provide a summary of the project status to date and are updated regularly to the best of WSDOT's ability. Project Pages can be found at www.wsdot.wa.gov/projects/



WSDOT's Capital Project Delivery Programs

Executive Summary: Roll-Up of Performance Information

Each quarter WSDOT provides a detailed update on the delivery of the highway capital programs through the *Gray Notebook*, and via the web through the Project Pages and Quarterly Project Reports. As WSDOT's primary delivery report, the *Gray Notebook* includes the *Beige Pages* for the purpose of providing the current status of the Capital Improvement and Preservation Programs: major Pre-Existing Fund (PEF) projects, the projects funded by the 2003 5-cent gas tax (Nickel), and the 2005 9 1/2-cent gas tax (Transportation Partnership Account, TPA).

Since PEF projects are budgeted by program for improvement and preservation of the highway system, the delivery of the work included in the 923 PEF projects is reported by programmatically for six categories of work. By contrast, each of the 145 Nickel and 178 TPA projects funded in the 2005-07 biennium has a line item budget and is monitored and reported at the individual project level. Note the program budgets for PEF, Nickel, and TPA have been updated from previous *Gray Notebook* editions based on the 2006 Supplemental Budget.

Performance Information *As of June 30, 2006, Dollars in Thousands*	**Nickel (2003)**	**Transportation Partnership Account (TPA, 2005)**	**Combined Nickel & TPA**	**Pre-Existing Funds**
Total Biennial Number of Projects (2005-07)	145	178	323	923
Total Biennial Program (2005-07)	$1,192,198	$409,727	1,601,925	$1,061,010
Schedule, Scope and Budget Summary: Results of Completed Projects				
	See Pages 3-4	See Pages 3-4	See Pages 3-4	NA
Cumulative to Date, 2003 – June 30, 2006				
Total Completed	23	12	35	-
% Completed Early or On-Time	87%	100%	91%	-
% Completed Within Scope	100%	100%	100%	-
% Completed Under or On-Budget	91%	100%	94%	-
Current Legislative Expectation (Baseline)	$249,158	$5,009	$254,167	-
Current Estimated Cost to Complete (WSDOT)	$249,155	$5,066	$254,221	-
Biennium to Date, 2005-07				
Total Completed	10	12	22	190
% Completed Early or On-Time	80%	100%	91%	-
% Completed Within Scope	100%	100%	100%	-
% Completed Under or On-Budget	100%	100%	100%	-
Current Legislative Expectation (Baseline)	$132,403	$5,009	$137,412	$424,249
Current Estimated Cost to Complete (WSDOT)	$132,295	$5,066	$137,361	$492,944
Advertisement Record: Results of Projects Entering into the Construction Phase				
	See Pages 5-6	See Pages 5-6	See Pages 5-6	See Pages 23- 24
Biennium to Date, 2005-07				
Total Advertised	17	7	24	143
% Advertised Early or On-Time	59%	71%	63%	80%
Total Award Amounts to Date	$139,160	$6,714 (1 pending award)	$145,874 (1 pending award)	NA
Advertisement Schedule for Projects in the Pipeline: Results of Projects Now Being Advertised for Construction or Planned to be Advertised				
	See Pages 7-8	See Pages 7-8	See Pages 7-8	See Page 22 (graph)
July 1, 2006 through December 31, 2006				
Total in Pipeline	9	17	26	73
% On or Better than Schedule	100%	94%	96%	-

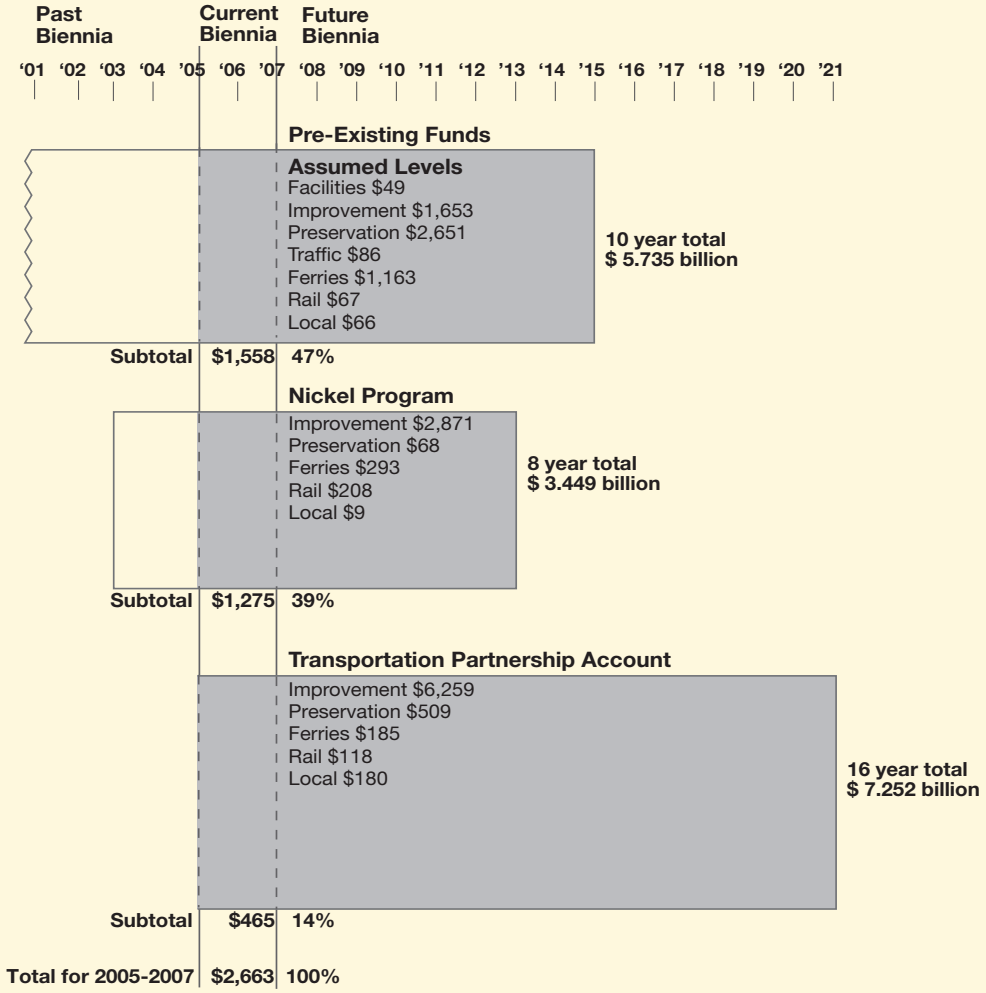
WSDOT's Capital Project Delivery Programs

Overview of WSDOT's Three Capital Project Delivery Mandates

WSDOT's Capital Program: Current and Future Biennium Outlook

2006 Supplemental Budget

Dollars in Millions



2005-07 Capital Delivery Program

The Department's 2005-07 capital program focuses on project and program delivery from all fund sources. WSDOT continues to move forward with the 10-year investment plan for the 2003 Transportation Funding Package as well as beginning the 16-year investment plan associated with the 2005 Transportation Funding Package.

In the 2005-07 biennium, based on the 2006 supplemental budget, capital funds total approximately $3.3 billion. Approximately $1.275 billion will be spent on projects associated with the 2003 Funding Package (Nickel), $465 million will be invested in projects from the 2005 Funding Package (Transportation Partnership Account), and $1.558 billion will be invested from pre-existing funding sources.

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

Thirty-Five Projects Completed as of June 30, 2006

Nickel and Transportation Partnership Account (TPA) Projects
Dollars in Thousands

Project Description	Fund Type*	On-Time Advertised	On-Time Completed	Within Scope	Current Legislative Expectation (Baseline)	Current Estimated Cost to Complete (WSDOT)	On-Budget**
Cumulative to Date							
2003-05 Biennium Summary[1] See the *Gray Notebook* for quarter ending December 31, 2005 for project listing	13 Nickel	7 early 6 on-time	9 early 3 on-time 1 late	13	116,754	116,861	4 under, 7 on-budget, 2 over
Biennium to Date (2005-07)							
I-5/NE 175th St to NE 205th St. - NB Auxilliary Lane	Nickel	✓	Early	✓	8,915	8,915	✓
I-5/300th St NW Vic. to Anderson Rd Vic.	TPA	Early	Early	✓	1,288	1,345	✓
I-5/2nd Street Bridge - Replace Bridge	Nickel	✓	Early	✓	14,333	14,412	✓
I-5/Blaine Vic. - Median Cross Over Protection	TPA	✓	Early	✓	245	245	✓
I-5 Roanoke Vicinity Noise Wall	Nickel	✓	Late[2]	✓	3,764	3,764	✓
US 12/SR 124 to McNary Pool - Add Lanes	Nickel	✓	✓	✓	12,299	12,196	✓
SR 18/SE 304th to SR 516 - Median Cross Over Protection	TPA	Early	Early	✓	250	250	✓
I-90/Silica Road to East of Adams Rd - Median Cross Over Protection	TPA	Early	Early	✓	322	322	✓
I-90/SR 17 to Grant/Adams County Line - Median Cross Over Protection	TPA	Early	Early	✓	787	787	✓
I-90/Pines Rd to Sullivan Rd - Widen Roadway and Add Lanes	Nickel	Early	✓	✓	17,894	17,894	✓
I-90/Argonne Road to Pines Rd - Widen Roadway and Add Lanes	Nickel	Early	✓	✓	18,468	18,357	✓
SR 106/Skobob Creek - Fish Passage	Nickel	✓	✓	✓	1,777	1,777	✓
SR 161/204th St to 176th St - Widening	Nickel	Late[3]	Early	✓	16,789	16,789	✓
SR 161/234th St to 204th St E - Widening	Nickel	✓	Early	✓	17,231	17,231	✓
SR 167/SR 410 to Pierce/King County Line - Median Cross Over Protection	TPA	Early	✓	✓	487	487	✓
SR 410/Traffic Ave to 166th Ave East - Median Cross Over Protection	TPA	Early	✓	✓	245	245	✓
SR 522/N Creek Vic. to Bear Creek Vic.	TPA	Early	Early	✓	271	271	✓

NOTE: Table and footnotes continues on following page

*As established by the 2005 Legislative Evaluation and Accountability Program (LEAP) committee. However, dollars shown are for all fund types, not just Nickel or Transportation Partnership Account funds.
**Based on cost at operationally complete stage; will be updated based on final contract close-out cost, to be reported in future quarters.

WSDOT's Capital Project Delivery Programs

Schedule, Scope and Budget Summary

Thirty-Five Projects Completed as of June 30, 2006 (Continued)

Nickel and Transportation Partnership Account (TPA) Projects
Dollars in Thousands

Project Description	Fund Type*	On-Time Advertised	On-Time Completed	Within Scope	Current Legislative Expectation (Baseline)	Current Estimated Cost to Complete (WSDOT)	On-Budget**
Current Quarter (Ending June 30, 2006)							
I-5/SR 11 Vicinity to Weigh Station Vicinity	TPA	Early	Early	✓	436	436	✓
I-5/SR 11 to 36th Street - Median Cross Over Protection	TPA	Early	Early	✓	68	68	✓
I-5/SR 542 Vicinity to Bakerview Road	TPA	Early	Early	✓	202	202	✓
I-5/Main Street to SR 548 - Median Cross Over Protection	TPA	Early	Early	✓	409	409	✓
SR 527/132nd St SE to 112th St SE	Nickel	✓	Late[4]	✓	20,933	20,959	✓
Totals Current Quarter (June 30, 2006)		**100%**	**80%**	**100%**	**$22,047**	**$22,074**	**100%**
1 Nickel Project		**100%**	**0%**	**100%**	**$20,933**	**$20,959**	**100%**
4 TPA Projects		**100%**	**100%**	**100%**	**$1,114**	**$1,114**	**100%**
Totals Biennium to Date (2005-07)		**95%**	**91%**	**100%**	**$137,412**	**$137,361**	**100%**
10 Nickel Projects		**90%**	**80%**	**100%**	**$132,403**	**$132,295**	**100%**
12 TPA Projects		**100%**	**100%**	**100%**	**$5,009**	**$5,066**	**100%**
Totals Cumulative to Date**		**97%**	**91%**	**100%**	**$254,167**	**$254,221**	**94%**
23 Nickel Projects		**96%**	**87%**	**100%**	**$249,158**	**$249,155**	**91%**
12 TPA Projects		**100%**	**100%**	**100%**	**$5,009**	**$5,066**	**100%**

Source: WSDOT Project Control and Reporting Office

*Based on cost at operationally complete stage; will be updated based on final contract close-out cost, to be reported in future quarters.
**No Transportation Partnership Account projects were complete prior to the 2005-07 biennium, therefore, cumulative to date totals are the same as biennium to date..

Definitions:

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

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

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

On-Budget
The project was within +/- 5% of the current Legislative expectation (baseline).
Section 603 of the 2006 Supplemental Budget provides the Director of the Office of Financial Management flexibility to balance Nickel and TPA funded project cost increases and decreases between projects, and to balance cash flow between biennia near biennial lines, as long as the adjustment does not impact the overall delivery of the program and does not involve changing the scope of any funded project.

Project Details:

[1]2003-05 Biennium Summary reported two projects incorrectly in the previous *Gray Notebook* (Quarter ending March 31, 2006). SR 18/ Covington Way to Maple Valley was reported in construction when it was actually operationally complete in September 2003 and the reported award amount $3.071 million only reflects the roadside restoration costs, actual costs for the roadway were $69 million. This project has been added to the 2003-05 Biennium Summary. I-5/Roanoke Vicinity Noise Wall was completed in the current biennium (2005-07) but reported as completed in the 2003-05 biennium in the quarter ending December 31, 2005 *Gray Notebook*. This project has been moved to the completed projects report for the current biennium.
[2]The noise wall panels, designed per agreement with the neighborhood, required a longer time for approval and procurement than anticipated by the design office.
[3]This project was the second of a two-stage project. The advertisement date was delayed to better accomodate construction work and lessen impacts to the public.
[4]The Open to Traffic date was originally planned for March 2006; however, the contractor was not able to complete the final layer of asphalt pavement on time.

WSDOT's Capital Project Delivery Programs

Advertisement Record

Forty Projects Now in Construction Phase as of June 30, 2006

Nickel Program and Transportation Partnership Account (TPA) Projects
Dollars in Thousands

Project Description	Fund Type*	On-Time Adver-tised	Ad Date	Contractor	Operationally Complete Date	Award Amount
Cumulative to Date Projects Underway						
I-5/Pierce Co Line to Tukwila I/C- HOV	Nickel	Early	Nov-04	Icon Materials	May-07	35,847
I-5/SR 526 to Marine View Drive	Nickel	Early	Nov-04	Atkinson	Jun-09	184,993
I-5/S 48th to Pacific Avenue - Core HOV	Nickel	Early	Mar-05	Kiewit Pacific	Jun-08	72,869
I-5/Salmon Creek to I-205 - Widening	Nickel	Early	May-03	Hamilton Construction	Jun-07	25,921
SR 7/SR 507 to SR 512 - Safety	Nickel	Late[1]	May-05	Scarsella Bros	Apr-07	13,745
SR 9/SR 522 to 228th St SE - Widening	Nickel	Late[1]	May-05	Wilder	Jun-07	17,993
SR 9/228th St SE to 212th St SE(SR 524) Widen to Five Lanes, Stg 2	Nickel	Late[1]	For construction efficiencies, this project was combined with the one above			
SR 16/I-5 to Tacoma Narrows Bridge - HOV	Nickel	Early	Mar-04	Tri-State	Jun-07	47,295
SR 16/36th St to Olympic Dr NW, Core HOV	Nickel	Early	Nov-04	Woodworth & Company	Dec-07	3,876
SR 24/I-82 to Keys Road	Nickel	Early	Feb-05	Max J. Kuney	Nov-06	33,964
SR 31/Metaline Falls to Int'l Border	Nickel	✓	Sep-04	M. A. Deatley	Oct-06	10,989
SR 104/Hood Canal Bridge East Half	TPA	✓	Feb-03	Kiewit-General	Jun-09	204,000
SR 161/Jovita Blvd to S 360th St	Nickel	✓	Sep-04	Tri-State	Jan-07	16,300
SR 240/I-182 to Richland Y - Add Lanes	Nickel	✓	Dec-04	Icon Materials	Oct-07	30,473
SR 240/Richland Y to Columbia Center I/C Add Lanes	Nickel	✓	For construction efficiencies, this project was combined with the one above			
SR 395/NSC-Francis Ave to Farwell Rd	Nickel	Late[2]	Jan-04	Max J. Kuney	Mar-09	4,976
Biennium to Date (2005-07)						
SR 3/SR 303 I/C(Waaga Way) - New Ramp	Nickel	Late[1]	Aug-05	Scarsella Bros.	Sep-07	16,744
I-5/52nd Ave W. to SR 526 - SB Safety	Nickel	✓	Mar-06	Wilder	Oct-06	5,710
I-5/SR 532 Northbound I/C Ramps	Nickel	✓	Mar-06	Trimaxx	Nov-07	3,769
I-5/SB Ramps at SR 11/Old Fairhaven Parkway	Nickel	✓	Feb-06	Wilder	Mar-07	1,320
SR 9/Nooksack Rd Vicinity to Cherry St	Nickel	Late[2]	Dec-05	Imco General	Oct-07	8,999
US12/Vicinity Montesano to Elma - Median Cross Over Protection	TPA	✓	Mar-06	Petersen Brothers	Jun-07	1,459
U.S. 12/Attalia Vicinity - Add Lanes	Nickel	✓	Dec-05	Apollo	Dec-07	11,222
I-90/Eastbound Ramps to SR 18 - Signal	Nickel	Early	Mar-06	KLB	Apr-08	2,599
I-90/Moses Lake Area - Bridge Clearance	Nickel	✓	Nov-05	Weaver	Dec-06	2,701
I-90/Potato Hill Bridge Bicycle and Pedes-trian Bridge	TPA	✓	For construction efficiencies, this project was combined with the one above.			

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

WSDOT's Capital Project Delivery Programs

Advertisement Record

Forty Projects Now in Construction Phase as of June 30, 2006

Nickel Program and Transportation Partnership Account (TPA) Projects
Dollars in Thousands

Project Description	Fund Type*	On-Time Adver-tised	Ad Date	Contractor	Operationally Complete Date	Award Amount
SR 167/Ellingson Rd Interchange NB Off Ramp	Nickel	✓	Feb-06	Signal Electric Inc.	Mar-07	357
SR 167/15th St SW to 15th St NW - HOV	Nickel	Late[3]	Dec-05	Icon Materials	Dec-07	27,849
SR 202/244th Avenue NE Intersection	Nickel	✓	Feb-06	Tri-State	Feb-07	463
SR 202/Junction 292nd Ave SE	Nickel	Early	Sep-05	Transtech	Sep-06	293
I-205/Mill Plain SB Off Ramp Improve-ments	TPA	Early	Mar-06	Nutter	Oct-06	428
SR 270/Pullman to Idaho State Line - Widen Roadway and Add Lanes	Nickel	Late[4]	Mar-06	North Central	Oct-07	18,090
SR 516/208th and 209th Ave SE	Nickel	Late[1]	Jan-06	Road Construction Northwest	Dec-06	678
SR 543/I-5 to International Boundary	Nickel	Late[2]	Nov-05	Imco General	Jun-08	28,315
Quarter Ending June 30, 2006						
I-5/Ebey Slough Br to Stillaguamish River Br - Install Cable Barrier	Nickel	✓	May-06	Petersen Brothers	Oct-06	1,436
SR 16/NW of Tacoma Narrows to SE of Burley/Olalla - Median Cross Over P	TPA	✓	May-06	Petersen Brothers	Sep-06	2,055
SR 17/Pioneer Way to Stratford Road - Widen to Four Lanes	TPA	Early	May-06	Award Pending	Dec-07	-
SR 99/S 284th to S 272nd St - HOV	Nickel	Late[2]	Apr-06	SCI Infrastructure	Dec-07	8,615
SR 99/SR 599 to Holden Street - Median Cross Over Protection	TPA	Late[5]	Apr-06	Petersen Brothers	Oct-07	358
SR 522/I-5 to I-405 Multimodal Project	TPA	Late[6]	May-06	Wilder	Dec-07	960
Totals Current Quarter (June 30, 2006)		50%				14,878
2 Nickel Project		50%				10,051
4 TPA Projects		50%				4,827
Totals Biennium to Date (2005-07)		63%				145,874
17 Nickel Projects		59%				139,160
7 TPA Projects		71%				6,714
Totals Cumulative to Date (Projects Underway)		68%				849,114
32 Nickel Projects		66%				638,401
8 TPA Projects		75%				210,714

Project Details:

[1]Right-of-way and environmental permitting issues.

[2]Right-of-way acquisition delay.

[3]Funding uncertainties caused the design of this project to sit on the shelf for many years. Additional time was needed for redesign and resubmitting environmental requirements.

[4]The advertisement of this project was delayed due to environmental permitting issues and the need for redesign to stay within budget after geological conditions, right-of-way cost increases, and Corps of Engineers mitigation negotiations.

[5]Delay due to environmental permitting issues.

[6]Delay due right-of-way acquisitions and subsequent utility relocations.

WSDOT's Capital Project Delivery Programs

Advertisement Schedule and Budget

Twenty Six Projects in Delivery Pipeline for July 1, 2006 through December 31, 2006

Nickel and Transportation Partnership Account (TPA) Projects Now Being Advertised for Construction or Planned to be Advertised
Dollars in Thousands

Project Description	Fund Type*	Original Planned Ad Date	Current Planned Ad Date	On Schedule	Current Legislative Expectation (Baseline)	Current Estimated Cost to Complete (WSDOT)
US 2 & SR 92 Roadside Safety Improvement	TPA	Oct-06	Oct-06	✓	$1,200	$1,200
SR 3/Imperial Way to Sunnyslope-Safety	TPA	Jan-06	Nov-06	✓ [1]	2,893	2,893
SR 3/SR 106 S. Belfair Signal-Safety	TPA	Nov-06	Nov-06	✓	1,059	1,059
I-5/SB Viaduct, S. Seattle Vic-Special Bridge Repair	TPA	Oct-06	Oct-06	✓	3,991	3,991
I-5/SR 502 Interchange	Nickel	Nov-06	Nov-06	✓	43,338	43,217
SR 9/Schloman Rd to 256th St E	Nickel	Nov-06	Nov-06	✓	15,084	15,326
SR 9/252nd St NE Vicinity-Rechannelize	Nickel	Nov-06	Nov-06	✓	808	830
SR9/268th St Intersection	Nickel	Nov-06	Nov-06	✓	2,303	2,444
US 12/Clemons Rd Vic.-Intersection Improvements	TPA	Nov-06	Nov-06	✓	2,711	2,717
SR 20/Ducken Road to Rosario Rd	Nickel	Oct-06	Oct-06	✓	6,427	6,660
SR 20/Quiet Cove Rd Vic to SR 20 Spur	Nickel	Jan-06	Nov-06	✓ [1]	16,920	16,920
SR 20/Fredonia to I-5 - Widening	Nickel	Oct-06	Oct-06	✓	83,780	83,795
SR 20/Winthrop Area - Bike Path	TPA	Oct-06	Oct-06	✓	1,241	1,241
I-90/Seattle to Mercer Is.-Two-Way Transit/ HOV	TPA	Dec-04	Oct-06	Delayed[2]	50,445	49,540
I-90 Harvard Rd Pedestrian Overcrossing	TPA	Oct-06	Oct-06	✓	332	331
US 97/Brewster - Pedestrian Lighting	TPA	Oct-06	Oct-06	✓	155	155
SR 169/SE 291st St. Vicinity - Safety	TPA	Oct-06	Oct-06	✓	2,519	2,557
SR 169 at 516 (Four Corners)	TPA	Oct-06	Oct-06	✓	2,500	2,500
SR 202/Preston-Fall City Road & SR 203	Nickel	Oct-06	Oct-06	✓	2,893	3,043
I-405/SE 8th to I-90 (South Bellevue)	Nickel	Jul-07	Dec-06	Advanced	187,980	187,980
I-405/NE 10th Street Overcrossing	TPA	Jun-08	Nov-06	Advanced	69,200	69,200
SR 823/Goodlander to Harrison Rd Sidewalk Completion	TPA	Oct-06	Oct-06	✓	765	769
SR 902/Medical Lake Interchange	TPA	Oct-06	Oct-06	✓	600	700
State Highways in E. Clallam, Jefferson, Kitsap & Mason Co. - Safety	TPA	Nov-06	Nov-06	✓	2,900	2,900
State Highways in Pierce and Thurston Counties - Roadside Safety Imp.	TPA	Nov-06	Nov-06	✓	1,000	1,000
US 12/Wildcat Cr. to I-82 - Roadside Safety	TPA	Oct-06	Oct-06	✓	507	466

Table and footnotes continued on following page

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

Advertisement Schedule and Budget

Twenty Six Projects in Delivery Pipeline for July 1, 2006 through December 31, 2006 (Continued)

Nickel and Transportation Partnership Account (TPA) Projects Now Being Advertised for Construction or Planned to be Advertised
Dollars in Thousands

Project Description	Fund Type*	Original Planned Ad Date	Current Planned Ad Date	On Schedule	Current Legislative Expectation (Baseline)	Current Estimated Cost to Complete (WSDOT)
Total (July 1, 2006 - December 31, 2006)				**96%**	**$503,550**	**$503,435**
9 Nickel Projects				**100%**	**$359,534**	**$360,216**
17 TPA Projects				**94%**	**$144,016**	**$143,219**

Source: WSDOT Project Control and Reporting Office

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

Project Details:

[1]The baseline advertisement date was revised as an outcome of the 2006 Legislative Supplemental Budget. WSDOT reporting data has not yet caught up with the 2006 Session information. This project was reported as delayed in the August GMAP presentation when in fact it was not.

[2]The Stage One Ad date is being postponed from July 2006 to October 2006 to obtain right of way certification, environmental and construction permits, and to develop the Mercer Island access plan.

WSDOT's Capital Project Delivery Programs

Selected Capital Project Delivery Highlights

Highway Construction Program

Updated Since March 31, 2006

I-5, Salmon Creek to I-205 – Widening

This project widens two miles of I-5 from NE 99th Street to NE 134th Street, from two lanes in both directions to three lanes, plus an additional lane between interchanges. Traffic has been shifted onto the newly completed northbound bridge. The contractor completed construction of the new southbound bridge and is currently working on the southbound roadway widening. Water drainage issues at the site continue to increase construction costs. WSDOT is assessing project risks and will further report in the next quarterly report. The project remains on schedule.

SR16/Olympic Drive to Union - HOV

This project constructs HOV lanes on SR 16 from Olympic Drive (Gig Harbor) to Union Avenue (Tacoma). Currently, there are four travel lanes. Upon completion, there will be six lanes throughout the corridor, with additional lanes provided between the Union Avenue and 6th Avenue interchanges. Work is expected to be completed in Spring 2007.

SR 161 - Jovita Blvd. to S. 360th St.- Widen

This project widened SR 161 in Federal Way. The roadway in the commercial areas between Milton Way and Military Road South has four through-lanes and one two-way left-turn lane. The roadway in the residential areas between Military Road South and South 360th is now four through-lanes with left-turn pockets at designated intersections.

Crews have finished all roadway widening and miscellaneous construction. The completed work includes noise wall construction, retaining wall gutter installation, and three rain-sensitive tasks: construction of the concrete median, paving the top layer of asphalt throughout the project, and final striping. This project was open-to-traffic in mid-July 2006, six months ahead of schedule.

I-205 Mill Plain SB Off-Ramp Improvements

This project widens the existing off-ramp to accommodate a second left-turn lane. The purpose of the project is to increase the capacity and safety of the off-ramp, which has been identified as a high accident location. This project is the first TPA funded construction project in Southwest Region. The project is within budget.

SR 270, Pullman to Idaho State Line

This project improves capacity and safety by widening SR 270 between the Pullman and Idaho state line from two lanes to four lanes, with a continuous center turn lane. The project was awarded on April 27, 2006 to North Central Construction, Inc. for $18 million. The contract was executed on May 8, 2006 and work began on July 10, 2006.

U.S. 395, NSC – Frances Avenue to Farwell Road

This project constructs two lanes of the North Spokane Corridor between Frances Avenue and Farwell Road, and completes the grading between U.S. 2 and Wandermere. The project consists of four contracts. The first contract, Farwell Road Lowering, was completed last year, and the second contract, Gerlach to Wandermere Grading, is underway with anticipated completion in late Summer 2006. The revised third contract was re-advertised on May 30, 2006 and bids were opened on July 13, 2006, the bid was 7.8% over WSDOT's engineer estimate. The project was awarded to Max J. Kuney. The fourth contract, Francis Avenue to U.S. 2 – Grading and Paving is scheduled for advertisement in October 2006.

New to this Edition

SR3/SR303 Interchange (Waaga Way)

The project is being accomplished in three phases. The first is scheduled to be completed by the end of Summer 2006 and the second and third will be completed next year by Summer 2007.

The first phase comprises the majority of the work, including all land clearing, grading, the construction of nine structural walls and new highway ramps, the demolition of a portion of the SR 303 bridge over crossing SR3, the removal and replacement of the existing lighting system, construction of two new traffic signal systems, and roadway paving. Currently the installation of temporary erosion control is in place, the temporary lighting system is up, and a temporary "free right-turn" lane from the SR3 southbound off-ramp to southbound SR 303 has been completed. Land clearing has been done on 40% of the project and grading is underway throughout the project.

The project is currently approximately 20% complete. WSDOT is reviewing contractors' proposals to redesign the retaining walls and reduce the cost of the project. This project is within the current $20.2 million construction budget and on schedule for a Fall 2007 completion.

I-5, 48th Street to Pacific Ave – HOV

This project prepares I-5 for future HOV lanes from 48th Street to Pacific Avenue in Tacoma. It also provides a new four-lane highway facility for northbound traffic exiting to downtown Tacoma, going to or from SR 16, and entering I-5 from 38th Street. This four-lane facility will greatly improve the safety and mobility of traffic exiting or merging onto I-5.

Selected Capital Project Delivery Highlights

Retaining wall construction began in August 2005. Demolition of three bridges has been completed. The project is now 30% complete, on budget, and on schedule for completion in June 2008.

SR 16 36th St. to Olympic Drive N.W.

This project is tracked and reported under the umbrella project of the project *SR16/Olympic Drive to Union - HOV*, see page 9 for project details. The contractor has recently resumed work to complete Hot Mix Asphalt paving, shoulder construction, pavement markings, and other miscellaneous items of remaining contract work after a winter weather suspension that began on December 6, 2005. The current projected completion date for this segment of SR 16 HOV improvements is August 2006.

SR 16 Union Avenue to Jackson Avenue

This project is tracked and reported under the umbrella project of the project *SR16/Olympic Drive to Union - HOV*, see page 9 for project details. The contractor recently switched traffic to the newly realigned outside lanes allowing work to be completed in the median between 6th Ave. and South 12th St. The traffic signal system at South Orchard St. is complete. Installation of drainage structures is 80% complete. Reconstruction of Center Street and the construction of retaining walls adjacent to the Center Street Bridge will begin in July 2006. The Snake Lake eastbound bridge improvements have been completed. Installment continues on several bridges. The current projected completion date for this segment of SR 16 HOV improvements is Spring 2007. Construction is currently on budget and on schedule for a Summer 2007 completion.

I-5/SR 526 to Marine View Drive - HOV Lanes

This project will design and construct northbound and southbound HOV lanes on I-5 between SR 526 and U.S. 2 in the City of Everett. Existing I-5 will be widened and the Broadway Interchange off-ramp will be moved to the right. Up to twenty bridges will be widened. Noise walls, retaining walls and a full stormwater system retrofit will be designed and constructed. Investigation of the Lowell Road slide area is included.

The 41st Street Bridge was demolished and detours are in place until the end of November when the new 41st Street Bridge will reopen to traffic. This project is on schedule and within budget.

SR 7 / SR 507 to SR 512 - Safety

This five-mile safety project is located on SR 7 between SR 507 and SR 512 in Pierce County. This project will increase safety for curbs, sidewalks, and road approaches along the entire corridor.

Significant progress has been made on the northwest quarter of the project. Summer construction activities, including traffic signal installations, will be completed on the north half of the project. The project remains within budget and on schedule.

SR 9 - Nooksack Road Vicinity to Cherry Street

A new highway alignment is to be constructed from Nooksack Road to Cherry Street to alleviate weather-related load restrictions and reduce the number and severity of accidents.

The contract was awarded to IMCO General Construction of Bellingham in February 2006. Work began on April 10, 2006 and is expected to be completed by Fall 2007. Currently, the focus is to pave surface for the new alignment, realign Bone Creek, and set the new box culverts at Bone and Easterbrook Creeks. All utility relocation work affecting contractor activities will be completed by July 1, 2006.

U.S. 12, Vicinity Montesano to Elma Median Cross Over

This project will install twelve miles of "High Tension Cable Barrier" in the median of SR 12, between Montesano and Elma. The project will aid in preventing head-on collisions resulting from drivers crossing the median between the separated lanes and into oncoming traffic. The project was awarded to Petersen Brothers, Inc. on May 8, 2006. The contractor is currently acquiring the materials necessary for construction and intends to complete the project within 54 working days. The project is on time and within budget.

SR 543 - I-5 to Canadian Border - Additional Lanes for Freight

New lanes are to be constructed between Boblett Street and the Canadian border for a separate truck route to address congestion and safety issues on SR 543. Also a new interchange is to be constructed at D Street, near the Canadian border.

The contractor, IMCO General Construction of Bellingham, Washington, began work on April 24, 2006 and is expected to finish by Fall 2008. Most activities have focused on preparing the site for the upcoming shaft-drilling operation. The contractor began drilling in May 2006 to place over one thousand shafts up to 80-feet deep to support retaining walls and the new D Street Bridge over SR 543. Drilling is expected to continue throughout most of the year.

Other Capital Programs – Rail

Chehalis Jct. to Blakeslee Jct. via Centralia

The Legislature allotted $7.4 million to help solve rail and highway delays in the Centralia area due to increasing rail traffic to the Port of Grays Harbor. The original concept to utilize Tacoma Rail's minimally used line as a bypass between the two cities raised significant local concern. WSDOT facili-

Selected Capital Project Delivery Highlights

tated an alternative plan providing the City of Centralia, City of Chehalis, BNSF, Tacoma Rail, and other concerned entities several options to achieve their goals. The affected railroads and stakeholders have agreed on a preferred solution: to improve congestion on the BNSF Main line and reduce local community impact. However, a final decision has not yet been made. Phase One improvements required to satisfy all railroads and stakeholders are now estimated to cost over $15 million.

Discussions with the affected railroads are still underway and, considering the time required to design the project and negotiate agreements between the affected railroads, construction will begin Spring 2007, with completion anticipated Fall 2007. To account for the construction deferment, WSDOT has proposed to defer $2.4 million in 2005 Transportation Partnership funds from the 2005-07 biennium into the 2007-09 biennium. The department has proposed to advance other rail projects to make use of the $2.4 million expenditure authority in the 2005-07 biennium.

WSDOT's Capital Project Delivery Programs

"Watch List" Projects - Cost and Schedule Concerns

Highway Construction Program

Updated Since March 31, 2006

SR 20, Quiet Cove Rd Vicinity to SR 20 Spur

This project widens the lanes of SR 20 to 12 feet and the shoulders to four feet. It constructs a new bridge over Meadow Creek to accommodate left-turn lanes and to provide for fish passage. The project also corrects existing horizontal and vertical curves, closes intersections with sharp angles, and constructs new left and right-turn lanes.

The design team discovered that the area south of Gibraltar Road requires additional rock blasting and the construction of a detour to bypass the blasting areas. After updating the cost estimates for the project and accounting for the latest market trends of rising construction costs and properties acquisition, an additional $7.7 million is needed to construct Stage Two. This project remains on schedule.

SR 20, Fredonia to I-5 - Widening

This project widens SR 20 from two to four lanes from the intersection of SR 536 (Fredonia) to I-5 (Burlington). Improvements to the northbound and southbound I-5 ramps will help to alleviate congestion.

Mainline improvements include construction of four new structures on SR 20, a new structure on SR 536 and bridge widening at Higgens Slough. A new traffic signal will be installed at Pulver Road and signal revisions will be provided at existing signalized intersections. The northbound I-5 off-ramp will be modified to accommodate the new roadway configuration. The funding provided will complete design and right of way phases and partially fund construction. Additional funding will be needed to complete construction of this corridor.

A Cost Risk Assessment completed in May 2006 indicates that the total corridor cost will exceed current funding by approximately $22 million. Right of way acquisition is considered the primary cost risk. The increased costs for the construction stage are due to increased agreement costs with the drainage district, and BNSF roadway detour and railroad flagging.

The Cost Risk Assessment indicates a potential delay to the Stage Two advertisement date of January 7, 2008 primarily due to right of way acquisitions, utility relocations and railroad issues. These risks will continue to be monitored and managed.

Funding is sufficient for purchasing right-of-way and completing design for the entire project, leaving enough funding for constructing improvements between SR 536/SR 20 and Higgins/Airport Way vicinity and at the I-5 interchange. Approximately $22 million is needed to construct the section between Higgins/Airport Way and the I-5 interchange.

I-90 Two-Way Transit & HOV Operations

This project will build new direct transit and HOV access ramps on Mercer Island, improve the Bellevue Way ramp, and will add an outer roadway eastbound and westbound HOV lane between Bellevue and Seattle. The advertisement date for Stage One (Bellevue Way to 80th Ave SE) is being delayed from July 2006 to October 2006 as a result of permit issues and development of an access plan that provides equitable and dependable access for I-90 Mercer Island exit and entry. The cost of this project has increased to $147.8 million. This includes the cost of retrofitting the existing concrete pavement with dowel bars at the pavement joints to strengthen and extend the life of the pavement. The current funded budget is $91.3 million including $15 million Nickel and $30 million TPA funds. The unfunded amount is $56.5 million.

The I-90 project will be built in three stages: Stage One – Westbound between Bellevue Way and 80th Avenue SE on Mercer Island, Stage Two – Eastbound I-90, between Bellevue Way and 80th Avenue SE, and Stage Three – Eastbound and Westbound between 80th Avenue SE and Rainier Avenue/I-5.

SR 202, Preston-Fall City Road & SR 203

This project will construct a round-about at the intersection of SR 202 and SR 203. As discussed in the March 2006 *Gray Notebook*, business relocations of three parcels will not be complete by the advertisement date of October 2006 but will be completed prior to the actual start of construction in Spring 2007. The final right-of-way costs may exceed the authorized funds by $500,000 due to ongoing negotiations with the property owners. The March 2006 *Gray Notebook* reported a preconstruction engineering cost increase of $155,000 and a construction cost increase of $150,000. These increases are now $205,000 and $293,000. The reason for these cost increases is due to further design effort required to avoid wetlands, as well as floodplain impacts, permitting and the unanticipated cost to demolish two buildings.

I-205 Mill Plain Exit (112th Connector)

As reported in the March 31, 2006 *Gray Notebook*, the advertisement for this project, Stage One of the I-205 corridor improvement effort, has been delayed from April 2006 to April 2008 in order to complete a recently required Environmental Assessment. This project geographically overlaps with and coordinates with the new, adjacent TPA-funded project, I-205/Mill Plain to NE 28th Street (Stage Two).

"Watch List" Projects - Cost and Schedule Concerns

To provide the most efficient construction with the overlapping projects, the department is proposing to move the construction of a fly-over bridge structure from Stage Two to Stage One. This action will require an advance of $10.5 million of construction funds from 2009-11 to 2007-09. Additional funding is also needed to complete the construction of this project and will be further discussed in a future quarterly report.

I-5/SR 522/ BOTHELL UW Campus Access

Advertisement for this project to construct a new south access to the University of Washington Bothell/Cascadia Community College Campus from I-405 and SR 522 has been delayed until November 2006 for the project team to redesign the roadway to a higher elevation to avoid a high groundwater table. The construction estimate is within budget; however, design costs have increased by $400,000 because of the additional engineering effort. WSDOT is monitoring costs to provide future "Watch List" updates as needed.

New "Watch List" Projects

SR 9, Schloman Road to 256th & 268th

This project realigns two existing curves and widens SR 9 to provide twelve-foot lanes and four-foot shoulders. Slopes will be flattened and other safety features will be improved as needed.

Complications with environmental permitting require changes in the project's design. An updated preliminary engineering cost estimate, an updated construction cost estimate, along with an increased oil, asphalt and steel prices have increased project costs. Project cost escalation is being assessed program-wide and will be reported in WSDOT's proposed budget to the Governor. This project remains on schedule.

SR 9/SR 522 to 228th St SE – Widening, and SR 9, 228th St SE to 212th St SE (SR 524)

SR 9 will be widened to four or five lanes from SR 522 to 228th Street SE. The westbound on-ramp to SR 522 will also be widened to two lanes. A new traffic signal will be installed at the westbound off-ramp to northbound SR 9 and the signals at the eastbound ramps to SR 522 and at 228th Street SE will be upgraded. This project is divided into two stages. Stage 1A, which is complete, modified the SR 9/SR 522 Interchange. Stage 1B, which widens SR 9 from SR 522 to 228th Street, will add two new through-lanes and one two-way left-turn lane. The work includes a retaining wall and a stormwater retention system.

Right-of-way settlements on parcels in condemnation and the higher cost of site dewatering for retaining wall and retention pond construction will result in a $1.2 million budget overrun. The project is currently on schedule.

SR 20, Ducken Road to Rosario Road

This project improves existing guard rail and illumination and constructs a southbound left-turn lane and a northbound right-turn lane at Ducken Road. The project is within Deception Pass State Park limits. The new guardrail will retain many of the character-defining features of the old guardrail, including the defining log and rock-and-mortar post appearance, as defined by a Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and the Washington State Parks and Recreation Commission.

Construction costs have increased for several reasons: the costs associated with the unique guardrail, the effort required to avoid underground utilities, unexpected drilling into bedrock, and escalating materials costs. Project cost escalation is being assessed program-wide and will be reported in WSDOT's proposed budget to the Governor. The Memorandum of Understanding must be updated to address design concerns. This may impact the schedule and may delay the project advertisement date.

SR 31, Metaline Falls to International Border

This project constructs an all-weather highway to eliminate truck weight restrictions. The contractor resumed work on May 9, 2006 following a winter shutdown. At the construction site, the contractor recently discovered hydrostatic pressure that exceeds the retaining wall's design specifications. WSDOT is currently assessing to determine if the retaining wall will have to be redesigned and new permits obtained. The impact to the schedule and budget has not been determined at this time. In the interim, to allow vehicular traffic, the contractor has placed over half of the rock cap material on the roadway and is covering it with a temporary asphalt-treated base driving surface. Guardrail and drainage items are currently being installed and final asphalt paving is scheduled to begin in early August 2006.

SR160/SR16 to Longlake Road Vic. (Port Orchard)

This safety improvement project flattens the side slopes along the highway from SR 16 to Phillips Road vicinity and increases the roadway shoulder widths to four feet (six feet between Estonia Road and Brasch Road). A two-way left-turn lane will be added from the Fred Meyer Store to Brasch Road and left-turn lanes will be added at Phillips Road. The project also

"Watch List" Projects - Cost and Schedule Concerns

creates flat bottom ditches for storage and treatment of runoff water from the highway, and flattens front and side slopes for safety.

Substantial increases in property values within the project limits have resulted in increased right-of-way acquisition costs recently. Property acquisition will require an additional $715,000. Preconstruction engineering and construction costs are also increasing as the project design is brought into compliance with current wetland, wildlife habitat and stormwater treatment mitigation requirements.

Additional funding, currently estimated at $168,500, for preconstruction engineering and $715,000 for right-of-way acquisition, is required in order to mitigate the environmental requirements. Final estimates are in development and will be reported in future *Gray Notebooks*.

SR 902, Medical Lake Interchange

The project provides traffic signals at the intersection of the I-90 ramp and SR 902 to improve traffic flow and safety. WSDOT is investigating a partnership with Spokane County and local developers to construct enhanced improvements in this location. The partnering of funds will delay installation of the traffic signals until Spokane County secures the funds and finalizes the design for their proposed improvements. The project advertisement date is being delayed from October 2006 to a future date yet to be determined.

Other Capital Programs – Rail

Swift Customs Facility Capacity Improvements, Blaine, WA

This project, funded in the 2005 Transportation Partnership package at $3.0 million, will increase rail line capacity at the Swift Customs Facility and will ensure a reliable Amtrak *Cascades* train schedule. State funds will supplement a $3 million federal earmark. The Legislature assumes an additional $3 million in private/local/other funds that have not been secured.

BSNF began pre-construction engineering in December 2005, which will result in a phased construction plan to match the funds available while providing incremental improvements to rail and inspection operations. Delays due to scoping issues, stemming from recent traffic modeling, may result in the construction being delayed until July 2007. However, this will not delay the completion of construction, scheduled for June 2009, if local funds are provided.

PCC Cheney – Coulee City – Pullman Acquisition & Upgrades

Funding was provided in 2004 to purchase the CW Branch of the PCC Railroad that is owned by Watco Companies, Inc. Subsequently, the owner withdrew the property from the sale, asserting the scrap value of the railroad had increased substantially. Negotiations have been ongoing since January 2006, but an agreement has yet to be reached. It is unclear if an agreement can be negotiated, or whether adversarial proceedings before the Surface Transportation Board will be required. In either case, the purchase and track upgrade projects will be delayed pending resolution with Watco Companies.

Geiger Spur Connection

The Legislature provided a total of $5.0 million to build a new rail connection to Spokane County's Airway Heights Industrial Park to replace the connection that currently passes through Fairchild Air Force Base.

Recently, Watco and WSDOT have provided verbal commitments to Spokane County to allow the connection needed with the PCC CW Line, and have promised to provide written authority. The project depends on approval by the Surface Transportation Board (STB), which could require an extensive environmental review process. Spokane County submitted its plans to an attorney specializing in STB law, and expects to resolve all STB issues by July 30, 2006.

The 30% plans were completed in May 2006 under a federal grant. The plans indicate a $5.6 million cost for the project, including a 20% contingency for many remaining unknowns. The plans are being reviewed to bring the project within available funding limits.

New Creston Livestock Feedmill (Lincoln County)

Lincoln County secured a tenant for a livestock feedmill just west of Creston. The tenant converted the operation to a biodiesel plant when the construction of the spur was delayed. WSDOT learned this quarter that the plant generates a demand for 300 to 450 rail cars per year; however, the plant is located on the disputed CW Branch of the PCC Railroad. Despite the uncertainty of the continued operation of the CW rail line, associated road improvements will be constructed under grants other than the WSDOT grant because the plant is economically viable without rail access, although costs are higher.

The rail spur will be engineered by September 30, 2006. Construction and a final decision on remaining WSDOT funds will await a determination of when the CW Branch will resume operations. See project *PCC Cheney – Coulee City – Pullman Acquisition & Upgrades*. on this page.

Cascade and Columbia River Upgrade

The $890,000 project would upgrade the light-duty tracks entering Oroville in Okanogan County to handle larger modern cars. The railroad has resolved previously reported

"Watch List" Projects - Cost and Schedule Concerns

problems with chip car availability that had earlier created questions about the need for the project. WSDOT offered a loan to the rail company for the project. However, the rail company refused the loan in February 2006, but indicated that it may want to take out the loan in 2007, if conditions change. As the railroad has not rejected the loan at this time, WSDOT will continue to discuss the possibility of a future loan to the railroad and will make a recommendation on re-appropriation of the funds or deletion of the project by September 2006.

Dayton Yard Rehabilitation – Port of Columbia County

The Seneca Green Giant asparagus cannery relocated away from Dayton several years ago, and put its plant up for sale. The Port of Columbia County located two prospective replacements to purchase the plant and begin operations. However, rail upgrades were needed for the operations, so the Legislature provided $270,000 to assist with the needed infrastructure. Subsequently the Green Giant property was removed from the market, and the prospective operators lost any incentive to locate in the area. The Port has identified an alternative project that must be evaluated by WSDOT to determine whether it falls within the scope of the original authorization. It is uncertain at this time whether that is the case, and whether the alternative project can be completed by June 30, 2007.

Other Capital Programs – Ferries

Bainbridge Island Trestle Improvement Project (Dock-Widening)

The project is an expansion of the existing dock to resolve operational deficiencies at the Bainbridge Island Ferry Terminal. The estimated 2006 construction budget is $9.5 million. An environmental review and documentation is in progress for the overall Bainbridge Island Terminal Improvement project ($160 million). The Suquamish Tribe, the City of Bainbridge Island, and the public have raised concerns in regard to potential segmentation of the Bainbridge Island projects by the activity of conducting smaller project-by-project environmental analyses.

The current master planning process will analyze the applicability of dock widening as a solution to the operational deficiencies within the environmental documentation process for the overall Bainbridge Island Terminal Improvement project. This delay of approximately two years may increase costs.

Mukilteo Multimodal Terminal

This project relocates the existing Mukilteo Ferry Terminal to a new site and constructs a larger, multimodal terminal facility in order to meet several goals. Among them are to stimulate ridership growth, to provide travel options for customers who use the regional transportation system, to relieve congestion and conflicts on adjacent local streets, and to avoid costly investments in preserving the existing facility.

The project originally included a dock with two slips; holding capacity for two boat loads of vehicles; four toll booths with HOV priority; a terminal building; an overhead pedestrian bridge connecting ferry, transit, and rail; a transit center; an HOV priority staging area and by-pass lanes; bike facilities with bike staging; and pedestrian promenades. After public comment, a parking structure was added for consideration among several alternatives.

The project is expected to be completed by 2010. In 2003, the project cost estimate was $131 million and the Legislature agreed to provide $123.2 million. Currently, WSDOT has narrowed the list of project alternatives to the Compact Alternative ($168 million) and the Upland Alternative ($152 million). With one exception, both of these alternatives address the original project scope and the parking structure. The main difference between the alternatives is the amount of vehicle holding space located over water.

The department is working with Sound Transit and the Port of Everett to resolve the right-of-way issues. Also, the department is considering project cost reductions that may involve delayed construction of the parking structure or the second vessel slip or both. The department continues to work with the Federal Transit Administration (FTA), the lead agency, and all Indian Tribes who are party to the Point Elliot Treaty on mitigation for any rights granted by the Treaty which may be impacted by the new terminal. The Ferry System and FTA are currently working on an Environmental Impact Statement in which Section 106 is being evaluated as part of the NEPA process. Archaeological work is currently underway.

Removed From "Watch List"

I-405, 112th Ave SE to SE 8th Street (Bellevue)

This project adds lane capacity between 112th Avenue. SE and SE 8th Street. Two issues noted in March put this project at risk for meeting schedule milestones: Endangered Species Act (ESA) consultation and railroad operation agreements.

Through negotiations with BNSF railroad a new highway alignment was identified which significantly reduces cost, schedule, and environmental impacts. The tentative agreement with BNSF allows for a modified alignment with improved opportunities for water quality treatment and ESA compliance. This allows informal (vs. formal) ESA consultation and potentially reduces impacts to our schedule.

"Watch List" Projects - Cost and Schedule Concerns

Removed From "Watch List" - Continued

Informal ESA consultation and BNSF agreement discussions are continuing on a parallel path. The December 2006 advertisement date is at less risk than previously reported.

SR 4, Svensen's Curve - Realignment

As reported in the last *Gray Notebook,* this project has been deferred to a later biennium while WSDOT looks for an alternate waste site location and determines the associated right of way and construction cost impacts. In the interim, WSDOT is waiting for the results of an appeal to reconsider the court's ruling against condemnation of the preferred waste site location.

I-5/SR 526 to Marine View Drive – HOV

This is a design-build project that will widen I-5 for the construction of northbound and southbound HOV lanes between SR 526 and the vicinity of Marine View Drive in Everett. The project also includes north and southbound auxiliary lanes between 41st Street and U.S. 2.

As reported in the March 2006 *Gray Notebook,* BNSF approved the last of the nessessary agreements on May 3, 2006. Shortly thereafter, BNSF provided design approval on May 19, 2006. It appears that BNSF will be able to meet the design-builder's schedule. WSDOT will monitor the situation and provide future updates as needed.

SR 522/I-5 to SR 405 Multimodal Project

This Lake Forest Park project constructs pedestrian enhancements, a transit signal, and replaces a two-way left-turn lane with a raised median.

The project was advertised in June with bid opening scheduled for mid-August 2006. The project has secured $400,000 additional funding from the Transportation Improvement Board (TIB) and $40,000 more from King Country Metro to cover construction costs. Higher right-of-way settlement costs on several parcels continue to be of concern and may result in a funding shortfall of about $400,000. WSDOT is monitoring the progress of utility relocations and right-of-way costs to provide future "Watch List" updates as needed.

SR 99, S 284th to S 272nd St - HOV

This project builds an HOV-only lane in each direction for carpools, vanpools, and buses on SR 99 (north of Federal Way) between South 284th Street and South 272nd Street.

The contract was advertised in April and awarded in June 2006 to SCI Infrastructure. The total project cost is within the current budget. Utility relocation work is planned to be completed by the end of July. Therefore, the project has been removed from the Watch List.

Other Capital Programs - Rail

Snohomish Riverfront Redevelopment

The City of Everett is pooling the state's $1.8 million from the 2005 TPA with federal and local funds to construct a bypass to an existing BNSF Railway line along the river. The goal is to remove the existing line along the portion of the riverfront so that the property can be developed.

The project depends upon the City and BNSF completing a complex set of land swaps. As previously reported, the land swaps were delayed indefinitely from the scheduled December 2005 completion, due to negotiations between the parties. Completion of the City and BNSF land swaps is pending.

Everett -Delta Jct. Curve Realignments and Delta Yard Storage Tracks

This project will reduce travel times through the area and provide storage tracks to keep freight switching work off the main line resulting in improved on-time reliability for trains traveling north of Seattle. Pre-construction engineering began in August 2003, but issues with scope design and wetlands have delayed the anticipated construction start date of July 2005 to the Winter 2007. To account for the delay, WSDOT has proposed to defer $8 million in 2003 "Nickel" funds from the 2005-07 biennium into the 2007-09 biennium. The department has proposed to advance other rail projects to make use of the $8 million expenditure authority in the 2005-07 biennium. Project cost escalation is being assessed program-wide and will be reported in WSDOT's proposed budget to the Governor.

Mukilteo Temporary Sounder Station

In late December 2005, WSDOT learned that the Sound Transit Board decided Sound Transit would complete the permanent Mukilteo Station in mid-2007, thereby making construction of a temporary station redundant and unnecessary. WSDOT proposes to defer $1.5 million in 2005 Transportation Partnership funds slated for this unnecessary project in the 2005-07 biennium to the 2011-13 biennium. The department also proposes to advance other rail projects to make use of the $1.5 million expenditure authority in the 2005-07 biennium. These actions require approval by the Office of Financial Management.

WSDOT's Capital Project Delivery Programs

Project Delivery Summary Reports

Schedule Milestone Tracking for Nickel Projects

Milestone Results for all Nickel Projects with One or More Milestone Activities

Milestone	Number of Projects with this Milestone	Number of Scheduled Milestones Achieved	Number of Scheduled Milestones Not Achieved	Achievement Rate
Project Definition Complete				
Biennium to Date (2005-07)	6	5	1	83%
Cumulative to Date (2003 - June 06)	48	45	3	94%
Begin Preliminary Engineering				
Biennium to Date (2005-07)	5	3	2	60%
Cumulative to Date (2003 - June 06)	111	97	14	87%
Environmental Documentation Complete				
Biennium to Date (2005-07)	11	11	1	100%
Cumulative to Date (2003 - June 06)	28	26	3	93%
Right of Way Certification				
Biennium to Date (2005-07)	4	3	3	75%
Cumulative to Date (2003 - June 06)	20	13	7	65%
Advertisement Date				
Biennium to Date (2005-07)	18	11	7	61%
Cumulative to Date (2003 - June 06)	57	45	12	79%
Operationally Complete				
Biennium to Date (2005-07)	10	10	0	100%
Cumulative to Date (2003 - June 06)	24	23	1	96%

Source: WSDOT Project Control and Reporting Office

Baseline Data: Baseline milestone dates are derived from the original Legislative expectation (2003-05 budget). Advertise Project and Operationally Complete Milestones are considered on-time if completed within the scheduled baseline calendar quarter. All other milestones are reported as on-time if they are completed within +/- 6 weeks of baseline date.

Milestone Definitions:

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

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

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

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

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

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

WSDOT's Capital Project Delivery Programs

Project Delivery Summary Reports

Schedule Milestone Tracking for Transportation Partnership Account (TPA) Projects

Milestone Results for all TPA Projects with One or More Milestone Activities

Milestone	Number of Projects with this Milestone	Number of Scheduled Milestones Achieved	Number of Scheduled Milestones Not Achieved	Achievement Rate
Project Definition Complete[1]				
Biennium to Date (2005-07)	45	33	12	73%
Cumulative to Date (2003 - June 06)	60	46	14	77%
Begin Preliminary Engineering[1]				
Biennium to Date (2005-07)	112	36	76	32%
Cumulative to Date (2003 - June 06)	156	78	78	50%
Environmental Documentation Complete				
Biennium to Date (2005-07)	16	15	1	94%
Cumulative to Date (2003 - June 06)	21	20	1	95%
Right of Way Certification				
Biennium to Date (2005-07)	5	5	0	100%
Cumulative to Date (2003 - June 06)	8	8	0	100%
Advertisement Date				
Biennium to Date (2005-07)	21	20	1	95%
Cumulative to Date (2003 - June 06)	24	23	1	96%
Operationally Complete				
Biennium to Date (2005-07)	13	12	1	92%
Cumulative to Date (2003 - June 06)	13	12	1	92%

Source: WSDOT Project Control and Reporting Office

[1] Project Definition and Begin Preliminary Engineering delays were due to Initiative 912. WSDOT is working to re-assess the schedule, budgets, and risk factors of each of the projects impacted by I-912. This assessment will be included as part of the 2007-09 budget/program development process.

Baseline Data: Baseline milestone dates are derived from the original Legislative expectation (2005-07 budget). Advertise Project and Operationally Complete Milestones are considered on-time if completed within the scheduled baseline calendar quarter. All other milestones are reported as on-time if they are completed within +/- 6 weeks of baseline date.

Milestone Definitions:

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

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

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

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

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

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

WSDOT's Capital Project Delivery Programs

Paying for the Projects: Financial Information

2003 Transportation Funding Package

2003 Transportation Funding Package Highlights

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

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

Deposited into the Multimodal Account (established in 2000)

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

Revenue Forecast Update

The following information incorporates the June 2006 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 issues, the 2005 Legislature moved several preservation projects into the 2013-15 biennium. Both cumulative ten-year totals and individual biennial amounts are shown.

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

Transportation 2003 (Nickel) Account projections for the gas tax receipts and licenses, permits, and fees are slightly lower than the baseline forecast, causing a minor decrease in the ten-year outlook for the account.

Multimodal Account projections for the vehicle sales tax are slightly higher than the baseline forecast, resulting in a slight increase in the ten-year outlook.

Forecasted revenues are still closely aligned with the legislative baseline projection for both accounts.

Bond Sales Plan for Authorizations Provided by the 2003 Transportation Funding Package

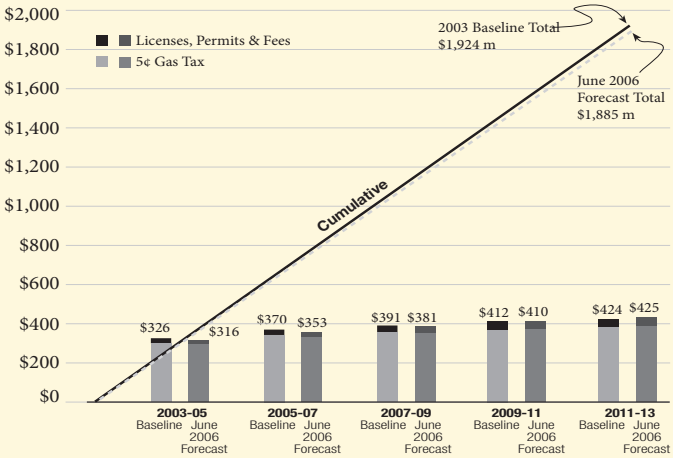
In addition to the new revenue sources, the 2003 Transportation Funding Package contained two new bond authorizations:

- Gas tax bonds: authorization of $2.6 billion
- State General Obligation (GO) bonds: authorization of $349.5 million

For the 2005-07 biennium the 2006 Legislature's Supplemental Budget appropriated $880 million in proceeds from gas tax bonds and $49.6 million from the state GO bonds. The current bond sale plan for this biennium is anticipated at $856.5 million for the Nickel Account and $48.5 million for the Multimodal Account. The differences between the appropriated amounts of $880.0 million and $49.6 million, respectively, and the Bond Sales Plan are attributed to premiums received on prior bond sales.

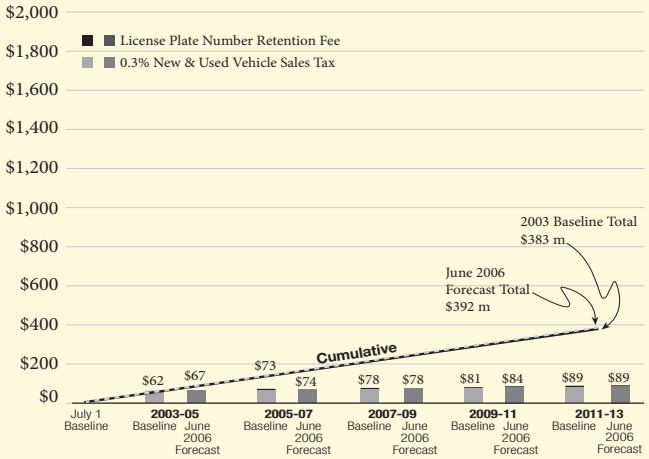
For details on the current bond sale plan and detailed account information, please visit the WSDOT website www.wsdot.wa.gov/finance

Transportation 2003 (Nickel) Account Revenue Forecast
March 2003 Legislative Baseline Compared to the June 2006 Transportation Revenue Forecast Council
Dollars in Millions



Baseline numbers do not add due to rounding.

Multimodal Account (2003 Package) Revenue Forecast
March 2003 Legislative Baseline Compared to the June 2006 Transportation Revenue Forecast Council
Dollars in Millions



WSDOT's Capital Project Delivery Programs

Paying for the Projects: Financial Information

Transportation Partnership Program

2005 Transportation Package Revenue Sources

9.5¢ increase to the gas tax phased in over four years

- 3.0¢ in July 2005
- 3.0¢ in July 2006
- 2.0¢ in July 2007
- 1.5¢ in July 2008

New vehicle weight fees on passenger cars

- $10 for cars under 4,000 pounds
- $20 for cars between 4,000 and 6,000
- $30 for cars between 6,000 and 8,000

Increased combined license fees for light trucks

- $10 for trucks under 4,000 pounds
- $20 for trucks between 4,000 and 6,000 pounds
- $30 for trucks between 6,000 and 8,000 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 increased to $75 (previously $20)
- DUI Hearing increased to $200 (previously $100)

Fee increases to various license plate charges

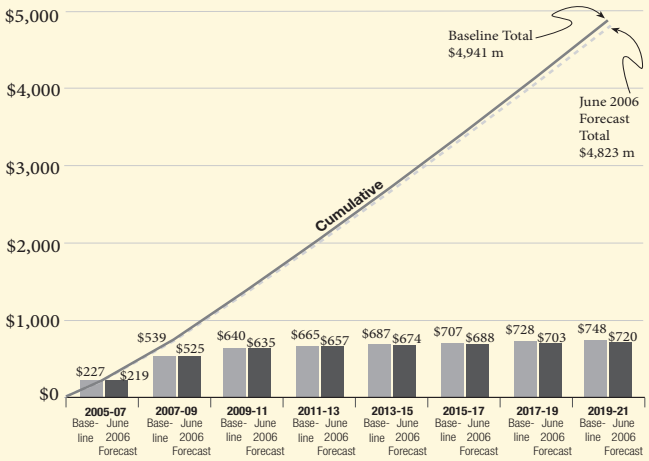
- Reflectorized Plate Fee increased to $2 per plate (previously 50¢)
- Replacement Plates increased to $10 (previously $3)

Revenue Forecast Update

The following information incorporates the June 2006 gas tax forecast projections. The accompanying chart compares the current projected 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 2006 forecast for gas tax receipts over the 16-year period decreased slightly; however, forecasted revenues are still closely aligned with the legislative baseline projection.

Transportation Partnership Account
Gas Tax Revenue Forecast
March 2005 Legislative Baseline Compared to the June 2006 Transportation Revenue Forecast Council
Dollars in Millions



Forecast figures do not add due to rounding.

Bond Sales Plan for Authorization Provided by the 2005 Funding Package

The 2005 Transportation Funding Package includes a new bond authorization of $5.1 billion over the 16-year period.

2005-2007 Biennium

For the 2005-07 biennium, the Legislature appropriated $150.0 million in proceeds from the gas tax bonds. The current bond sale plan is anticipated at $145.5 million for this biennium. The difference between the appropriated amount of $150.0 million and the Bond Sales Plan is attributed to premiums received on prior bond sales.

It should be noted that project construction was put on hold for most of the first fiscal year of the biennium, pending the outcome of Initiative 912, in the November 2005 election. Currently project construction is underway. A 10-year expenditure plan has been established and the 2015-21 biennia are under development.

For details on the current bond sale plan and detailed account information please visit the WSDOT website www.wsdot.wa.gov/finance.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds: Programmatic Reporting

PEF Program Milestone Reporting

On April 6, 2006, the Transportation Performance Audit Board (TPAB) released a report to the Governor, House Transportation Committee, Senate Transportation Committee, and the Joint Legislative Transportation Committee. This report, *Washington State Department of Transportation Capital Project Delivery Reporting* outlines the effort by TPAB to convene a Transportation Working Group (TWG) to develop coherent instructions and requests regarding budget and schedule reporting of WSDOT's capital projects.

As reported in the December 31, 2005 issue of the *Gray Notebook* (p. 17), and in alignment with the TPAB report, future editions of the *Gray Notebook* will begin reporting on the progress of Pre-Existing Funds (PEF) projects by programmatic categories. The chart below shows the six programmatic categories that are planned to be reported on and the number of projects associated with each category for this biennium.

Each category will be reported by the actual and forecasted amount for the following measures:

- Number of Projects Beginning Engineering
- Number of Projects Advertised for Bids
- Number of Projects "Operationally Complete"
- Program Cash Flow

Last quarter, WSDOT made enhancements to the Project Management Systems to allow tracking of the PEF program by milestones in the Capital Project Management System (CPMS). WSDOT continues to validate new data for accuracy and update PEF project milestones in CPMS. It is anticipated this process will conclude over the course of the next quarter and milestones will be confirmed in the next *Gray Notebook*.

Why is the Pre-Existing Funds Program reported differently than the Nickel and TPA Program?

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, the Pre-Existing Funds (PEF) fund programs to correct deficiencies defined by categories and subcategories at a program level. Funding is aligned to commitments to address set priorities such as number of miles paved per biennium. Each biennium, new PEF projects are programmed based on prioritized needs and available funds so the list of PEF projects changes each biennium.

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

Pre-Existing Funds Projects for the 2005-07 Biennium

Dollars in Millions

Programmatic Categories*	# of Projects 2005-07	Total Sub-Program Estimate for These Projects	Average Project Size
Pavement Preservation	184	$219.0	$1.2
Bridges (Preservation/Replacement)	56	$68.1	$1.2
Slope Stabilization	17	$18.3	$1.1
Safety (roadside, rumble strips, median cross-over, etc.)	54	$61.2	$1.1
Environmental Retrofit (fish passage improvement, stormwater runoff)	14	$5.5	$0.4
Other Facilities (rest area, weight stations)	39	$146.7	$3.8

Source: Project Control and Reporting

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

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds Program: Programmatic Reporting

Advertisement Record: One Hundred Twenty-Two Projects Now in Construction as of June 30, 2006

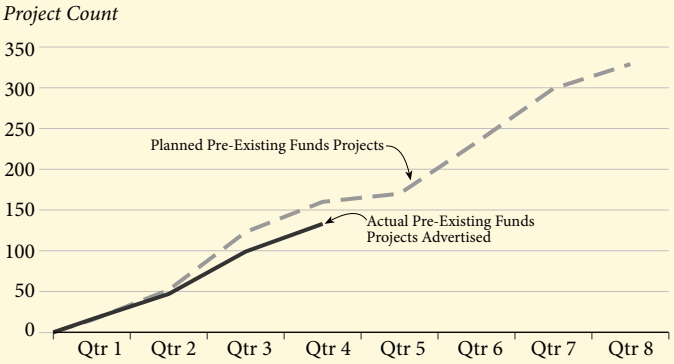
Biennium to Date (2005-07)

The 2005-07 Highway Construction Program includes a commitment to advertise 329 Pre-Existing Funds (PEF) projects. PEF advertisements through the quarter ending June 30, 2006 were 129 of the planned 149, or 87% of the "planned" commitments for the first four quarters. Of the 149 scheduled, 23 were delayed to future quarters of this biennium, 10 were deferred to future biennia, and 6 projects were deleted.

Current Quarter (April - June 30, 2006)

For the quarter there were 31 planned PEF advertisements. A total of 23 of these projects were advertised with 22 advertised as scheduled and one advertised early. Six of the planned advertisements were delayed to later in this biennium, one has been deferred to a future biennium, and two were deleted. There were five advanced, three emergent, and three delayed projects advertised.

Highway Construction Program Advertisements
Pre-Existing Funds Projects
Planned vs. Actual Number of Projects Advertised
2005-2007 Biennium, Quarter 4 ending June 30, 2006

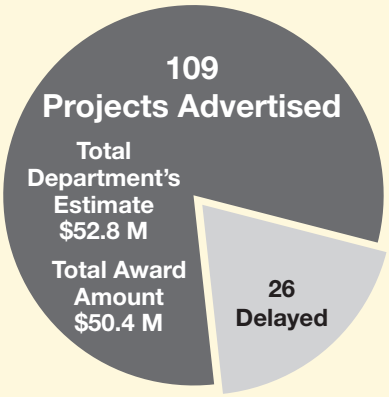


Source for all graphs: WSDOT Project Control and Reporting Office.

The table below summarizes the status of PEF projects advertised during the fourth quarter of the 2005-07 biennium.

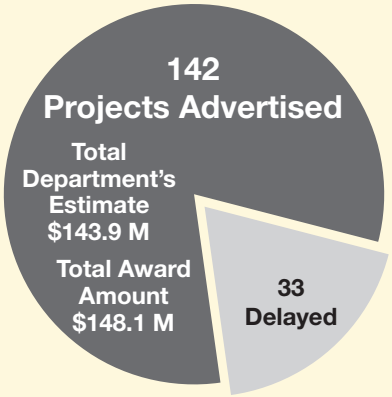
Pre-Existing Funds Projects: A Snapshot of Quarterly Progress and Total Biennial Progress to Date

End of Last Quarter
March 31, 2006



	Projects Through Last Quarter	This Quarter's Progress	Biennium to Date Total
Projects Advertised			
As Scheduled	88	22	110
Project Ads Early	11	5	16
Project Ads Late	1	3	4
Emergent Projects	9	3	12
Total Advertised	**109**	**33**	**142**
Projects Delayed			
Within the biennium (delayed)	17	6	23
Out of the biennium (deferred)	9	1	10
Total Delayed	**26**	**7**	**33**
Projects Deleted			
Projects Deleted	4	2	6
Total Deleted	**4**	**2**	**6**

End of This Quarter
June 30, 2006



WSDOT's Capital Project Delivery Programs

Pre-Existing Funds Program

Advertisement Record: Projects Advertised for this Quarter

April - June 30, 2006

Forty-three PEF Projects Scheduled to be Advertised for Construction During the Fourth Quarter of the 2005-07 Biennium

Project Description	On-Time Advertised	Project Description	On-Time Advertised
SR 3/Kitsap Way to SR 305 - Median Crossover	✓	SR 503/SR 502 to Rock Creek Road - Paving	✓
I-5/East Fork Lewis River Bridge Repair	✓	SW Region, I-5 and I-205 Pavement Marking	✓
I-5/Sign Structure at Michigan St/Corson Ave S I/C-Replace	✓	SR 510/Sitka Street to 93rd Ave. SE. - Paving	Advanced
I-5/South Everett Freeway Station/112th St SE - Transit Direct Access	✓	I-90/Spokane Viaduct Bridge Deck Rutting Repair - Eastbound	Early
I-5/McAllister Creek Bridge - Repair	✓	I-90/Spokane Viaduct Bridge Deck Rutting Repair - Westbound	Early
US 12/Corn Creek Bridge Vicinity to Davis Lake Rd Vicinity - Paving	✓	I-90/MP 66 Vic. WB - Rock Removal and Slope Stabilization	Early
US 12/Rimrock Tunnel Vicinity - Rockfall Prevention	✓	I-90/Ryegrass Hill Vicinity - Paving	Early
US 12/Clear Lake Vicinity-Rockfall Work	✓	I-405 Canyon Park Freeway Station - Direct Access and Flyer Stop	Early
US 12/7 Miles East of SR 123-Rockfall Work	✓	SR 410/288th Ave SE to Crystal Mtn. Blvd.[1]	Late
US 12/Snake River Br. at Clarkston	✓	Mill Creek Fish Passage[2]	Late
SR 18/Auburn Black Diamond Rd Vic to Green River Vic	✓	I-90/Midway Curve East - Stabilize Slope[3]	Emergent
I-5/S 320th St to I-405 Profield MMA Lane Striping[1]	Late	I-90 / Midway Curve Central - Stabilize Slope[3]	Emergent
US 101/Sol Duc River Br 101/314 Sappho Vicinity-Scour	✓	I-90 / Midway Curve West - Stabilize Slope[3]	Emergent
SR 112/West Twin River to Gossett Rd. - Paving	✓	SR 20/Walker Hill Rd - Graves Mtn Rd - Paving[4]	Delay
SR 112/Gossett Rd. to US 101 - Paving	✓	US 101/Evergreen Parkway to Vic Crosby Blvd - Median Crossover[5]	Delay
SR 142/Snyder Canyon Cr Fish Passage Barrier Removal	✓	US 101/Humptulips River Br - Bridge Scour[6]	Delay
SR 142/Bowman Creek Fish Passage Barrier Removal	✓	SR 231/Spokane River Bridge - Deck Rehab[7]	Delay
US 195/Junction SR 271 to Vicinity Plaza Road - Paving	✓	SR 512/108th St E to SR 167 - Median Barrier[8]	Delay
SR 305/Hostmark Street Vicinity to Bond Road - HOV	✓	SR 539/Horton Road to Tenmile Road - Widen[9]	Delay
SR 433/Lewis and Clark Bridge Painter	✓	SR 3/Hood Canal Bridge Holding Lanes[10]	Deferred
SR 501/Ridgefield to I-5- Paving	✓	SR 3/Johns Creek Bridge-Scour[11]	Deleted
		SR 18/Replace Sign Structure[12]	Deleted

Source: WSDOT Project Control and Reporting Office

Project Details:

[1]These projects, which were reported as "delayed" in the March 31, 2006 *Gray Notebook* have now been advertised.

[2]Original ad date was October 2005. The delay was due to environmental permitting that took longer than originally anticipated.

[3]These projects were added to the program to correct rockslides that occurred on I-90.

[4]This advertisement is being delayed four months from May 2006 to September 2006 due to increased construction costs. The planned Operationally Complete date is being moved to October 2007.

[5]Additional fill needed to meet the required 6:1 slope approaching the barrier location prompted further environmental review than anticipated from the original scope, resulting in delay in obtaining environmental permits.

[6]Scour mitigation is more complex than originally assessed. Scour team requested additional time to assess the best solution.

[7]This advertisement is being delayed six months from April 2006 to October 2006 in attempts to advertise at the optimum time to attract multiple bidders to the project. This delay will not affect the Operationally Complete date.

[8]Additional fill needed to meet the required 6:1 slope approaching the barrier location prompted further environmental review than from the original scope, resulting in delay in obtaining environmental permits.

[9]This advertisement is being delayed eight months from April 2006 to December 2006 due to acquisition of a parcel. This delay will not affect the operationally complete date.

[1]This unscoped project was added by the 2005 Legislature for the preliminary engineering, right of way, and construction phases. WSDOT has now developed a project scope and the right of way and construction phases remain unfunded.

[11]The WSDOT Bridge Office determined that the current conditions do not warrant a scour repair at this time.

[12]The need to replace this sign structure no longer exists. It will be removed as part of a future

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds Program: Individual Reporting

Schedule Milestone Reporting

Six Pre-Existing Funds projects have been selected for individual project reporting on a quarterly basis. These projects have been selected due to the size and visibility of each project. The following table summarizes the three schedule milestones tracked for these six Pre-Existing Funded projects: Begin Preliminary Engineering, Advertisement Date, and Operationally Complete.

Six Individually Tracked Pre-Existing Funds Project Results through June 30, 2006

Dollars in Millions

	First Leg. Budget	Baseline: Current Leg. Approved	Scheduled Date to Begin Preliminary Engineering		Schedule Date for Advertisement		Schedule Date to be Operationally Complete
			Date	On-Time	Date	On-Time	
SR 28 - East End of the George Sellar Bridge	$9.4 (2004)	$9.3 (2006)	May 2004	✓	Oct 2008	✓	Sep 2010
SR 539 - Horton to Tenmile Road	$32.0 (2001-03)	$52.6 (2006)	Oct 1990	✓	Feb 2007	✓	Jun 2009
SR 202 - SR 520 to Sahalee Way	$36.9 (2001-03)	$82.1 (2006)	May 1998	✓	Aug 2005	Late[1]	Dec 2008
U.S. 101 Purdy Creek Bridge Replacement	$6.0 (2004)	$11.1 (2006)	Aug 2004	Late[2]	Oct 2007	✓	Sep 2009
U.S. 2/Ebey Island Viaduct and Ebey Sl Br.	$32.1 (2002)	$35.5 (2006)	Dec 2005	✓	Apr 2007	✓	Sept 2010
SR 303/Manette Br Bremerton Vic. - Br. Replacement	$25.5 (2002)	$25.8 (2006)	Sep 1996	✓	Mar 2008	Late[3]	Nov 2011

Future Reporting: Current WSDOT Estimate of Cost at Final Completion is the critical number toward which all modern project management is pointed. Today WSDOT engineers and program managers can only back into these values as best as possible without the management information systems that allow schedule and budgets to be used as the basis for value-earned management systems. WSDOT is considering ways to use estimating techniques to approximate these values until new management information systems are installed and project data is loaded.

Baseline Data: Baseline milestone dates are derived from the 2003 Legislative Transportation Budget. Advertisement Date and Operationally Complete milestones are considered on-time if completed within the scheduled baseline calendar quarter. The Begin Preliminary Engineering milestone is reported as on-time if completed within +/- 6 weeks of baseline date.

Milestone Definitions:

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

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

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

Project Details:

[1] This project was delayed from the original 2005 Legislative Final advertisement date to address several environmental and permit issues.

[2] Preliminary Engineering for the Purdy Creek Bridge was late by one year due to passage of Referendum 51, which reduced program funding. Although the Preliminary Engineering began late, WSDOT has been able to maintain the original Advertisement and Operationally Complete dates.

[3] The project was selected for Value Engineering, to ensure that the public is receiving the best project possible for the investment at this location. Incorporating the results of the study has delayed the design and contract plan preparation, resulting in a delayed advertisement date.

WSDOT's Capital Project Delivery Programs

Pre-Existing Funds Program: Financial Information

Paying for the Projects: Financial Information

WSDOT submitted an expenditure plan to the Legislature for the fourth quarter of the biennium totaling approximately $542 million. As of June 30, 2006, actual expenditures totaled $410 million, leaving a variance of approximately $131 million or 24% from the biennium plan. The variance as of the end of the fourth quarter for the Highway Construction Program was divided between the Improvement and Preservation programs.

The Preservation program planned cash flow was $246 million, and actual expenditures were $224 million. This was under plan by $22 million, or 10%. The under-spending in the Preservation program was due to the extension of the selection process for Hood Canal Bridge alternate construction sites as a result of archeological discoveries at the originally planned construction site (see p. 42 of the December 31, 2004 *Gray Notebook* for more information). Additionally, closure of the bridge has been delayed until next biennium, which has delayed the need to lease a park and ride lot for the west side passenger-only ferry terminal until 2008. Also, expenditures were delayed on two projects, *I-90/Spokane Viaduct Bridge Deck Rutting Repair – Eastbound* and *US 101/Simpson Ave Bridge – Mechanical*, due to a shortage of bridge preservation funds in the 05-07 biennium.

The Improvement program planned cash flow was $220 million, and actual expenditures were $186 million. This was under plan by approximately $34 million, or 15%. The under-spending in the Improvement program was primarily due to slower than expected expenditures for several projects, including:

SR 202/SR 520 to Sahalee Way – Widening

SR 543/I-5 to Canadian Border – Add Lanes

SR 99/Alaskan Way Viaduct

For this report, the Original Planned Cash Flow values have been updated to match the results of the 2006 Supplemental Legislative Session starting in quarter four.

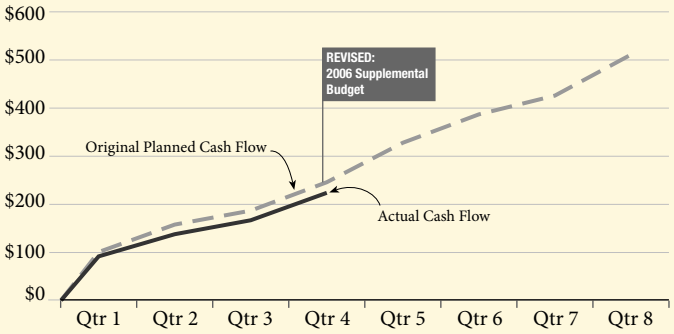
Preservation Program Cash Flow

Pre-Existing Funds

Planned vs. Actual Expenditures

2005-2007 Biennium, Quarter 4 ending June 30, 2006

Dollars in Millions



As of quarter four (April-June 2006), Original Planned Cash Flow values have been updated based on the 2006 Supplemental Budget.

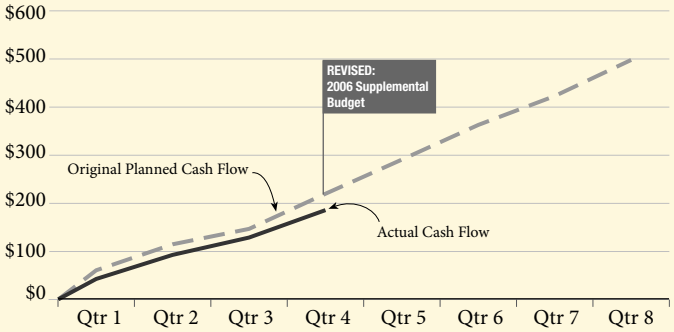
Improvement Program Cash Flow

Pre-Existing Funds

Planned vs. Actual Expenditures

2005-2007 Biennium, Quarter 4 ending June 30, 2006

Dollars in Millions



As of quarter four (April-June 2006), Original Planned Cash Flow values have been updated based on the 2006 Supplemental Budget.

Correction: There was a $20 million error in the Actual Cash Flow reported for the Preservation program in the March 31, 2006, *Gray Notebook*. $147 million was reported, but the actual expenditures through the third quarter totaled $167 million. The Improvement program information reported Actual Cash Flow as $103 million, however actual expenditures were $129 million.

Special Report: Tacoma Narrows Bridge, Quarterly Update

New Bridge Construction

As of June 30, 2006, design-builder Tacoma Narrows Constructors (TNC) has completed 79.5% of construction on the SR 16 Tacoma Narrows Bridge project. In the second quarter, TNC completed spinning and compacting for the bridge's main suspension cables. The last wire on the north cable was pulled on April 18, 2006. All suspender ropes on the south main cable were installed along with the majority of the suspender ropes on the north main cable. By the end of June, TNC installed six of the eight gantry cranes and lifting systems on the main cables to prepare for deck section lifting. TNC also removed most of the spinning equipment from the area behind the east anchorage and began backfilling.

On June 8, the semi-submersible ship the *Swan* arrived in Commencement Bay with the first 16 deck sections from South Korea. After a fit-out to install winches and remove sea fasteners, it anchored under the west side span on June 29. Its sister ship (the *Teal*) will carry the second of three shipments and is scheduled to arrive in July. In May, WSDOT and TNC announced a delay in the bridge opening of approximately three months. The scheduled date is now June 30, 2007 (see the December 31, 2005 *Gray Notebook*, p. 22).

The *Swan* arrived with the first shipment of deck sections on June 8, 2006.

Bridge Retrofit Construction

In the second quarter, TNC began fieldwork for the new 24th Street eastbound on-ramp. By the end of the quarter, TNC had graded and paved the new ramp, and construction of a new wall in the ramp and mainline merge area began. TNC also graded and paved the cul-de-sac at the end of 14th Avenue on the west side of the bridge. Paving was completed on the eastbound mainline alignment. Eastbound traffic was switched to the new roadway.

At the east anchorage, the spinning equipment was dismantled, the supporting concrete pads were demolished, and backfilling of the area began. Clearing and grubbing of the newly aligned Jackson Avenue off-ramp began.

Seismic retrofit work on the existing bridge progressed steadily. The slab pours inside the east anchorage were completed. TNC also finished the new foundations for the existing bridge bent 7 (pier) and began work on the bent 8 upper walls.

Tacoma Narrows Bridge Progress

As of June 30, 2006

Design	99.9%
Construction	79.5%
Total[1]	**81%**

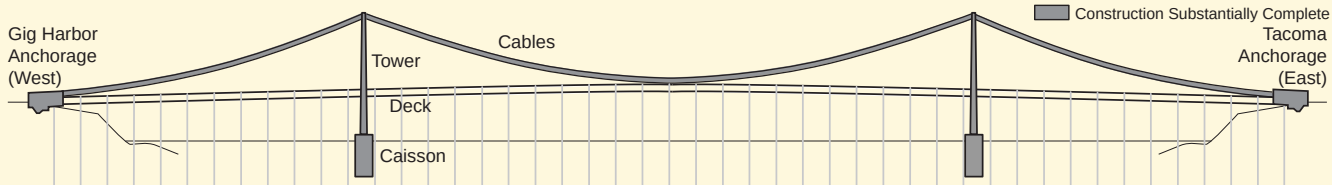
Source: WSDOT Engineering and Regional Operations Division

[1]Weighted 7% Design progress and 93% Construction progress.

Toll Facility, Installation and Operations

In April, WSDOT launched the public information campaign for WSDOT's electronic tolling system, *Good To Go!* The public awareness campaign included a kick-off event, web site unveiling, local weekly newspaper ads, participation in community events and community briefings, and brochures provided to local retailers to distribute. In the second quarter, WSDOT filed the initial notice of proposed rule-making (Washington Administrative Code) to prepare for the establishment of tolling administrative procedures.

Tolling contractor TransCore continued installation of hardware in the administrative building. TransCore also prepared for commission testing, the second of three major system tests. At the toll plaza, workers calibrated and tested the express and manual toll lanes.



Deck #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Ship #	1	1	1	2	2	1	2	2	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1
Lift Seq. No.	6	10	13	18	21	4	28	31	35	45	39	36	41	43	33	29	27	24	19	17	14	9	5	1	2	8	12	15	20	23	25	30	34	44	42	37	40	46	38	32	26	22	16	11	7	3

Three cargo ships will deliver a total of 46 deck sections. Ship No. 1 with 16 sections (now moored in the Narrows between the west bridge tower and shoreline). Ships No. 2 and No. 3 will each carry 15 sections and will arrive later this year. The first row (Deck #) of the table indicates the deck blocks - 1 through 46. In the third row (Lift Seq. #), the number tells the order in which the sections will be lifted. Note that the lifting occurs in a non-linear sequence. It may appear to be "out of order" but this sequence is necessary to maintain equal stress on the cables.

Source: WSDOT

Special Report: Hood Canal Bridge, Quarterly Update

The Hood Canal Bridge Project is wider with safety shoulders to increase motorist and bicyclist safety. Additionally, the new east-half will be easier to travel. When finished, the Hood Canal Bridge will be wider, safer, and more affordable to maintain.

Hood Canal Bridge 20% Complete

WSDOT and its contractor, Kiewit-General (K-G) of Poulsbo, will construct 14 new pontoons inside the 150-foot wide by 465-foot-long Concrete Technology graving dock over four construction cycles. Another three pontoons, built during the west-half bridge replacement in the early 1980's, will be retrofitted to use as part of the new east-half. New anchors will be constructed and floated into place prior to pontoon replacement. The completed east-half pontoon roadway sections and fully assembled east-half draw span will be floated into place during the bridge closure in May and June 2009. As of June 30, 2006, the SR 104 Hood Canal Bridge construction project is 20% complete.

Workers spread concrete and work it down between rebar and conduit in the first pontoon concrete pour April 28, 2006.

Less than six months after WSDOT and K-G began work at Concrete Technology in Tacoma, approximately 140 cubic yards of concrete flowed into the first new Hood Canal Bridge pontoon. Pontoon construction began in March 2006. On April 28, 2006, the first concrete pour took place. To date, pontoon construction is 16% complete.

First Pontoon Wall Pour

On Friday, May 26, 2006, concrete for the first pontoon wall section was poured. The crews worked around the pontoon cells in a pattern, pouring approximately two feet at a time for the first 17-foot tall wall section. Crews placed the 160 cubic yards of concrete in less than eight hours. The pontoon walls are only six inches thick, so getting concrete down to the bottom of the 17-foot tall wall is very difficult. WSDOT and K-G engineers completed the pour using a special concrete mix and unique pouring techniques.

17 of 56 Concrete Pours Complete

A concrete pour will occur every week for the three pontoons currently under construction (PA, PB and Q). Completion for these sections is planned for January 2007. All together, 56 pours are required to place the 7,952 cubic yards of concrete that make up pontoons PA, PB, and Q. That is enough concrete to build a single-lane highway almost three and one-half miles long.

Material Fabrication 79% Complete

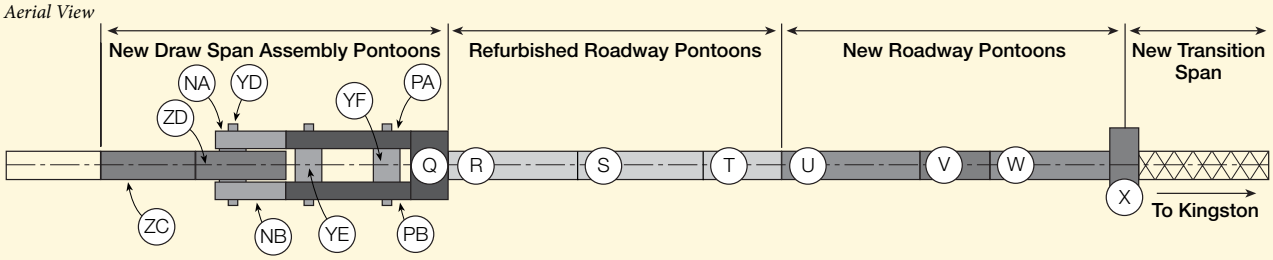
East- and west-half material fabrication is 79% complete. Work includes truss and transition span, lift span cylinder and fabrication, and assembly of other steel bridge parts. WSDOT and K-G continue to work to ensure quality component production and on-time material delivery.

The items below are the first materials incorporated into the pontoons in the second quarter of 2006:

- Crews installed the first stainless steel and aluminum hatches in pontoon PA. Fabrication is close to completion for all 550+ hatches needed for the 14 pontoons.
- K-G workers set in place the first guide roller anchor bolt assemblies for pontoon PA. The anchor bolts hold the 10-ton guide rollers into position. The guide rollers will keep the draw span in alignment as the bridge opens and closes for marine traffic.
- The first pontoon access ladders arrived on-site and are ready for installation.

Schedule Diagram of Hood Canal Bridge Pontoon Construction Cycles

Aerial View



To be Built in 1st Cycle (PA, PB, Q). Scheduled Delivery Date: January 2007.
To be Built in 2nd Cycle (NA, NB, YD, YE, YF). Scheduled Delivery Date: August 2007.
To be Built in 3rd Cycle (ZC, ZD, V, X). Scheduled Delivery Date: April 2008.
To be Built in 4th Cycle (U, W). Scheduled Delivery Date: September 2008.
Retrofitting (R, S, T). Scheduled Delivery Date: April 2008.

Source: WSDOT Hood Canal Bridge Project Office

Cross-Cutting Management Issues

Right of Way

On-Time Certification Analysis

Before a project can be advertised for bidding to contractors, WSDOT must certify that all rights necessary to construct the project have been acquired. WSDOT's business practices to acquire real estate are strictly guided by state and federal laws. These guildelines include state and federal regulations such as RCW's, WAC's, and 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.

2003-05 Biennium Right-of-Way Certification Delays Data has been Revised

Data collected for 2003-05 biennial report, published in the December 2005 *Gray Notebook* (p. 25), was intended to provide underlying causes for 20 projects with right-of-way certifications delays. On-going investigation led to the realization that, since certification does not take place until there is an advertisement scheduled, certification may be documented as late when it was in fact ready but was delayed to accommodate a delay in the advertisement.

Therefore, the data issued in the previous report reflects the underlying causes of *advertisement* delays, not right of way certifications delays. The data in the table at the top right shows corrected and accurate data for right-of-way delays in 2003-05. The previous report incorrectly identified 20 delays due to problems with certifying right-of-way when that number is actually eight.

These eight projects are:

NSC-Francis Avenue to Farwell Road
The project had a difficult condemnation process on a parcel, coupled with relocation complications.

SR 270/Pullman to Idaho State Line
A change in design included additional right-of-way acquisitions, resulting in an extended schedule.

SR 532/Junction 102nd Avenue NW
A survey record showed conflicting boundaries; the resulting right of way plan change delayed acquisition.

SR 20/Monkey Hill Rd. to Troxell Rd. & SR 20/Northgate Drive to Banta Rd.
In both of these projects, the acquisition process was delayed due to termination of a contract with a consultant appraisal firm. For each project, this resulted in late re-appraisals and late acquisitions of parcels with complex relocation.

On-Time Right of Way Certification

	2003-05 Biennium[1]	2006 Fiscal Year
Number of projects with a right of way phase	68	32
Number of projects with right of way certification delays	8	4
Percent of projects with a right of way phase that had an on-time certification (Goal = 100%)	88%	88%

Source: WSDOT Real Estate Services Office

[1]This data has been corrected from previous reporting. See the text to the left for more information.

SR 539/King Tut Rd. and Bartlett Rd.
A late right-of-way plan delayed acquisitions.

SR 164/SE 368th Place & 158th Avenue SE and SR 164/196th Avenue SE Vic. to 244th Avenue SE
In both of these projects, ownership issues involving tribal interests delayed design. Inadequate time was allowed for right of way acquisition, which required approval and coordination through the Bureau of Indian Affairs.

Fiscal Year 2006 Right of Way Certification Delays

Thirty-two projects in fiscal year 2006 had a right-of-way phase. Four of these projects were late due to right of way certification delays.

I-5/Chehalis Western Trail Pedestrian Bridge - New Structure
A late scope change added unscheduled right-of-way acquisitions, resulting in late certification.

I-405/Bellevue Direct Access
This project was handled by a third party government, with limited WSDOT involvement. The delay was caused by a right-of-way process dispute between the third party and another governmental entity.

Federal Way - S 317th St HOV Direct Access and I-5/164th St. SW to SR 526-HOV and Interchange Modifications
These were both third party government projects. WSDOT did not have any involvement in right-of-way acquisition, and the cause of the delay for each is unknown.

Cross-Cutting Management Issues

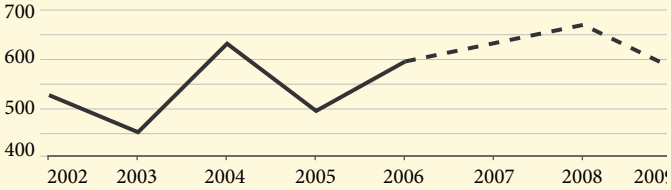
Right of Way

Right of Way Acquisitions

Projections show an increase through 2008, then a slow decrease through 2009. This reflects the growth in highway projects from the 2005 TPA program, coupled with the 2003 Nickel tax.

Acquisitions for all PEF, TPA and Nickel Projects

Actuals 2003-2006 and Projections 2007-09



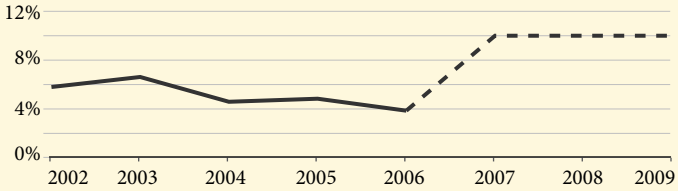
Source: WSDOT Real Estate Services Office

Right of Way Condemnation

Condemnation rates have remained fairly stable in recent years, averaging around 5% of acquisition totals. An increase in filings and cases is expected due to additional acquisitions and tight schedule deadlines from the TPA program. This will require WSDOT to better manage protracted negotiations.

Condemnation Rates for all PEF, TPA and Nickel Projects

Actuals for Fiscal Years 2003-2006 and Projections for Fiscal Years 2007-2009



Source: WSDOT Real Estate Services

Right of Way "Watch List" Projects – Cost and Schedule Concerns (April - June 2006)

SR160/SR16 to Longlake Road Vic.

Recent substantial increases in property values have driven up right-of-way costs, which will require an additional $715,000.

SR 20, Fredonia to I-5 - Widening

A Cost Risk Assessment completed May 2006 indicates that the total corridor cost will exceed current funding by approximately $22 million. Right-of-way acquisition is considered the primary cost risk due to third party design and acquisition decisions.

SR 522/I-5 to SR 405 Multimodal Project

Several parcels are experiencing higher right-of-way settlement costs than were anticipated.

I-90 Two-Way Transit & HOV Operations

The final right-of-way costs may exceed the authorized funds; the potential increase is a result of property values having escalated since the original scoping.

SR 9/SR 522 to 228th St SE - Widening and SR 9, 228th St. SE to 212th St. SE (SR 524)

Right-of-way settlements on parcels in condemnation will contribute to a budget overrun.

Cross-Cutting Management Issues

Utilities

Two Nickel Projects and 10 TPA projects were completed from January 2006 to June 2006.[1] One of these projects has experienced delays due to utilities work.

When existing utilities are in the way of highway construction projects, affected utility companies must be given reasonable time to design and relocate their facilities. Utility relocations involve managing various levels of risk in order for WSDOT to advertise and deliver projects on schedule. As of this quarter, WSDOT will track utility risk for all Nickel, TPA and PEF projects.

The department's goal is to eliminate utility relocation risks before project bid packages are advertised. When this is not possible, WSDOT carefully assesses the risk and mitigation strategies to keep the project moving forward. WSDOT has identified three risk levels to assign to projects. Utility issues are components of risk along with environmental and right-of-way issues. See the table below for a description of the risk level classifications for utilities work.

Risk Levels for Projects Going to Advertisement: Utility Risks

Level 1	Utilities have been relocated, or are clear of construction.
Level 2	Utility companies are actively pursuing relocation and the department has assurances they will be clear by the date bids are opened.
Level 3	Utilities have not been relocated, and will not be relocated by the bid opening date that has been cited in the contract provisions. The department has assurance that the utility company will be able to meet the date stipulated on the contract.

Project Advertised at Risk Levels Two and Three for Utilities Work (January—June 2006)

110 projects were advertised between January and June of 2006. Of these, three were classified at Risk Level 2 and five at Risk Level 3 for utility concerns.

Nickel Funded Projects

SR 99, S 284th to 272nd ST HOV Lanes

The project went to a seven-week advertisement period in April at Risk Level 2. This allowed the impacted utilities time to perform relocations, which were complete by the end of June.

US 12, Attalia Vic.—Add Lanes

The project required railroad construction easements. Completion was pending as of December 2005, classifying the project as Risk Level 3. Bid opening was extended to May 2006. Railroad agreements have since been fully executed. Railroad utility relocations are scheduled but no impacts are anticipated.

I-90, Eastbound Ramps to SR 18 Phase 2—Signal & Channelization

The project was advertised in March at utility Risk Level 2. Puget Sound Energy and CenturyTel utility relocations are incorporated into the WSDOT project. Utility relocation coordination will be the responsibility of the contractor.

Projects Going to Advertisement at Risk Level 2 or 3

	July - Dec 2005[1]	Jan - Jun 2006
Risk Level 2	1	3
Risk Level 3	4	5

Source: WSDOT Utilities Office

[1]Only Nickel Projects are included

PEF Projects

SR 20, Twisp East—Fish Passage

CenturyTel relocated facilities during construction. The project was advertised in March at Risk Level 2 and is now complete.

SR 165, Carbonado to SR 410 Paving & SR 162 Realignment

This project required easement acquisition for a Puget Sound Energy (PSE) utility pole and power line relocations associated with intersection realignment. This work has a late start date to allow time for easement acquisition and utility relocation. The project was advertised in March at Risk Level 3. PSE and Comcast have relocated. Qwest is currently relocating.

SR 305, Hostmark Street Vic. to Bond Road—HOV Lanes

Utility relocations include PSE poles, overhead utilities, and other jointly located aerial utilities. PSE committed to pole and utility relocations by August 1st and the other utility companies have committed to complete relocation by August 15th. Easement acquisition is almost complete. Some relocation has been made within the right of way to accommodate construction. This project was advertised in May at Risk Level 3.

SR 305, Ferry Terminal to Hostmark Street—Paving

Cantilever sign structure installation requires relocation of PSE electrical distribution and service lines. A one-day relocation is expected for utility work covered by agreement with the utility. Contract provisions address this work if relocation is not complete by construction start. The project was advertised in March at Risk Level 3 and relocation is now complete.

Projects Funded By Other Sources

I-5, S Everett Freeway Station 112th ST SE

This Sound Transit direct access project required the relocation of a Puget Sound Energy gas line. The project was advertised at Risk Level 3 in May with an eight-week advertisement period. Relocation work is complete.

[1]Utilities data on PEF projects is available, however WSDOT continues to update and validate the reporting system for tracking completed PEF projects. See pages 21-25 for detailed information on PEF reporting.

Construction Costs Trends

WSDOT prepares its construction cost estimates using historical information about market conditions drawn from recent bids. Like other state transportation departments, WSDOT must extrapolate for the future based on past records, not from a crystal ball of future market conditions. WSDOT accumulates construction cost information and calculates a Construction Cost Index (CCI). The CCI is then compared against the experience of other states. WSDOT's CCI is a composite of unit price information from low bids on seven of the most commonly used construction materials. These items reflect a composite cost for a completed item of work and include the costs of labor, equipment, and materials. (For more information, see the September 2005 *Gray Notebook*, p. 45).

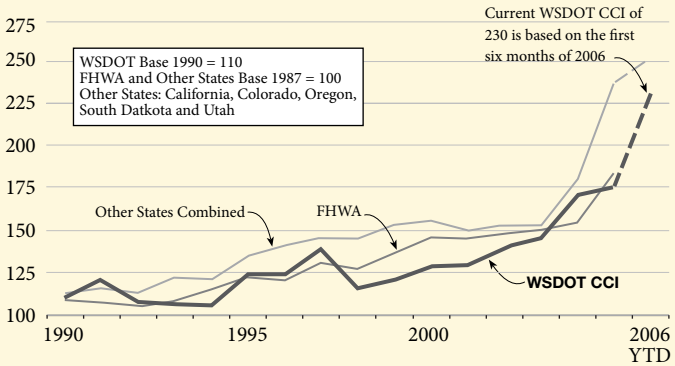
The graph below presents the past 16 years of CCI data for Washington State. This is plotted against the CCI of the Federal Highway Administration (FHWA) and a line representing the combined CCIs of several nearby western states: California, Colorado, Oregon, South Dakota and Utah.

The average annual growth rate of the CCI from 1990 through 2001 was 1.5% per year. However, since 2001, the average growth rate has been 12% per year. During this period the CCI has been driven up by several factors, including: the increasing worldwide demand for construction materials; rising crude oil prices and other energy supply issues; and recent increases in national and international construction activity.

Construction Cost Index is up 31% over 2005

WSDOT's CCI has increased 31% in the first two quarters of 2006 over the annual average for 2005, from 176 to 230. Most of this increase occured in the first quarter (see the March 2006 *Gray Notebook*, p. 33). Of the seven materials WSDOT tracks in the CCI, Hot Mix Asphalt (HMA) comprises almost half the weight of the index. HMA costs rose 33% in the first two quarters of 2006 (see page 32).

Construction Cost Indices Washington State and Others



Sources: WSDOT Construction Office, Federal Highway Administration (FHWA)
Note: WSDOT 2006 Index is for Quarters 1 & 2; Other States 2006 Index based on California, Colorado and Oregon First Quarter Data; FHWA, South Dakota and Utah 2006 Data not available
Note: 2003 and 2004 CCI data points adjusted to correct for spiking bid prices on structural steel

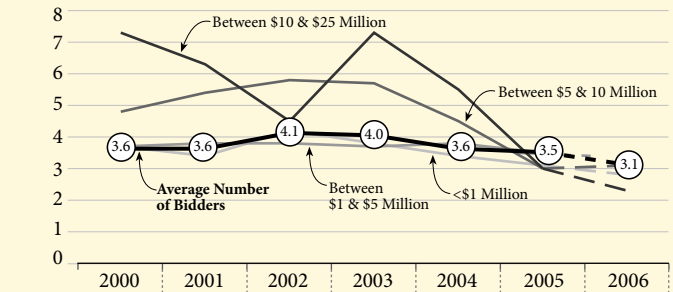
50% of Projects Have Three or More Bidders, 50% Have Two or Fewer

WSDOT's goal is to have three or more bidders for each highway construction project. However, large public and private construction programs in Washington, as well as at the national level, are contributing to a trend of fewer contractors submitting bids for WSDOT projects. This reduction in bidding competition is a sign that contractors have a full load of workload ahead of them; unfortunately, it will tend to produces less higher prices for WSDOT projects.

The average number of contractors bidding on each WSDOT project decreased 11% in the first two quarters of 2006, from an average of 3.5 bidders in 2005 to an average of 3.1 bidders in the first two quarters of 2006. The percentage of WSDOT projects with three or more bidders decreased from 69% in 2005 to 50% in the first two quarters of 2006. The percentage of WSDOT projects with three bidders decreased 48% in the first two quarters of 2006, from 33% in 2005 to 17%, while the number with one or two bidders has increased in that time. For information about how WSDOT can influence the highway construction market in Washington State, and factors that are outside of WSDOT's control, see the December 31, 2005 *Gray Notebook* (p. 29).

Average Number of Bidders

By Size of Contract



	2000	2001	2002	2003	2004	2005	2006 YTD
1 Bidder	7.7%	12.3%	12.6%	8.5%	13.4%	9.2%	15.6%
2 Bidders	26.1%	23.2%	22.2%	17.6%	20.4%	22.0%	34.4%
3 Bidders	23.9%	23.2%	15.6%	24.2%	22.5%	33.3%	16.7%
More than 3 Bidders	42%	41%	50%	50%	44%	35%	33%

Source: WSDOT Construction Office

The following components (weighted as shown) are used to compute the CCI:

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%)

Cross-Cutting Management Issues

Construction Costs Trends

Oil Prices Influence Construction Costs

Hot Mix Asphalt (HMA) prices typically follow a similar pattern to the price of crude oil and diesel fuel. Historically, WSDOT's experience is that asphalt suppliers' strategic management of their liquid asphalt and fuel purchases has worked to buffer the cost of HMA from the peaks and valleys of crude oil and diesel prices. This is done through bulk purchasing contracts and long term purchase agreements between the oil suppliers and paving contractors. This relationship has helped WSDOT "weather the storm" throughout many of the increases noted in the past. Increases can be seenin the first quarter of 2003, and in the steady trend from late 2004 throughout 2005, in the graph to the right.

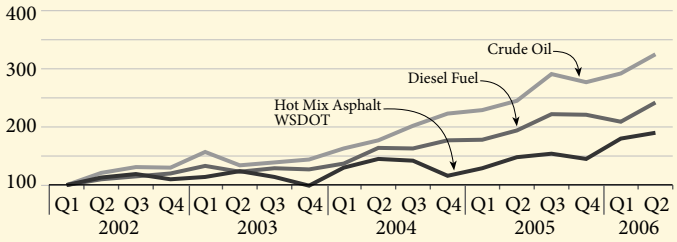
WSDOT regularly graphs projected and awarded HMA use to help paving contractors and HMA suppliers better manage their requirements (see the March 31, 2006 *Gray Notebook*, p. 32).

WSDOT is carefully watching two industry trends in crude oil and diesel fuel that could drive up construction costs. Currently, market experts are warning that paving contractors are beginning to losing their ability to lock in long term price agreements with HMA suppliers and may ultimately wind up paying the "day of delivery market price". This will significantly impact a contractor's ability to manage the cost risk associated with HMA. Further, with the high demand for the lighter end fuels, refineries are making business decisions to invest hundreds of millions of dollars in refinery modification, known as "catalytic crackers". This allows them to further refine the heavier end of the crude oils into more lucrative fuels rather than liquid asphalt. This may increase demand pressure relative to supply for liquid asphalt.

The relationship between HMA and crude oil prices is significant as virtually every activity necessary to produce and place a ton of HMA is highly dependent on petroleum products, including diesel fuel as well as liquid asphalt. Mining, crushing, hauling, stockpiling, and drying the aggregates require fuel. Liquid asphalt used as a binder for HMA is derived from crude oil. Finally, the hauling of the mix to the site and the work to lay down and compact the asphalt also require petroleum products.

WSDOT is working with the industry, as well as DOTs in other states, to develop and implement escalation clauses that would transfer much of the risk of petroleum price uncertainty from the contractor to the state. This is being pursued because WSDOT believes that contractors are beginning to lose their ability to manage this risk in the face of rising prices and the previously mentioned industry trends.

Hot Mix Asphalt, Crude Oil, and Diesel Fuel Indices



BASE 2002 Q1 = 100

Source: Hot Mix Asphalt, WSDOT Construction Office
Diesel Fuel, U.S. Dept. of Energy - Energy Information Administration, West Coast No. 2
Crude Oil, U.S. Dept. of Energy - Energy Information Administration - West Texas Intermediate

Labor Construction Costs will Rise in 2006-07

Labor costs contribute roughly 40% to contractor costs for the delivery of a typical WSDOT highway construction project. In the recent past, labor contract negotiations have been relatively flat, with respect to wages, leaving the negotiations to center around the benefits package. However, the contractor industry expects significant upward cost pressure on labor costs: wages, healthcare and retirement will all be major issues in the next rounds of trade union negotiations.

Hourly salary rates, pensions, and benefit costs are generally established by reference to collective bargaining agreements between contractors and the unions. The contractor's trade association (AGC) orchestrates the effort of contract negotiation for the five major labor groups on a regional basis. Agreements between contractors and the unions on the east side of the state are set to expire this year and are currently under negotiation; the agreements on the west side of the state expire next year.

In today's booming construction market, the potential for labor shortages is high, and construction contractors are potentially facing a "premium charge" (in addition to the labor agreement renegotiations) just to attract and retain a qualified workforce. Significant salary and benefit increases are also being seen at the private engineering consulting firms engaged by WSDOT for outsourced design and consulting.

Currently, there is no systematic tool available to WSDOT to predict the exact magnitude of forthcoming inflationary cost pressures arising from collective bargaining for construction trades or consultant services. WSDOT will observe as these new agreements unfold.

Cross-Cutting Management Issues

Construction Safety and Employment

Nickel Employment Data

This section of the *Beige Pages* tracks the job site employment records on the 2003 Transportation Funding Package (Nickel) projects. The employment figures represent a "snapshot" estimate of the average direct jobsite employment on each Nickel project over the course of the quarter.

The table below provides the operationally complete list; this includes projects that are operationally complete but still have some residual work (such as landscaping) that is employing people, or are operationally complete as of this quarter. The second list includes projects that are design-build: that is, one contractor both designs and builds the project. Most projects are designed within WSDOT and built by private contractors. The third table (on pp. 33-34) shows employment data for those regular, ongoing Nickel projects. The final table shows a wrap-up of all employment and safety data from the three preceding tables.

Some projects will move on and off the list depending on whether there was work in the quarter. If no one worked this quarter, then the project will not be reported on for construction employment and safety data in this *Gray Notebook*.

Nickel Safety Data

Safety data is not available this quarter. You may notice the safety data reported in the past Gray Notebooks is not included in this edition. Historically, WSDOT has manually collected data from WSDOT and the private contractors and reported this data on a project by project basis. This method worked well to highlight safety as the Nickel Program got underway. However, with the addition of the TPA projects, WSDOT will need to explore overall safety data tracking and reporting options. This section will not include construction safety data in future Gray Notebook editions.

TPA Employment Data

Construction employment information is not available for the 2005 Transportation Partnership Account (TPA) projects. It is uncertain if WSDOT can obtain this data in the future.

Employment for Operationally Complete Nickel Projects

Project	Contractor	WSDOT Project Engineer	Number of Subcon-tractors	Employment Jan - Mar. 2006	Employ-ment Apr - June 2006
I-5/NE 175th St. to NE 205th St. - North-bound Auxiliary Lane	Pacific Road & Bridge	Amir Ahmadi	20	15	1
I-5, 2nd Street Bridge Replacement	Mowat Construction Co.	Dave Crisman	32	4	1

Source: WSDOT Construction Office and WSDOT Project Control and Reporting

Employment for Design-Build Nickel Projects

Project	Contractor	WSDOT Project Engineer	Number of Subcon-tractors	Employment Jan - Mar. 2006	Employ-ment Apr - June 2006
I-5/SR 526 to Marine View Drive - HOV	Atkinson CH2M Hill Joint Venture	Roland Benito	34	222	269
I-405/SR520 to SR 522	Kiewit Construction Co.	Brian Nielsen	18	22	31

Source: WSDOT Construction Office and WSODT Project Control and Reporting

Employment for Ongoing Nickel Projects

Project	Contractor	WSDOT Project Engineer	Number of Subcon-tractors	Employment Jan - Mar. 2006	Employment April - July 2006
I-5, Pierce Co. Line to Tukwila I/C - HOV	Icon Materials	Stanley Eng	29	45	83
SR 9/228th St SE to 212th St SE (SR 524) - Widen to 5 lanes, Stg. 2	Wilder Construction Co.	John Chi	23	7	18
SR 9/SR 522 to 228th S SE - Widening	For construction efficiencies, this project combined with the above				
SR 18, Covington Way to Maple Valley	Terra Dynamics, Inc.	Derek Case	4	9	2
SR 18, Maple Valley to Issaquah/Hobart Rd.	Atkinson Construction	Derek Case	45	33	33
SR 161, Jovita Blvd to S 360th St.	Tri-State Construction, Inc.	Messay Shiferaw	27	51	32
SR 527, 132nd St. SE to 112th St SE	KLB Construction	Marlin Lenssen	43	30	21

Construction Safety and Employment

Employment for Ongoing Nickel Projects, continued

Project	Contractor	WSDOT Project Engineer	Number of Subcon-tractors	Employment Jan - Mar. 2006	Employment April - July 2006
I-5/S 48th to Pacific Avenue - HOV	Kiewit Pacific Co.	Howard Diep	66	40	54
SR 7/SR 507 to SR 512 - Safety	Scarsella Bros., Inc.	Troy Cowan	36	3	15
SR 16/I-5 to Tacoma Narrows Bridge - HOV	Tri-State Construction, Inc.	Dave Ziegler	73	87	85
I-5/Salmon Creek to I-205 - Widening	Hamilton Construction	Casey Liles	75	39	42
SR 24/I-82 to Keys Road-Add Lanes	Max J. Kuney Co.	Paul Gonseth	39	49	73
SR 240/I-182 to Richland Y - Add Lanes	Icon Materials	Moe Davari	72	42	43
SR 240/Richland Y to Columbia Ctr. - Add Lanes	For construction efficiencies, this project combined with the above				
SR 395, NCS-Francis Ave to Farwell RD	KLB Construction	Robert Hilmes	23	38	32
SR 16 Union AVE to Jackson-HOV	Tri-State Construction, Inc.	Dave Ziegler	73	N/A	85
I-5, Roanoke Vacinity Noise Wall Stg. 2	Wilder Construction Co.	Stanley Eng	17	N/A	3
SR 202, SR 50 to Sahalee Way Stg. 2 Wetland Mitigation	Northwest Construction, Inc.	Brian Dobbins	10	N/A	2
I-90, Eastbound Off-Ramp to SR 18 Phase 2-Signal	KLB Construction, Inc.	Julia Mizuhata	1	N/A	13
SR 31, Metaline Falls to Int'l Border	M.A. Deatley Const., Inc.	Robert Hilmes	21	N/A	23
I-90/Argonne RD to Sullivan RD	Scarsella Bros., Inc.	Darrel McCallum	32	N/A	1
SR 16, 36th ST to Olympic Dr. - HOV	Woodworth & Co., Inc.	Dave Zeigler	14	N/A	1
SR 3, SR 303 Interchange-New Ramps (WAAGA Way)	Scarsella Bros., Inc.	Ray Arnold	16	N/A	21
SR 202, JCT 292 Ave. SE	Transtech Electric, Inc.	Marlin Lenssen	8	N/A	4
SR 207, Wenatchee River Bridge 207/4 Rail Retrofit	Frank Gurney, Inc.	Kevin Waligorski	2	N/A	2
US 12, Region Wide Guardrail Upgrade	Frank Gurney, Inc.	Paul Gonseth	1	N/A	10
SR 543, I-5 to Int'l Boundary	IMCO General Const., Inc.	Chris Damitio	15	N/A	14
I-90, Moses Lake Area, Potato Hill Rd. - Bridge Clearance	Weaver Construction Co.	Mlke Fleming	17	N/A	7
SR 9, Nooksack Rd. Vic. to Cherry St.	IMCO General Const., Inc.	Chris Damitio	14	N/A	11
SR 20, Troxell Rd. to Cornet Bay Rd,	G.G. Excavation, Inc.	Dave Crisman	24	N/A	14
SR 167, 15th St. SW to S 180th St. STG 3	Icon Materials, A Division of CPM	Stanley Eng	33	N/A	52
SR 516, 208th and 209th AVE SE	Road Const. NW, Inc.	Stanley Eng	14	N/A	4
I-5, SB Ramps at SR 11	Wilder Construction Co.	Dave Crisman	20	N/A	7
SR 539 Ten-Mile Rd. to SR 546	American Const. Co., Inc.	Chris Damitio	1	N/A	3
SR 532, Northbound Interchange Ramps	Trimaxx Construction	Amir Ahmadi	13	N/A	3
I-5, 52nd AVE W to SR 520 Paving and Safety SB Paving	Wilder Construction Co.	Marlin Lenssen	8	N/A	2
SR 7, SR 507 to SR 512 Safety			15	N/A	36

Source: WSDOT Construction Office and WSDOT Project Control and Reporting

Employment for All Nickel Projects - Totals

	1029	736[1]	1153

Source: WSDOT Construction Office and WSDOT Project Control and Reporting

[1] Due to a math error, this number was reported as 737 in the last report. It was actually 736.

Cross-Cutting Management Issues

Intergovernmental Cooperation

Ferry Terminal Construction

For nearly ten years, the Washington Ferry System has been negotiating treaty fishing rights impacts with Puget Sound tribes for new terminal development. The proposed Edmonds Ferry Terminal at Point Edwards was the first location for which the Ferry System reached a settlement. The terms of the settlement agreement were first reached in Spring 2004, and the ferry system has been working with the four affected Tribes since that time to develop mutually acceptable legal documentation. While it has been challenging to resolve differences between tribal (four Tribes) and the State, the biggest obstacle is reaching agreement on the equitable distribution of the settlement among the Tribes. The Ferry System negotiated payment for impacts to treaty fishing rights at Edmonds, is still in the process of working through negotiations for Mukilteo, Anacortes, Seattle, Port Townsend, Keystone, and Bainbridge Island. The process is complicated by the number of Tribes involved and different tribal concerns at each location. Unique to the negotiations at the Northern Puget Sound locations is the commonality between the Tribes at three locations. The Suquamish, Tulalip, Lummi, and Swinomish all have Treaty fishing rights at Edmonds, Mukilteo, and Anacortes. The Ferry System is meeting with the Army Corps of Engineers to continue to build a deeper understanding of how to move forward on issues identified by the Tribes.

Cross-Cutting Management Issues

Environmental Documentation, Review, Permitting and Compliance

Endangered Species Act Compliance

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

Nickel Projects 2005-07 Biennium Construction Season

ESA review has been completed on 21 of the 31 Nickel Projects that have not yet gone to advertisement for the 2005-07 biennium. Ten projects required consultations with NOAA Fisheries and/or UWFWS and 11 did not require consultation, either because they will have no effect or because they utilized existing programmatic biological opinions to avoid project-specific consultations. Of the ten that require consultation, five lack sufficient information to determine if consultation will be required, four require informal consultation, and one will undergo formal consultation.

Nickel Projects 2007 and Beyond

Currently, WSDOT has completed consultation on two projects planned for the end of 2007 and beyond. These are the *I-205/Mill Plain Exit (112th Connector) Direct Ramp* and the *US 2 Dryden Signal*. In addition, the *US 2/US 97 Peshastin East Interchange* project is currently under consultation with both services. On the docket, there are ten biological assessments planned for projects in late 2007 and beyond.

Transportation Partnership Program (TPA) Projects

For the 2005-07 biennium, nine TPA projects have completed ESA review. These included three informal consultations and six programmatic or no-effect reviews. In addition, 13 projects either have biological assessments (BAs) that are currently under preparation, or are awaiting design information to begin preparing for the BA.

PEF Projects

At this time, 151 PEF projects have yet to go to ad in the 2005-07 biennium. Of these projects, 58 projects do not require consultation and 32 do not have enough information to determine if consultation is necessary. ESA review has been completed on 43 projects. Five of the 43 projects involved consultation with the Services: *SR 539/Horton Rd to Tenmile Rd, SR 530/ Lake Cavanaugh Rd to Montague Creek, SR 548/Terrell Creek, SR 522/Paradise Lake Rd to Snohomish River,* and *US 2/Ebey Island Viaduct to Ebey Slough Bridge*. The *I-405/Swamp Creek Vicinity* project is currently undergoing informal consultation with both Services.

Ferry and Rail Projects

Four ferry projects are currently under consultation with the Services: *Anacortes 3rd Slip – Dolphin Replacement, Anacortes Tie-up Slip, Bainbridge Dock Widening,* and the *Eagle Harbor Building Maintenance*. Of these, *Eagle Harbor Building Maintenance* and *Bainbridge Dock Widening* have completed consultation with USFWS, and the *Anacortes Tie-up Slip* has completed consultation with NOAA Fisheries. The *Bainbridge Dock Widening* project has been in the consultation process since mid-October 2005. The other three projects have been under consultation with the Services since January 2006. The *Lopez Island Dolphin Replacement* project completed consultation with NOAA Fisheries in May 2006.

The Rail Office has eight projects planned between now and the end of the next biennium. Of these, four do not require consultation with the Services. The other four will not begin consultation until sometime in 2007.

ESA Compliance Status for All Projects

Number of Projects

	2005-07 Nickel Projects	2007 and Beyond Nickel Projects	2005-07 TPA Projects	2005-07 PEF Projects	2005-07 Ferry & Rail Projects
Projects under review at the Services[1]	0	1	0	1	5
Biological Assessment underway	5	10	13	17	0
Projects which lack sufficient information to start the Biological Assessment[2]	5	26	16	32	4
WSDOT anticipates consultation will not be required	11	0	5	58	3
Endangered Species Act review complete	10	2	9	43	1

Source: WSDOT Environmental Services Office and WSDOT Project Control and Reporting

[1]Projects that have completed ESA review include those that did not require consultation (no effect or programmatic) and those requiring consultation (formally or informally) .

[2]This means that WSDOT does not yet have enough information regarding the design of the project to begin a biological assessment

Cross-Cutting Management Issues

Environmental Documentation, Review, Permitting and Compliance

Endangered Species Listing Update

As mentioned in the March 2006 *Gray Notebook* (p. 37), the number of formal consultations on projects is expected to increase, particularly for projects in or around Puget Sound. The listing of Southern Resident killer whale (orca) as an endangered species, and the recent proposal to list Puget Sound steelhead as a threatened species, have directly affected WSDOT projects planned for construction in the next year.

Killer Whale Endangered Species Listing Update

The guidance for addressing impacts of projects on the killer whale, expected in April 2006, has not yet been provided by the NOAA Fisheries. Any highway project in or adjacent to the Puget Sound could be affected by this listing.

The killer whale endangered species listings also changed in June 2006, when the proposed designation of critical habitat for Southern Resident killer whales expanded to the Puget Sound, the U.S. portion of the Strait of Juan de Fuca, the waters surrounding the San Juan Islands, the southern Strait of Georgia, and areas directly offshore of Skagit and Whatcom. The federal government identified three essential features necessary to the conservation of killer whales that may require special management considerations or protections: water quality, prey species, and passage conditions to allow for migration, resting, and foraging. The final rule designating critical habitat is expected by November 2006.

For WSDOT, this means that once critical habitat is designated, multiple construction projects will need to reinitiate either informal or formal consultation. It also means that changes to stormwater runoff regulations and contaminant thresholds are possible. This could require changes in designs for WSDOT projects. In some cases, these designs may already be comple and revisions will still be required.

Steelhead Listing Update

Due to increased consultation backlogs at the federal level from the killer whale listing, and the fact that the steelhead listing may not go into effect until September 2007, NOAA Fisheries has not been conferencing on steelhead. This could result in potential project delays and increased project delivery costs for projects that may not complete construction before the listing goes into effect.

Consultant Qualification Program

As of June 1, 2006, WSDOT's new consultant qualification program went into effect. The program, designed to ensure that all consultants preparing biological assessments for WSDOT, are held to standards for writing high-quality reports, is expected to minimize the requests for additional information which slow-down the consultation process. At this time, two training classes have been held, qualifying 88 consultant biologists.

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Worker Safety: Quarterly Update

WSDOT Workers: Recordable Injury and Illness Rates

WSDOT continues to build strategies based on the idea "all injuries are preventable". WSDOT is committed to progress toward a zero injury rate. This report discusses three reporting measures: fiscal year-to-date recordable injury rates, number of recordable injuries by region, and recordable injury rates by quarter. Each measurement will improve WSDOT's ability to monitor and develop innovative strategies to address injury rates.

The following section presents the North American Industry Classification (NAICS) data using a "fiscal year-to-date" reporting method. This new reporting method will assist WSDOT in tracking and comparing injury rates nationally, using the Bureau of Labor and Statistics (BLS) benchmark. Due to switching from calendar year to fiscal year (FY), fiscal year 2005 data is not available (see the March 31, 2006 *Gray Notebook*, p. 40). Fiscal year is from July 2005 through June 2006.

OSHA-Recordable Injury and Illness Rates: Fiscal Year-to-Date

WSDOT's primary industry reporting code for injuries and illnesses includes workers engaged in the construction of highways, streets, roads, airport runways, public sidewalks, and bridges. Under the NAICS, highway maintenance and engineering workers are combined into one reporting group: Highway, Street, and Bridge Construction workers. At the end of the FY 2006, the year-to-date injury rate for WSDOT Highway, Street, and Bridge Construction workers was 8.3 per 100 workers.

Ferry System

The Ferry System operates a ship repair facility, urban transit system, and an inland water transportation system. The Ferry System will measure worker injuries under the NAICS code Inland Water Transportation, which now includes all Ferry workers as opposed to only Ferry Vessel and Terminal workers. At the end of FY 2006, the year-to-date recordable injury rate for Inland Water Transportation workers was 10.1 per 100 workers.

Injuries by Type

The graph at the bottom right shows types of injury totals for WSDOT maintenance, highway engineering, ferry workers and administrative staff in the fourth quarter of FY 2006. The total number of injuries was 126, which was an additional 53 from the preceding quarter.

- Maintenance workers incurred 48 injuries, 38% of all WSDOT injuries this quarter.
- Highway engineering workers had a total of 29 injuries this quarter, 23% of total injuries.
- WSDOT ferry workers incurred 44 injuries, 35% of injuries for the fourth quarter of 2006.
- WSDOT administrative staff had a total of 5 injuries, 4% of total injuries.

WSDOT implemented its new data collection process in January 2006. It is likely that this enhanced focus and process will lead to recordable injury rates which are slightly higher than the 2005 recaptured data. However, WSDOT maintains its goal that all injuries can be prevented (for more information, see the March 31, 2006 *Gray Notebook*, p. 40).

Recordable Highway, Street, and Bridge Construction Worker Injuries & Illnesses: Maintenance & Engineer Workers, Fiscal Year-to-Date

OSHA-Recordable Injury Rate per 100 Workers,[1]

Fiscal Year 2006	Cumulative-to-Date 2006
FY Qtr 1	14.3
FY Qtr 2	9.7
FY Qtr 3	8.2
FY Qtr 4	8.3

2004 BLS Benchmark 6.4 (calendar year)
Source: WSDOT Safety Office

Recordable Inland Water Transportation Worker Injuries & Illnesses Injury Rate: Ferry System, Fiscal Year-to-Date

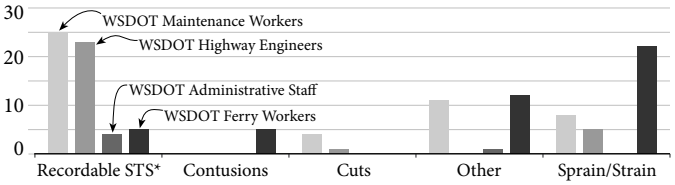
OSHA-Recordable Injury Rate per 100 Workers[1]

Fiscal Year 2006	Cumulative-to-Date 2006
FY Qtr 1	9.0
FY Qtr 2	9.3
FY Qtr 3	9.7
FY Qtr 4	10.1

2004 BLS Benchmark 4.9 (calendar year)
Source: WSDOT Ferry System

Number of Work Injuries by Type

April Through June 2006



Source: WSDOT Safety Office

* An OSHA recordable Standard Threshold Shift (STS) occurs if an employee's hearing test reveals that the employee experienced a work-related STS in hearing in one or both ears, and the employee's total hearing is 25 dB or more above audiometric zero (averaged at 2000, 3000 and 4000 Hz) in the same ear(s) as the STS, WSDOT must consider the case recordable. WSDOT reports these hearing loss injuries without regard to whether they are work related or not.

[1]OSHA "Recordable Injuries and Illnesses" is a standard measure that includes all related deaths and work related illnesses and injuries which result in death, loss of consciousness, days away from work, days of restricted work, or medical treatment beyond first aid. The U.S. Bureau of Labor Statistics provides the selected 2004 national average benchmarks. One worker equals 2,000 hours per year.

Worker Safety: Quarterly Update

Safety Stand Down

WSDOT held a Safety Stand Down on July 10, 2006 to introduce the new safety initiative. The majority of personnel participated in a statewide gathering and group discussions on workforce safety. Three messages prevailed:

- All injuries are preventable,
- WSDOT's safety record is not as good as it should be, and
- Injury rates are too high.

The new Executive Order establishes a goal to reduce all OSHA-recordable injuries and illnesses 30% by the end of fiscal year (FY) 2007. In FY 2006, WSDOT experienced 466 OSHA-recordable injuries and illnesses. The targeted goal for FY 2007 is a decrease of 140 injuries, or 326 injuries

WSDOT's Plan to Reduce Injury Rates

Observance of basic safety provisions, and heightened awareness and accountability for safety results at every level of WSDOT, are the foundations of this new safety emphasis. Equally important is the expectation that each individual is accountable to ensure work environments are safe. When accidents happen, WSDOT will learn from the factors involved so preventive measures are taken to avoid similar future accidents. The Regional Safety Managers play a key role in training those who investigate accidents. As emphasized during the Safety Stand Down, everyone has a role to assure the new safety initiative is a success.

Number of OSHA-recordable Injuries and Illnesses

The table below reports the total number of injuries in FY 2006. It provides a regional breakdown of injuries for each quarter, and is separated into three reporting categories: Maintenance, Engineering, and Administrative.

Highway Maintenance Workers

The fourth quarter of FY 2006, highway maintenance workers reported 48 OSHA-recordable injuries. This was an increase of 10 injuries compared to the previous quarter. In the fourth quarter, there were a total of 347 lost workdays associated with the 48 injuries; 41 of the injuries resulted in five or fewer lost workdays. OSHA-recordable hearing losses accounted for 25 (52%) of the Highway Maintenance injuries sustained in the fourth quarter of FY 2006. The most frequently injured part of the body was the ear (52%).

Highway Engineering Workers

The fourth quarter of FY 2006, highway engineering workers reported 29 OSHA-recordable injuries. This was an increase of 22 injuries compared to the previous quarter. In the fourth quarter, there were a total of 20 lost workdays associated with the 29 injuries; 28 of the injuries resulted in five or fewer lost workdays. Occupational Illnesses (hearing loss) accounted for 79% of engineering worker injuries, the ear was the most frequently injured part of the body.

Ferry System

The fourth quarter of FY 2006, ferry workers reported 44 OSHA-recordable injuries, an increase of four injuries compared to the previous quarter. In the fourth quarter, there were a total of 361 lost workdays associated with the 44 injuries; 30 of the injuries experienced five or fewer lost workdays. Strains/Sprains accounted for 50% of ferry worker injuries. The most frequent injury involved multiple parts of the body.

Number of OSHA Recordable Injuries by Quarter: WSDOT Regions and Ferry System

FY 2006 (July 2005 - June 2006) Target Goal: 30% Reduction in OSHA-Recordable Injuries

	Maintenance				Engineering				Administrative				
Regions	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Total**
Northwest	23	10	7	13	12	4	1	6	4	0	0	1	81
North Central	16	0	2	6	5	0	0	2	2	0	0	0	33
Olympic	14	9	12	5	4	2	4	2	1	0	1	0	54
Southwest	6	3	4	8	2	1	0	4	0	0	0	2	30
South Central	12	5	5	5	3	1	0	1	1	0	0	0	33
Eastern	20	4	8	10	5	0	1	6	1	0	0	1	56
Headquarters	1	1	0	1	8	2	1	8	0	0	0	1	23
Sub-Total	92	32	38	48	39	10	7	29	9	0	1	5	310
Ferry System	34	36	39	44	0	0	0	0	1	1	1	0	156
WSDOT Total	126	68	77	92	39	10	7	29	10	1	2	5	466

Source: WSDOT Safety Office & Ferry System

Worker Safety: Quarterly Update

Quarterly Injury Rates

OSHA-Recordable Injury and Illness Rates: per Quarter

Beginning with this edition, WSDOT will report quarterly recordable injury rates for Highway, Street, and Bridge Construction workers, and for Inland Water Transportation workers. WSDOT will use the OSHA-recordable injury rates to compare measures across quarters. Unlike the cumulative rate presented on page 38, this measure will not be used to compare recordable injury rates nationally. Quarterly information will be used to analyze WSDOT's recordable injury rate trends and to monitor progress towards the goal that all injuries are preventable.

The tables to the right show quarterly recordable injury rates per 100 workers (see gray box below for calculation used to develop quarterly injury rates). The quarterly rates presented are not comparable to previous *Gray Notebook* editions.

Highway, Street, and Bridge Construction Workers

In the fourth quarter of FY 2006, the quarterly injury rate for Highway, Street, and Bridge Construction workers was 2.1 injuries and illnesses per 100 workers which was an increase from the previous quarter rate of 1.3.

Ferry System

In the fourth quarter of FY 2006, the quarterly injury rate for Inland Water Transportation workers was 2.8 per 100 workers. This number was an increase from the previous quarter rate of 2.6.

How WSDOT Calculates Quarterly Injury Rates

WSDOT reports quarterly data for injuries and illnesses by totaling all recordable injuries and illnesses reported in a quarter. This number is divided by all of the man-hours worked and multiplied by 50,000 (the normal hours worked in a quarter per 100 workers). The resulting number represents the quarterly number of injuries and illnesses per 100 workers (see equation below).

Equation:

$$\frac{(\text{\# of injuries}) \times 50{,}000}{(\text{\# of man-hours worked})} = \text{Quarter Rate per 100 workers}$$

Recordable Highway, Street, and Bridge Construction Worker Injuries & Illnesses: Maintenance & Engineer Workers

Quarterly OSHA-Recordable Injury Rates per 100 Workers[1]

	FY 2006
FY Qtr 1	3.6
FY Qtr 2	1.2
FY Qtr 3	1.3
FY Qtr 4	2.1

Source: WSDOT Safety Office

Recordable Inland Water Transportation Worker Injuries & Illnesses: Ferry System

Quarterly OSHA-Recordable Injury Rates per 100 Workers[1]

	FY 2006
FY Qtr 1	2.2
FY Qtr 2	2.4
FY Qtr 3	2.6
FY Qtr 4	2.8

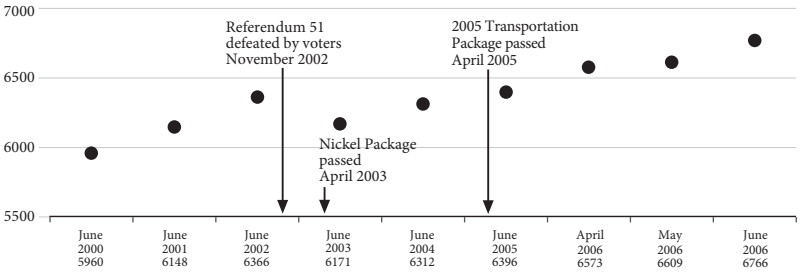
Source: WSDOT Ferry System

[1]OSHA "Recordable Injuries and Illnesses" is a standard measure that includes all related deaths and work related illnesses and injuries which result in death, loss of consciousness, days away from work, days of restricted work, or medical treatment beyond first aid. The U.S. Bureau of Labor Statistics provides the selected 2004 national average benchmarks. One worker equals 2,000 hours per year.

Workforce Level and Training: Quarterly Update

One indicator of the agency's workforce size is the current number of permanent full-time employees on staff. The total number of full-time employees does not include permanent part-time, seasonal, or on-call workers. The chart to the right shows the total number of full-time employees at various points since the end of fiscal year 2000, with significant mandates identified. The total number of full-time equivalencies (FTE's) will generally exceed the number of permanent full-time employees due to seasonal and part-time workers being funded from "FTE" allotments.

Number of Permanent Full-Time Employees at WSDOT



Source: Dept. of Personnel Data Warehouse, WSDOT and the Ferry System Payroll

Required Training: All WSDOT Workers

This quarter a total of 4,126 workers attended trainings offered by WSDOT (this number includes all individuals who attended one or more training this quarter). This total is 2,251 more than the previous quarter. At the end of the second quarter, an average of 67% of WSDOT workers were in compliance with all training requirements listed below. This is 4% more than the preceding quarter.

In the last *Gray Notebook*, it was reported OEO merged manager and non-manager courses. Since merging, the percent in compliance for OEO training courses has seen an increase. WSDOT's goal is to reach 90% compliance for all required (mandatory) courses.

WSDOT currently provides Diversity Awareness training to all employees through an instructor led classroom modality. WSDOT has identified a problem in reaching certain workforce segments such as non-permanent, seasonal, and on-call employees with this training approach. Efforts are underway to identify strategies to reach all employees by developing alternative training formats (Computer Based Training and booklet self-study) in addition to the current instructor led classroom setting that meet the required curriculum objectives. Future *Gray Notebooks* will report on progress toward addressing the variance and achieving compliance.

OEO revised its courses in June 2002. The courses are provided in three sections: Disability Awareness, Sexual Harassment/ Discrimination, and Valuing Diversity. These three trainings require refresher courses at the five-year mark, but have not been in existence long enough to require the five-year refresher. The "Ethical Standards" refresher requirement is every three years. "Security Awareness" and "Violence that Affects the Workplace" do not require a refresher course.

Required Training for all WSDOT Workers[1]
April 2006 - June 2006

Training Courses	Workers Requiring Training	Basic Training Completed to Date	Workers Needing Basic Training	Workers Needing Refresher Training	Completed Training Reporting Quarter	Total in Compliance	% in Compliance	% Change from Previous Quarter
Disability Awareness	7678	3448	4230	N/A[2]	1297	3448	45%	16%
Ethical Standards	7678	7366	312	1124[3]	1233	6242	81%	2%
Security Awareness	7678	6295	1383	N/A[4]	16	6295	81%	-4%
Sexual Harassment/ Discrimination	7678	4867	2811	N/A[2]	719	4867	63%	5%
Valuing Diversity	7678	4049	3629	NA[2]	713	4049	53%	8%
Violence that Affects the Workplace	7678	6057	1621	NA[4]	148	6057	79%	-2%

Source: WSDOT, Office of Human Resources, Staff Development

[1]Includes all full-time, non-permanent, on-call, and seasonal workers.
[2]These courses require refresher trainings every five years, but have not been in existence long enough to meet that requirement.
[3]Requires refresher courses every three years.
[4]Do not require refresher courses.

Workforce and Training: Quarterly Update

Required Training: Maintenance Workers

WSDOT's goal is to reach 90% compliance for statutorily required maintenance employee training. Of the 25 statutorily required maintenance courses, 13 are identified in the table below. A single worker might require multiple courses, depending on job and task assignment. Project workload and maintenance activities directly relate to compliance levels. Managers and trainers balance project delivery and training compliance to assure training occurs on a continual basis. Additionally, of the 25 statutorily required courses, 10 require refresher courses. As of June 30, 2006, five of the 25 required maintenance worker courses have achieved a 90% compliance rate.

Safety Courses	Workers Requiring Training	Basic Training Completed to Date	Completed Basic Training Reporting Quarter	Workers Needing Basic Training	Completed Refresher Training Reporting Quarter	Workers Needing Refresher Training	Total in Compli-ance	% in Compli-ance: Statewide	% Change from Previous Quarter
Blood Bourne Pathogens	566	514	27	52	128	203	311	55%	18%
First Aid	1458	1389	45	69	246	162	1227	84%	2%
Hearing Conservation	1335	1270	23	65	436	296	974	73%	-5%
Personal Protective Equip-ment	1378	1162	158	216	0	0	1162	84%	5%
Fall Protection	724	618	69	106	0	0	618	85%	2%
Flagging & Traffic Control	1118	1091	16	27	80	81	1010	90%	-2%
Safe Driving - Eversafe™	1175	1001	55	174	0	0	1001	85%	3%
Maintenance Courses									
Drug Free Workplace	345	310	43	35	0	0	310	90%	1%
Forklift	1131	1022	27	109	0	0	1022	90%	1%
Hazardous Mat Awareness	817	776	34	41	244	218	558	68%	-12%
Aerial Lift	178	161	12	17	0	0	161	90%	-1%
Bucket Truck	392	337	25	55	0	0	337	86%	5%
Excavation, Trench & Shoring	398	347	77	51	0	0	347	87%	13%

Total Compliance of Each Required Maintenance Training: All WSDOT Regions[1]

April 2006 - June 2006 (Total indicates percentage in compliance; Change indicates percent change from previous quarter; N/A indicates no individuals require training for identified course)

	NWR		NC		OR		SWR		SCR		ER		HQ	
Safety Course	**Total**	**Change**	**Total**	**Change**	**Total**	**Change**	**Total**	**Change**	**Total**	**Change**	**Total**	**Change**	**Total**	**Change**
Blood Bourne Pathogens	19%	+7%	90%	+1%	66%	+62%	69%	-11%	94%	+61%	96%	+85%	0%	N/A
First Aid	69%	-6%	88%	+4%	89%	+4%	96%	-1%	90%	+12%	91%	+9%	0%	N/A
Hearing Conservation	84%	+6%	90%	+14%	77%	-1%	95%	+20%	1%	-74%	94%	+10%	N/A	N/A
Personal Protective Equip-ment	77%	-1%	78%	+2%	76%	+14%	96%	0%	94%	+2%	94%	+6%	N/A	N/A
Fall Protection	77%	+3%	100%	+10%	79%	-2%	95%	-1%	93%	+5%	98%	0%	N/A	N/A
Flagging	86%	-3%	96%	0%	92%	+2%	92%	-5%	85%	-3%	97%	0%	N/A	N/A
Safe Driving - Eversafe™	88%	+4%	91%	-1%	100%	0%	55%	0%	88%	+7%	94%	+4%	67%	N/A
Maintenance Courses														
Drug Free Workplace	88%	-1%	86%	+11%	90%	0%	100%	+8%	94%	-3%	89%	0%	0%	N/A
Forklift	88%	-1%	95%	+7%	84%	+3%	94%	-2%	93%	-1%	96%	+4%	N/A	N/A
Haz Mat Awareness	79%	-8%	47%	-19%	27%	+18%	84%	-10%	33%	-52%	92%	+22%	N/A	N/A
Aerial Lift	78%	+2%	70%	-8%	100%	N/A	97%	-1%	100%	+14%	N/A	N/A	N/A	N/A
Bucket Truck	71%	+4%	100%	+9%	96%	+6%	98%	0%	98%	+11%	100%	0%	N/A	N/A
Excavation, Trench & Shoring	79%	0%	83%	+24%	73%	+16%	92%	-1%	99%	+26%	82%	-1%	N/A	N/A

Source: WSDOT, Office of Human Resources, Staff Development

[1]NWR - Northwest Region; NCR - North Central Region; OR - Olympic Region; SWR - Southwest Region; SCR - South Central Region; ER - Eastern Region; HQ - Headquarters

Construction Contracts: Annual Update

Contract Award Amount to Engineer's Estimate

118 Construction Contracts Awarded

WSDOT awarded 118 highway construction contracts between July 1, 2005 and June 30, 2006 (FY 2006). For every contract awarded, WSDOT tracks the difference between the contract award amounts and the engineer's estimate. The total award amount of all contracts for FY 2006 totaled $361,514,031, which was 4.5% percent above the total engineer's estimates of $345,802,088.

The scatter plot to the right shows the award value for each contract and the total percent above or below the engineer's estimate. Fifty-four contracts (46%) were awarded below the engineer's estimate. The additional 64 construction contracts were over the engineer's estimate.

WSDOT reviews all bids received. When a low bid exceeds the engineer's estimate by more than 10%, a formal justification is required prior to award. WSDOT will then examine the reasons bids were higher than anticipated and if re-advertisement would lead to a lower cost. Unless there are changes to the project WSDOT could make to lower the cost or increase the likelihood of additional competition in the bidding pool, re-advertisement is usually not a cost effective alternative.

Selected contracts circled in the scatter plot to the right had a significantly higher cost over-run. These include:

SR 543, I-5 to International Boundary

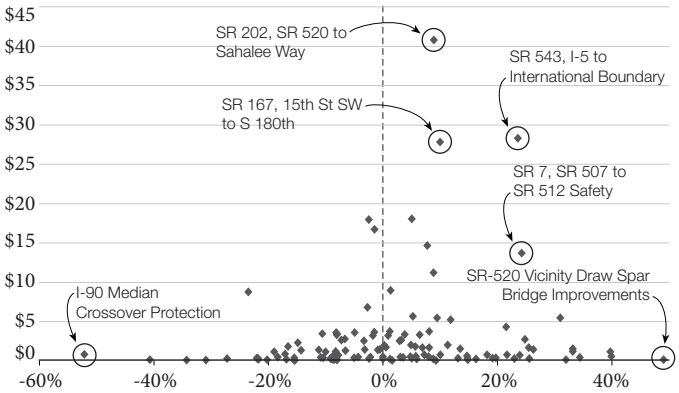
The contract award totaled $28.3 million, 24% over the engineer's estimate as a result of oil and concrete price escalation. WSDOT received only two bids for this project, partially due to its remote location.

SR 7, SR 507 to SR 512 Safety improvements

The contract totaled $13.7 million, 24% over the engineer's estimate. The increase was partially due to the rapid increase in fuel prices.

Individual Contracts: Award Amount to Engineer's Estimate

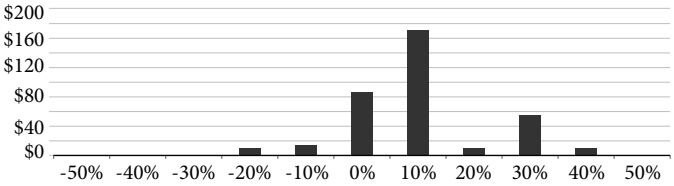
Percent Award Above or Below Engineer's Estimate, Dollars in Millions



Source: WSDOT Construction Office

Distribution of Contract Value Over/Under Award Amount to Engineer's Estimate

Percent Above or Below Engineer's Estimate, Dollars in Millions



Source: WSDOT Construction Office

The histogram above shows the distribution of contract award values that were above or below WSDOT's estimate. For example, approximately $171 million in contracts were awarded between 0-10% above the estimate.

WSDOT Revisits its Estimating Practices

WSDOT aggressively monitors project costs to funnel this information back into current estimates. WSDOT obtained new software to allow engineers access to more recent bid histories. This will better align the estimates to current market conditions.

Highway Construction Contracts Awarded: Year-to Year Comparison[1]

	FY2002	FY2003	FY2004	FY2005	FY2006
Number of contracts awarded	177	176	129	141	118
Total award amount for highway contracts	$250,561,516	$314,534,831	$389,592,349	$500,099,488	$361,514,031
Total engineer's estimate for contracts	$277,091,361	$355,420,644	$398,923,582	$511,364,300	$345,802,088
Average % total awards were above/below the estimate	-7.5%	-6.5%	-1.4%	1.3%	1.9%
% total award is above/below the engineer's estimate	-9.5%	-11.5%	-2.3%	-2.2%	4.5%
Combined contract value awarded below the estimate	71.7%	84.0%	53.3%	74.4%	30.5%
Number of contracts awarded below the estimate	129	123	85	77	54
% of contracts awarded below the estimate	72.9%	69.9%	65.9%	54.6%	45.8%

Source: WSDOT's Construction Office

[1]Does not include the Tacoma Narrows Bridge and the Hood Canal Bridge, Bridge Design Build Projects, or emergency contracts.

Construction Contracts: Annual Update

Contract Final Costs to Award Amount

WSDOT continually evaluates the balance of contract risks to both the owner (WSDOT) and the contractor. WSDOT allocates risk to the party in the best position to optimize the outcome. WSDOT further works with the contractor to help them manage the risk. For instance, WSDOT can make partial payments to contractors for materials before they are permanently incorporated in the project. Contractors can then better manage material cost escalation risks by locking in prices after the contract is awarded. WSDOT also uses the Cost Reduction Incentive Proposal process, which allows the contractor to suggest an alternate design. When an alternative design is suggested, the contractor takes on more risk in the constructability and design, but shares in the cost savings.

114 Construction Contracts Completed

WSDOT completed 114 highway construction contracts in FY 2006. For every completed contract, WSDOT tracks final construction costs compared to the original engineers estimate and the award amount. WSDOT's goal is for the final construction costs to be less than 10% above the award amount.

Final Costs to Award Amount

The total final cost of contracts completed in FY 2006 was $225, 445,739. This exceeds the total award amount of $201, 782, 248 by 11.7%.

The scatter plot below shows the final cost of each contract and the percent above or below the award amount. The final cost for 92 contracts (81%) was less than 10% above the award. Twenty-two completed contracts were 10% above the award amount. On average, the final contract costs were 3.4% above the original award amount.

Selected contracts circled in the scatter plot to the right exceeded the 10% threshold and include:

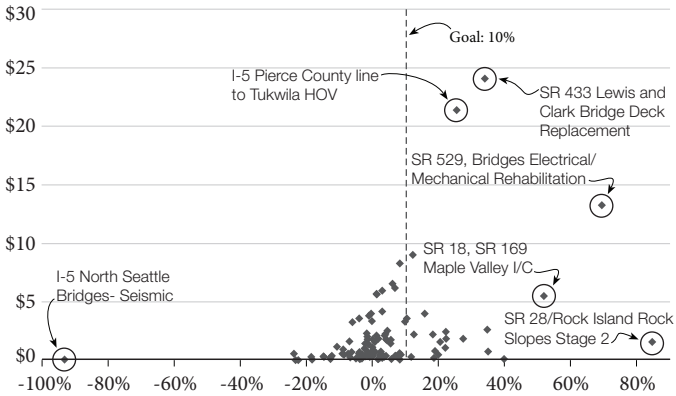
SR 433, Lewis and Clark Bridge Deck Replacement:
$6.1 million (34%) cost over-run occurred to cover required structural changes that will increase the service life by reducing vibrations that were not evident in the modeling conducted during the design phase.

SR 529, Bridges 529/20 E&W and 529/25 Electrical/ Mechanical Rehabilitation
$5.4 million (70%) cost over-run occurred due to needed traffic control modifications to minimize traffic disruption and payment to accelerate the work.

I-5, Pierce County Line to Tukwila HOV
A $4.3 million (26%) cost over-run occurred to pay for changes related to the building of a wall.

Individual Contracts: Final Costs to Award Amount

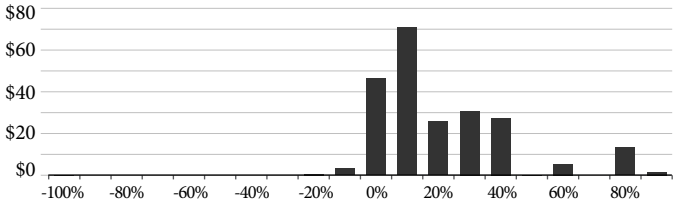
Percent Final Cost Above or Below Award, Dollars in Millions



Source: WSDOT Construction Office

Distribution of Contract Value Over/Under Final Costs to Award Amount

Percent Final Cost Above or Below Award Amount, Dollars in Millions



Source: WSDOT Construction Office

The histogram above shows the distribution of final costs above or below the contract award. For example, about $71 million worth of contracts had a final cost between 0-10% above the original contract award amount. Just over half (55%) of the total contract value awarded had final costs at least 10% above the award amount.

Completed Contract: Final Costs to Award Amount

	FY2002	FY2003	FY2004	FY2005	FY2006
Number of highway contracts completed	122	175	147	155	114
Total final cost for highway contracts	$213,953,965	$375,244,919	$294,482,387	$294,988,223	$225,445,739
Total award amount for highway contracts	$196,000,000	$351,525,709	$274,495,656	$280,396,785	$201,782,248
Average % final costs exceeded award	1.8%	3.8%	2.9%	3.9%	3.4%
% final cost exceeded award amount	9.2%	6.7%	7.3%	5.2%	11.7%
% of contract values less than 10% above award	66.0%	65.3%	45.1%	76.3%	55.1%
Number of contracts less than 10% above award	98	137	115	121	92
% of contracts less than 10% above the award	80.3%	78.3%	78.2%	78.1%	80.7%

Source: WSDOT Construction Office

Construction Contracts: Annual Update

Contract Final Costs to Engineers Estimate

Final Costs Exceed Estimate by 1%

The final contract costs in FY 2006 totaled $225,445,739. This exceeds the total engineer estimate of $223,751,551 by 1%.

The scatter plot to the right shows the final cost of each contract and the percent it was above or below the engineer's estimate.

Selected contracts circled in the scatter plot to the right, had a significantly higher cost over-run. These include:

SR433, Lewis and Clark Bridge Deck Replacement
This contract had six bidders and was awarded for $17.9 million, 37% under the engineer's estimate; it over-ran the award amount by 34%. The project still was under the estimate by 16%.

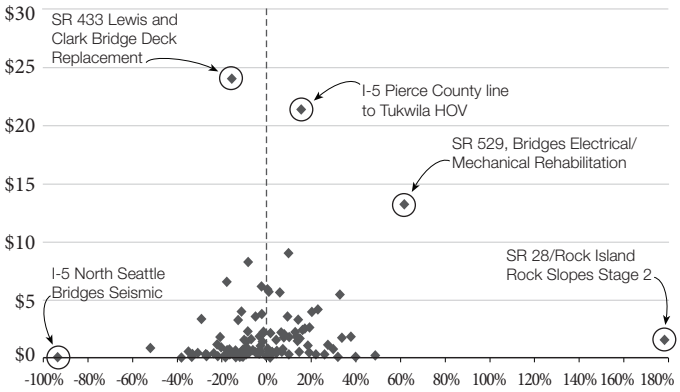
I-5, Pierce County Line to Tukwila HOV and Truck Climbing lane
The contract award of $17 million was 8% below the engineer's estimate. It over-ran the award amount by 26% and was above the estimate by 16%.

SR 529, Bridges 529/20 East & West and 529/25 Electrical/ Mechanical Rehabilitation
The contract award of $7.8 million was 5% below the engineer's estimate. Contract cost over-ran the award amount by 70% and the estimate by 62%.

The total engineer estimate for these three projects was $55.1 million and the total award amount was $42.8 million. The final cost was about $58.7 million (7%) over the award amount.

Individual Contracts: Final Costs to Engineer's Estimate

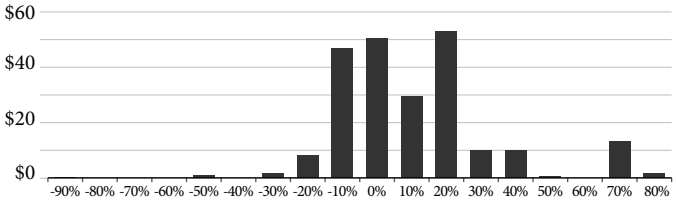
Percent Final Cost Above or Below Engineer's Estimate, Dollars in Millions



Source: WSDOT Construction Office

Distribution of Contract Value Over/Under Final Costs to Engineer's Estimate

Percent Final Cost Above or Below Engineer's Estimate, Dollars in Millions



Source: WSDOT Construction Office

The histogram above shows the distribution of final costs that were above or below the estimate. For example, approximately $53 million in contracts had a final cost between 10-20% above the estimate. Around two-thirds (64.9%) of contract final costs were below the 10% estimate.

Completed Contracts: Final Cost to Engineer's Estimate

	FY2002	FY2003	FY2004	FY2005	FY2006
Total of construction contract estimates completed	$215,000,000	$393,078,777	$277,017,902	$294,440,780	$223,751,551
Total final cost for construction contracts[1]	$213,953,975	$375,244,919	$294,482,387	$294,988,223	$225,445,739
% total contract values cost above/below estimate	-4.7%	-5.6%	-2.6%	0.7%	0.8%
% of contract less than 10% above award	75.7%	87.1%	42.8%	74.2%	64.9%
Number of contracts less than 10% above estimate	99	151	111	118	86
% of contracts less than 10% above the estimate	81.1%	86.3%	75.5%	76.1%	75.4%

Source: WSDOT's Construction Office

[1]Without Sales Tax

Asset Management: Capital Facilities Annual Update

Program Overview

WSDOT's Capital Facilities budget for the 2005-07 biennium, including new building design, construction, and property acquisition, totals $2.3 million. The budget for operating and maintaining the buildings for the biennium is $33.6 million.

The capital facilities operating program provides funding for basic building operations, regularly scheduled maintenance, and repairs to keep buildings and sites in operational condition. The program also addresses minor environmental issues, ADA compliance, Computer Aided Facilities Management System support, major and minor renovation, and replacement projects.

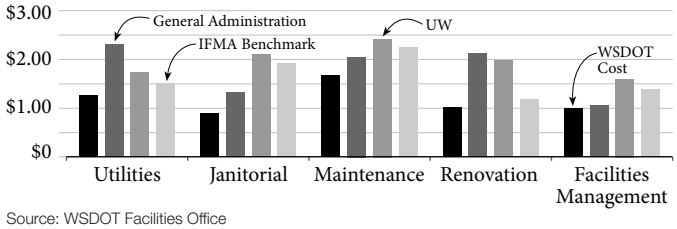
Benchmarking Shows Conservation Pays Off

Comparing WSDOT's costs to operate and maintain facilities to similar organizations helps the agency gauge how well it is doing. WSDOT compares itself to the International Facilities Management Association's (IFMA) benchmark average, Washington State General Administration (GA) spending, and the University of Washington (UW) spending as a basis for benchmarking facility operating and maintenance costs.

As shown in the chart below, WSDOT spends less per square foot than the IFMA's benchmark average, the GA, and the UW. WSDOT is more economical in utilities and Facilities Management. Regarding the Janitorial, Maintenance, and Renovations costs, lower expenditures in these areas are causing increases in the WSDOT's facilities deficiency backlog. (See the next page for more information on the backlog.)

2003-2005 Biennium Benchmarks

Annual Cost per Square Foot



Source: WSDOT Facilities Office

Data note: This data does not include WSDOT's Safety Rest Areas. For more information on Safety Rest Areas, see the March 31, 2006 Gray Notebook, pp. 48-53.

WSDOT owns more than 930 buildings and related sites, with a replacement value of approximately one-half billion dollars. This has increased from about 800 buildings last year for two reasons: newly-built facilities, and existing WSDOT structures that have been absorbed into the Facilities program. Related to the second item, the facilities office has begun to inventory storage containers and a few salt storage sheds that were constructed by WSDOT's highway maintenance program.

These 930 buildings house staff and equipment, and provide materials storage to all of the Transportation Regions. In addition to the administrative and engineering functions housed in these facilities, there are over 130 maintenance facilities and 40 mountain-top communication sites across the state. Total building space owned by the department is approximately 2.7 million square feet, on 8,857 acres.

WSDOT Implements Green Building Practices

WSDOT is required by law to provide Leadership in Energy and Environmental Design (LEED) Silver Certification on all new facilities with buildings that are more than 5,000 square feet in area. LEED Rating Criteria is a product of the U.S. Green Building Council (USBGC). The USBGC is a building industry trade group that "promote[s] buildings that are environmentally responsible, profitable and healthy places to live and work."[1] Projects must be officially registered with the Council; after construction, the building is certified if the Green-Building-Council-Accredited professionals determine that the resulting product has met the required criteria.

WSDOT Staff Qualify for Green Building Self-Accreditation

WSDOT Facilities became a member of the U.S. Green Building Council in January 2006. Two WSDOT facilities staff members became Accredited Professionals in July 2006 by passing the national examination, and three more are in training. Having Accredited Professionals on staff means that WSDOT can certify its own sites and buildings (and those of other agencies) with existing staff, and does not have to hire special consultants for this purpose. Also, WSDOT staff will be able to recommend "green" building components during project scoping, making the process more effective and efficient.

[1] U.S. Green Building Council website, www.usgbc.org

Asset Management:
Capital Facilities Annual Update

Facility Conditions

Facility Condition Assessment and Deficiencies Backlog

WSDOT's 930 buildings and facility structures are grouped into 236 complexes. The condition of these complexes is assessed at least once every two years by Region Facility Managers and their staff. In 2006, 85% of the total number of facilities were in fair or better condition: 20 facilities complexes were in good condition, and 178 were in fair condition.

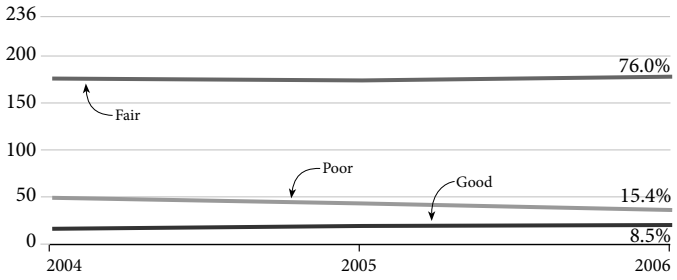
WSDOT's Facilities Deficiency Backlog

The results of these assessments are used to summarize and report the condition of WSDOT-owned facilities to the Office of Financial Management as mandated by RCW 43.82.150. The Region Facility Managers identify deficiencies in the building and site systems (such as roofs, air handling equipment, pavement, and plumbing) and estimate the cost to correct them and to identify a backlog of needs. To address the backlog, deficiencies are reviewed and packaged into projects. The most critical projects are prioritized within the available funding for delivery.

In 2002, the backlog was valued at $101.1 million; in 2004, the backlog was valued at $134.3 million; in 2006, the backlog is valued at $135.8 million. Approximately 17% of all WSDOT-owned buildings are major facilities greater than 50 years old. This backlog is expected to grow as site and building systems continue to age.

WSDOT Facility Condition Trend

Number of Facilities Complexes, 2004-2006



Source: WSDOT Facilities Office

Data note: This data does not include WSDOT's Safety Rest Areas. Data regarding the condition of the Safety Rest Areas can be found in the March 31, 2006 Gray Notebook on p. 50.

97% of Preventive Maintenance Activities Completed as Scheduled

Preventive maintenance is a schedule of planned maintenance actions aimed at the prevention of breakdowns and system failures. The primary goal of preventive maintenance is to replace and service worn components before they actually fail, thereby preventing equipment and other system failures. System failures are very costly, and can be an unexpected strain on funding. They also result in production loss because of system downtime.

A new computer preventative maintenance system installed in the 2003-05 biennium allowed WSDOT to identify and define the required maintenance schedules for critical equipment. For the first fiscal year of the 2005-07 biennium, 7,228 preventive maintenance tasks were scheduled, and 7,035 (97%) have been completed. It is anticipated that this computer system will prevent maintenance system failures, reducing emergent needs in the future.

The new Pomeroy Maintenance Facility (built in 2005) is one of 130 WSDOT maintenance facilities across the state.

Asset Management:
Capital Facilities Annual Update

Capital Facilities Construction Projects

Capital Facilities Construction Projects 2005-07

Spokane Street Section Maintenance Facility

A new facility will be constructed in Seattle, adjacent to WSDOT's existing Corson Avenue site, to accommodate the urban Seattle maintenance crews and equipment. These crews maintain SR 509 and SR 599, and parts of I-5, I-90, SR 99 and SR 520. The crews are currently housed in small, inefficient facilities from the 1930s at Spokane Street. Those facilities are also on ground contaminated with gasoline and diesel, which will be cleaned up by WSDOT to meet environmental standards. The old site will continue to be used as a base of operations for materials testing staff, staging materials, and equipment. The new building is expected to be completed in Spring 2009.

WSDOT's Spokane Street Maintenance Facility in Seattle.

Olympic Region Headquarters Replacement

The new Olympic Region Complex will consolidate region resources and work groups in a single location. Along with staff assigned to the current Olympic Region Headquarters site in Tumwater, six satellite offices in Thurston County will be incorporated into the new regional complex. By combining and sharing resources, the new office complex will: improve communication; maximize the use of shared meeting rooms, vehicles, and common areas; and relieve the burdensome and costly building maintenance work needed to sustain operations at the existing 1930s Tumwater complex. The contract to design and build this project was advertised on April 5, 2006.

The current Olympic Region Complex in Tumwater

Ephrata Area Maintenance Facility

A rebuild of the old 1950s Ephrata facility on the existing site will accomplish needed improvements to work space. The Ephrata facility supports maintenance for parts of I-90 and several state routes in the Moses Lake, George, and Othello vicinities. The project is currently in pre-design and construction stages and is scheduled for completion in 2009.

Wenatchee Administrative Building Equivalent Value Exchange

As the final phase of the North Central Region Complex relocation, WSDOT proposes to exchange the North Wenatchee Avenue property and two other Wenatchee vicinity properties for construction of a new administrative building and improvementstot the WSDOT-owned Euclid Avenue Facility. Administrative and project engineering functions will occupy the new facilities. Design will begin in Summer 2007.

Capital Facilities Construction Projects 2007-09

Vancouver Light Industrial

As the final phase of the relocation of the 1930s vintage Vancouver Regional Office Complex, this project will move the remaining functions from the Main Street facility to a location that is central to the areas of operations and zoned for light industrial activities. A site for the new facility will be acquired in 2007-09. The facility construction to house the region-wide and area maintenance crews and their equipment will be programmed in future biennia. The area maintenance functions are responsible for highway maintenance activities on sections of I-5, I-205, SR 14 and SR 500 through SR 503.

Tri-Cities Area Maintenance Facility

A site for the new facility will be acquired at a location central to the area of operations and zoned for light industrial functions. Future construction of this facility will replace the existing antiquated and undersized Pasco Area Maintenance Facility that supports the highway maintenance activities on sections of I-82, I-182, SR 395, SR 12, SR 124, SR 240, and SR 397.

Highway Safety: Annual Update

Traffic Fatalities in Washington State

This highway safety report complements the report published in the December 2005 *Gray Notebook*. The following pages provide the 2005 Washington State fatal and disabling traffic accident rates, discuss before and after safety data for roundabouts, and present the 2005 seatbelt use statistics.

2005 Data Shows an Increase in Traffic Fatalities

Over the past decade, there has been a general downward trend in traffic fatalities on Washington State's highways, city streets, county roads, and other public roadways. Washington experienced a low point in fatalities in 2003 and 2004, with 600 and 567 deaths, respectively.

However, preliminary 2005 data shows an increase following these two low years. In 2005, total fatalities on Washington's public roads increased 14%, from 567 in 2004 to 649 in 2005. Of the 82 additional fatalities, county roads accounted for 32 (39%), state highways accounted for 30 (37%), city streets accounted for 23 (28%); other roadways experienced a decrease of 3 (-4%). There was also an increase nationally. Preliminary data suggests that Washington State's increase in highway fatalities in 2005 contributed to 15% of the increase in highway fatalities at the national level.

WSDOT takes this increase in highway fatalities very seriously, and is examining ways to keep the fatality trend continuing downward (see page 52). Below is an analysis of the 2005 fatal and disabling accident data.

Washington State Traffic Fatalities, 2000-05

2000	2001	2002	2003	2004	2005
631	649	659	600	567	649 (Preliminary data)[1]

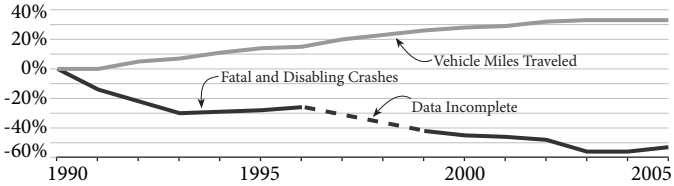
Source: Fatal Accident Reporting System (FARS)

[1]WSDOT counts an additional 6 deaths for 2005. See gray box to the right.

Fatal and Disabling Crashes and Vehicle Miles Traveled (VMT)

Washington State Highways (State Routes and Interstates)

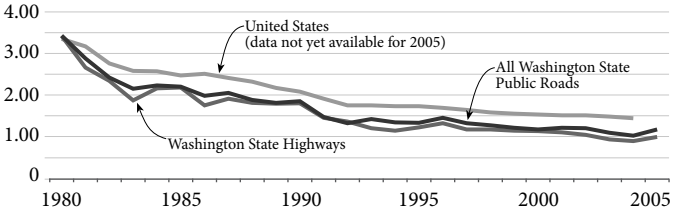
Percent Change Since 1990



Source: WSDOT Traffic Data Office

Traffic Fatality Rates in Washington Compared to the National Average

Fatalities per 100 Million VMT, 1980-2005



Provided by: WSDOT-Traffic Data Office
Sources: U.S. Fatalities/Vehicle Miles Traveled (VMT): National Highway Traffic Safety Administration (NHTSA) Traffic Safety Facts; WA Fatalities: Fatal Accident Reporting System (FARS); State Highway Fatalities: WSDOT-Traffic Data Office; WA VMT: WSDOT-Traffic Data

FARS Fatality Count and WSDOT Fatality Count

There are two key differences between the two systems used to track data. First, to qualify as a FARS case there must be a motorized vehicle involved in the crash. WSDOT, following the direction given by the Blue Ribbon Commission on Transportation, includes non-auto-related fatalities on the highways. In addition, FARS does not count traffic fatalities due to natural catastrophic events, whereas WSDOT does count those fatalities. A more complete description of these differences is available in the Transportation Benchmarks Safety Goal article on page 74.

Comparing Fatal and Disabling Injury Collisions and Vehicle Miles Traveled

Traffic fatality rates are commonly expressed as deaths per 100 million vehicle miles traveled (VMT). The 2005 increase in fatal and disabling crashes increased the fatality rate 13.5%, from 1.02 per 100 million VMT in 2004 to 1.17 per 100 million VMT in 2005.

Despite this increase, the fatality rate on Washington's public roads has decreased 36% over the past 15 years, from 1.85 in 1990 to 1.17 in 2005. In this time, fatal and disabling injury collisions on Washington's highways declined 53%, from 2,491 collisions in 1990 to 1,163 in 2005; meanwhile, the VMT increased 33%. Essentially, people are driving more miles, yet having fewer fatal accidents.

This decline parallels a similar national trend. In 2004, the national fatality rate was 1.44 per 100 million VMT, compared to Washington's rate of 1.02 per 100 million VMT. (The national fatality rate for 2005 is unavailable at this time, therefore no comparison for 2005 is available; with the increase to 1.17, Washington's standing will not be as favorable, although will still likely be below the national average).

Highway Safety: Annual Update

Fatality Rates per Capita

Washington's average fatality rate per capita is about nine traffic fatalities out of every 100,000 people, well below the national average in rate of fatalities per capita. In 2004, Washington ranked seventh in the nation for fewest traffic fatalities in relation to population. The national average is about 15 traffic fatalities out of 100,000 people.

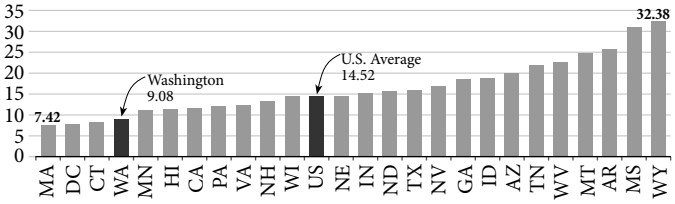
Fatal and Disabling Accident Rates by County

Safety is a major issue for highway system users in both urban and rural areas. In reviewing the fatal and disabling data by county, rates for several counties decreased while others increased (see the maps below and to the right). Analysis of the data at the county level can provide helpful insights into accident trends and types; safety analysts and engineers use this to determine where to recommend strategic safety improvements. Currently, 50% of highway safety improvement funds go to rural counties and 50% goes to urban counties.

Rate of Fatalities Per Capita in the U.S.

Sampling of States
(Public Roads: Highways, City and County Roads)

Traffic Death per 100,000 Population in 2004

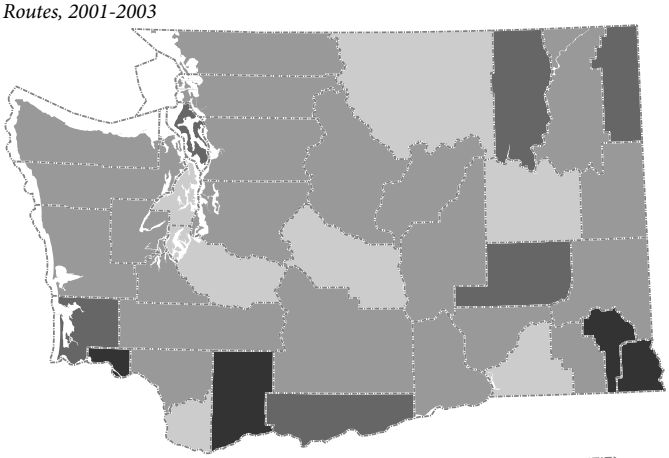


Provided by: WSDOT Traffic Data Office
Source: National Highway Traffic Safety Administration (*Traffic Safety Facts 2004 Book*)

Data Note: This graph represents every other state in order of per capita fatality rate, due to space considerations.

Previous Combined Fatal and Disabling Accident Rate on State Highways by County*

Average Annual Fatality Rate per 100 Million VMT Traveled on Non-Interstate Routes, 2001-2003



Current Combined Fatal and Disabling Accident Rate on State Highways by County*

Average Annual Fatality Rate per 100 Million VMT Traveled on Non-Interstate Routes, 2004-2005

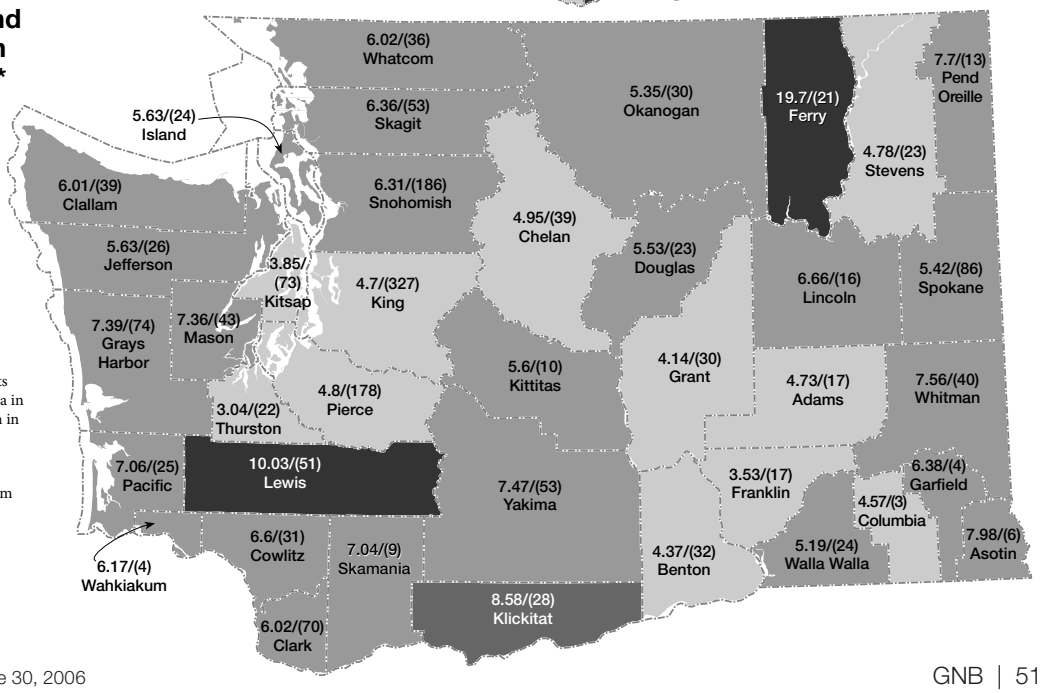
*Total Number of Accidents Shown in Parenthesis**

Fatal/Disabling Accident Rate
< 5 | 5 - 8 | 8 - 10 | > 10

* Note: Combined, Rural, and Urban Rates do not include Interstate.

Federal Law Title 23 U.S. Code Section 409 prohibits the discovery or admission into evidence of this data in Federal or State Court proceedings or consideration in any action for damages.

Source: WSDOT Transportation Data Office
Provided by: WSDOT Systems Analysis and Program Development



Highway Safety: Annual Update

Factors Contributing to the 2005 Highway Fatality Increase

The increase in deaths on public roadways in 2005 is troubling. An initial analysis by WSDOT indicates impaired driving (alcohol and drug influence), speeding, and failure to wear seatbelts continue to be major contributing factors to highway fatalities. In an examination of 2,429 fatal highway collisions from 2000-04, 1,880 (77%) were attributable to at least one of these three major factors. Frequently, more than one of these factors were involved in serious injury and fatal collisions (see graph to the bottom of the page). In 1,106 (46%) of these highway deaths, two or more of these factors were involved; 390 deaths, or 16%, involved all three of these factors.

The Short-Term Goal: Efforts to Immediately Reduce Fatalities on State Highways

Washington saw a 14% increase in fatal and disabling crash rates during the past year after several years of decline; slightly more than one third of that increase occurred on state highways.

Based on analysis of the county-by-county data, recommendations for reducing the fatality rate focus on making improvements through a series of approaches: first, by targeting known locations with recurring accidents; second, by improving short sections of corridors (one to three miles) with accident rates above the average for the roadway type; and third, by making low cost safety improvements (like rumble strips or guardrail upgrades) on routes where there are a large number of accidents throughout the corridor which are not concentrated in a particular spot or short segment. By using this three-prong approach, WSDOT intends to take action against the factors within its control to help reduce fatal and disabling accident rates.

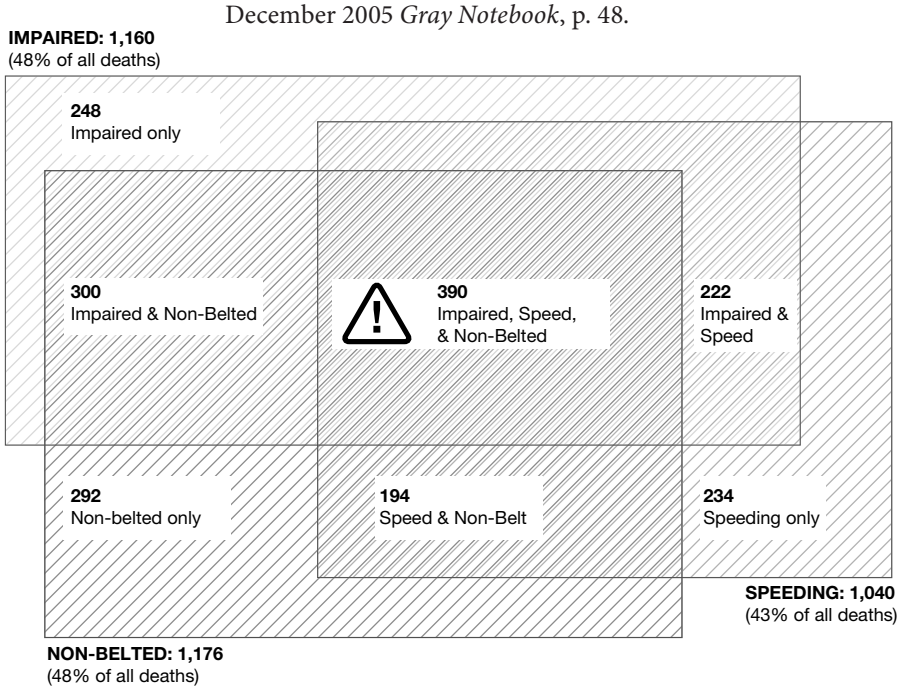
The core of WSDOT's strategy is efficient investments in safety improvements. Around the state, multiple low-cost highway improvements are saving lives almost as soon as they are installed, including centerline rumble strips, cable median barriers (December 2005 *Gray Notebook,* p. 52, and gray box on page 52), guard rails, and improved lighting and pavement markings. The costs for these highway improvements range from $40,000-$200,000 per mile, depending on the type of improvement. Roundabouts (p. 54) are a mid-range highway safety investment; they save lives by allowing traffic to proceed slowly through an intersection, eliminating the chances for high-impact collisions. A roundabout costs between $1 to $5 million to design and install.

WSDOT is also pursuing more costly improvements on high accidents corridors (HACs) and high accident locations (HALs), such as widening roadways or adding new lanes. These highway projects require the approval of the Legislature and cost $1 million to $1.5 million per lane mile; therefore, they are not as cheap or as easy to implement as low cost improvements or roundabouts, and can take several years to completely achieve. For more information on HACs and HALs, see the December 2005 *Gray Notebook*, p. 48.

WSDOT analyzed 2,429 deaths of motor vehicle occupants from 2000 to 2004. WSDOT found 1,880 (77%) involved impairment (alcohol or drugs), speed, or non seat belt use.

Fatal Accident Causes	Number of Deaths
Impairment only	248
Non-Belted only	292
Speeding only	234
Impairment and Non-Belted	300
Impairment and Speeding	222
Non-Belted and Speeding	194
Impairment, Speeding, and Non-Belted	390
Total Fatalities Involving Impairment, Speeding, or Non-Belted	**1,880**

Source: WSDOT Traffic Office



Highway Safety: Annual Update

The Long-Term Goal: Zero Fatalities by 2030

Many of the strategies described on the preceding pages are also part of a long-term objective known as Target Zero: a goal to eliminate fatal collisions on Washington state's public roadway system by the year 2030. Created by the Washington Traffic Safety Commission in the 2000 Highway Safety Strategic Plan, Target Zero incorporates four traditional highway safety components commonly referred to as the four "E"s: enforcement, engineering, education, and emergency services. While WSDOT supports education and emergency service activities, these are typically a function of other agencies, such as the Washington State Patrol and the Traffic Safety Commission. WSDOT takes a more active role in the Enforcement and Engineering components of the four "E"s.

Engineering

Highway safety improvements are WSDOT's primary "Target Zero" focus. As described previously, WSDOT is undertaking several different strategies to engineer safer highways. Focus areas for roadway improvements in the 2000 plan include a reduction in serious and fatal collisions associated with running off the road, crossing the median of divided highways, and running stop signs or red lights at intersections. In addition to the low-cost improvements and roundabouts described on page 54, activities in the plan include bridge rail and guard rail upgrades, installation or upgrading of traffic signal systems, installation of pedestrian-related improvements such as school advance warning signs, crosswalks, and islands, and upgrading standard roadway intersections to freeway style interchanges.

Enforcement

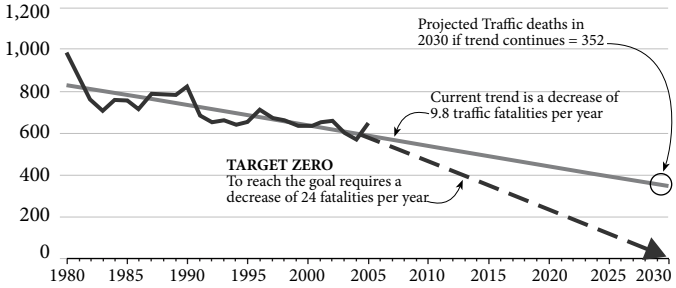
The Traffic Safety Commission, State Patrol, Department of Licensing, and Department of Health take the lead on Target Zero strategies that focus on traffic and driver behavioral issues. WSDOT works with these and other agencies on programs such as *Click It or Ticket*, safety corridor projects, and ticketing aggressive drivers.

In addition to these existing Washington State programs, WSDOT would encourage the examination of photo enforcement. Photo enforcement is based on automated cameras that detect and photograph vehicles which exceed the speed limit or run red lights at intersections. Citations are mailed to the registered owner of the vehicle. They are typically classified and processed like parking tickets rather than as moving vehicle violations. WSDOT is working cooperatively with the Washington Traffic Safety Commission and the Washington State Patrol to pursue policy and potential legislation that involve traffic safety cameras for photo enforcement.

The Highway Safety Strategic Plan is available at www.wsdot.wa.gov/planning/HighwaySafetyPlan.htm

Target Zero: Traffic Deaths in Washington State

1980-2005 Actual, 2006-2030 Projected



Source of data for actual traffic deaths: Fatal Accident Reporting System (FARS)
Provided by: Washington State Traffic Commission

Note: Preliminary Data for 2005

Washington Recognized for Saving Lives with Cable Barriers

USA Today highlighted Washington and several other states in a recent article on the accident-reducing properties of cable median barriers ("Lives saved as highways get cable," July 19th, 2006). Washington State is a leader in implementing cable barriers, with the goal to protect all medians less than 50 feet in width. The department is installing approximately 70 miles of new cable guardrail in eight counties and on nine separate highways across the state. Between 1999 and 2004, cable barrier successfully restrained about 95% of the errant vehicles without involving a second vehicle, whereas W-beam guardrail and concrete barrier successfully restrained about 70% of the errant vehicles without involving a second vehicle.

Roundabouts

WSDOT and a number of Washington State communities have been building roundabouts since 1997. Approximately 94 roundabouts are on the public roadway system in Washington, with 14 on the state highway system. Roundabouts cost between $1 and $5 million to design and build, making them more expensive than low-cost efforts such as rumble strips, but much less expensive than major highway safety projects such as road widening.

Roundabouts are often touted as one of the safest intersection control devices, so their use on the public roadway system is replacing the traditional American approach of stop signs and traffic signals. National studies from the Insurance Institute for Highway Safety show that fatality crashes at an intersection drop 90% after the installation of a roundabout, and injury collisions drop by approximately 76%.

Roundabouts: Before and After Safety Study

To measure roundabout performance in Washington, WSDOT performed a before and after safety study of nine roundabouts located at intersections on the state highway system. The study analyzed urban and rural roundabouts as well as single-lane and multi-lane roundabouts. In all of the locations, collision data was collected for the three years prior to installation of a roundabout. Once roundabouts were open to traffic, collision data was collected in the same locations. The table to the right shows a comparison of the number of fatal and disabling injury collisions and evident injury[2] collisions before and after installation of roundabouts.

Based on the analysis of the nine WSDOT roundabouts, fatal and disabling injuries dropped 80%. In fact, there have been no fatality collisions in the intersections after installation of the roundabouts. Evident injuries dropped an average of 73% at the nine locations. The results show that roundabouts improve safety. While this data represents raw numbers, analysis of rates by month show similar results. Many of the roundabout intersections in the study have also shown reduced average wait times for drivers at the intersection.

Total Collisions in WSDOT Study of Nine Roundabouts by Type of Collision

Before and After Installation of Roundabouts

Type of collision	Collisions Before Installation	Collisions After Installation	Percent Change
Fatal and disabling	5	1[1]	-80%
Evident injury[2]	15	4	-73%

Source: WSDOT Traffic Office

[1]This was a disabling collision. There have been no fatality collisions in any of the nine intersections after installation of the roundabouts.
[2]An evident injury is an injury that is verifiable by the police officer when arriving at the crash location and interviewing occupants of the vehicles (i.e. Lacerations, broken bones, and incapacitation)

European and Australian traffic engineers who have shared information with American traffic engineers have cautioned that the "learning curve" for motorists can cause increases in very minor crashes at multi-lane roundabouts during the "educating motorist" years, usually a period of one to two years. Nevertheless, long-term data supports the installation of roundabouts to increase safety and efficiency in intersections.

Future *Gray Notebook* Highway Safety reports will include more extensive safety analysis on roundabouts as more roundabout intersections are built on the state highway system.

Roundabout at the intersection of SR 903 and Bullfrog Road near Cle Elum, Washington.

Highway Safety: Annual Update

Seatbelt Use in 2005

More Washington Motorists Buckle Up

Not wearing a seatbelt is one of the three key factors driving fatality rates in Washington State (see p. 51 for more about common factors in fatality accidents). The use of seatbelts increases the chance of surviving a collision by up to 70%. Seatbelt use in Washington increased by 1%, from 94.2% in 2004 to 95.2% in 2005. Washington ranked second in the United States, lagging behind Hawaii by 0.1%. Nationwide, Washington was among nine states and U.S. territories which achieved seatbelt use rates of 90% or higher. The others included Hawaii, Nevada, Arizona, Oregon, Michigan, California, Puerto Rico, and Maryland. See the top right table for a comparison of seatbelt use in the top six states.

Of the 50 states and Puerto Rico, 22 have primary enforcement laws: motorists can be stopped solely for not wearing seatbelts. The national average seatbelt use among states with enforcement laws was 85%, with the average among non-primary enforcement states being 75%, a 10% decrease.

Seatbelt Usage Highest in SUVs and Passenger Cars

According to a statewide observation study by the WTSC, seatbelt use in Washington State was highest for SUVs (96%) and for passenger cars (95.6%). The lowest use rate was in pickup trucks (93.4%).

More Motorists Buckle Up on Interstate Highways

The Washington Traffic Safety Commission (WTSC) survey also showed that 96.9% of motorists buckled up on interstate highways. The use rate was lowest (90.5%) on county roads. The bottom right table shows a comparison on seatbelt usage for various roadway types in Washington State.

Percent of Seatbelt Usage

Top Six Ranking States for 2004 and 2005

Rank	State	2005	2004[1]
1	Hawaii	95.3%	95.1%
2	Washington	95.2%	94.2%
3	Nevada	94.8%	86.6%
4	Arizona	94.2%	95.3%
5	Oregon	93.3%	92.6%
6	Michigan	92.9%	90.5%

Source: Traffic Safety Facts: Research Note, DOT-HS 809 907 and DOT-HS 809 932 (USDOT NHTSA)

[1]Not in ranking order, for comparison purposes only.

WTSC Seatbelt Use Rates in Washington

By Roadway Type- 2005

Rank	Road Type	2005
1	Interstate Highways	96.9%
2	US Routes	93.9%
3	State Routes	93%
4	City Streets	92.5%
5	County Roads	91%
	Total Statewide Average	**95.2%**

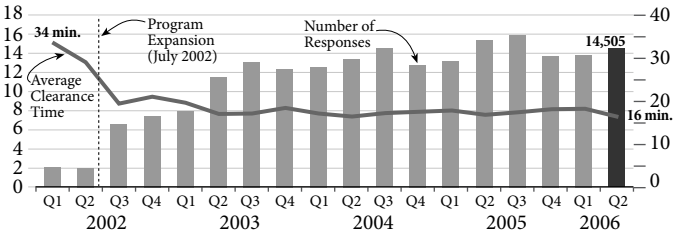
Source: Seatbelt Usage Rates in Washington State, 2005 (Washington Traffic Safety Commission, 2005)

Incident Response: Quarterly Update

In the second quarter of 2006, WSDOT Incident Response (IR) teams responded to 14,505 incidents. This was an increase of 689 (5%) responses from the first quarter (13,816). Second quarter data historically follows a seasonal pattern that begins in the summer, when the number of incidents tends to increase. Overall, the increase to responses this quarter was due to non-collision responses. Responses to collisions decreased by 81 from the first quarter of 2006 (1,688 responses in January-March and 1,607 responses in April-June).

Number of Responses and Overall Average Clearance Time

January 2002 - June 2006
Number in Thousands



Source: WSDOT Incident Response Tracking System

Note: Program-wide data is available since January 2002. Prior to Quarter 3 of 2003, the number of responses by IRT are shown. Beginning Quarter 3 of 2003, responses by Registered Tow Truck Operators and WSP Cadets have been reported in the total.

Decrease in Clearance Time this Quarter: 90 Minutes and Longer

The trend in the number of incidents lasting 90 minutes or more normally follows seasonal ups and downs (see chart on the right); that is, an increase in the late summer through winter, followed by a decrease in the spring. In the second quarter, the total number of incidents lasting 90 or more minutes was 204. This is a 16% decrease from 243 responses in the previous quarter.

Incident Response Types

April 2006 - June 2006

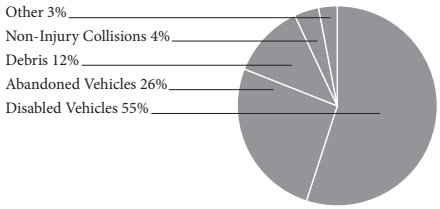
Primary Reason	April	May	June
Fatality Collisions	8	10	9
Injury Collisions	124	118	117
Non-injury Collisions	422	403	396
Disabled Vehicles	2,289	2,736	2,735
Abandoned Vehicles	728	923	890
Debris	362	512	522
Other	120	163	180
Supplemental Reason[1]	**April**	**May**	**June**
Fire	18	27	26
Hazardous Materials	9	9	6
Other Contacts	134	183	206

Source: WSDOT Incident Response Tracking System

[1]Supplemental Reasons are in addition to or as a result of Primary Incident Types.

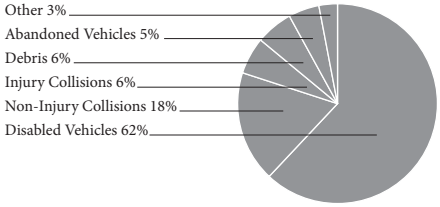
Incidents Lasting Less Than 15 Minutes (8,830)

Injury Collisions were less than 1% (not shown). There were 16 Fires and 2 Hazardous Materials involved incidents in addition to or as a result of above incidents.



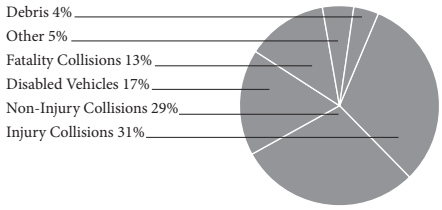
Incidents Lasting 15 to 90 Minutes (4,733)

There were 34 Fires and 6 Hazardous Materials involved incidents in addition to or as a result of above incidents.



Incidents Lasting 90 Minutes and Longer (204)

There were 7 Fires and 12 Hazardous Materials involved incidents in addition to or as a result of above incidents.

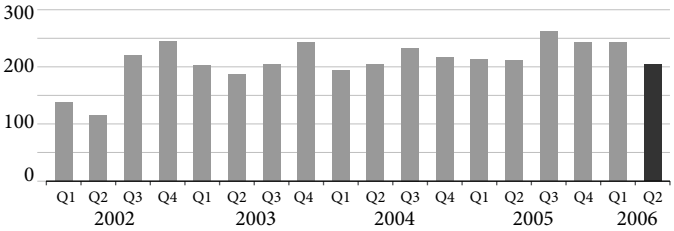


Source: WSDOT Incident Response Tracking System

Note: There were 738 incidents that the IR teams were unable to locate.

Responses to Incidents Lasting 90 Minutes or Longer

January 2002 - June 2006



Source: WSDOT Incident Response Tracking System

Service Actions Taken for Non-Collision[1]

	April	May	June
Traffic Control	493	584	601
Provided Fuel	361	444	383
Changed Flat Tire	260	300	347
Minor Repair	217	258	244
Pushed Vehicle	168	228	212
Towed Vehicle	62	97	73
Cleared Debris	341	484	498
Other Actions	1,307	1,530	1,534

Source: WSDOT Incident Response Tracking System

[1]Most common service actions only - excludes various miscellaneous actions taken. Multiple actions may be taken for each response.

Incident Response: Quarterly Update

Response Increases to Fatality Collisions: Summer of 2005

Analysis of Temporary Increase

On average, 49% of all fatality collisions on State Routes are responded to by the Incident Response (IR) program statewide. In the third quarter of 2005, there was a sharp increase in fatality responses. Despite this increase, clearance time remained relatively steady. In the last three years, the average number of responses to fatalities was 30 per quarter; however it increased to 58 in the third quarter of 2005. The total responses have returned to normal levels over the past three quarters. This report focuses on the fatality collisions responded to by the IR program for the third quarter of 2005; it does not address the annual fatality rates (see p. 50 of the Highway Safety Annual Report for more information on annual fatality rates).

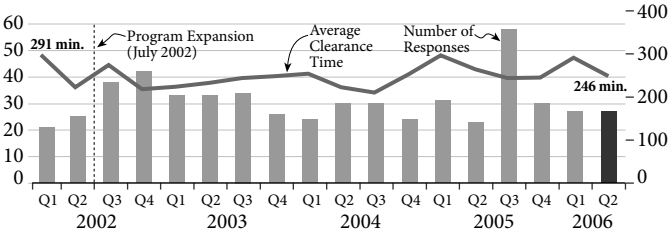
The Incident Response program responds in two ways: roving response and call-out response. For major incidents, such as fatality collisions, call-outs occur 24/7 statewide. The program's main responsibilities are to provide traffic control and to help remove debris or disabled vehicles to limit congestion.

Possible Incident Response External Factors

Compared to the trend for county roads and city streets, there was a large increase of 26 fatality collisions on State Highways in the third quarter of 2005. Generally, when a fatality occurs, emergency responders request assistance by IR teams to manage congestion and to assist with clearing the scene. In the third quarter of 2005, the "dead-at-scene" fatality collision spiked to 61. A total of 24 people died at the hospital, and five died on arrival to the emergency room. However, in the third quarter, the Northwest Region made 26 responses to fatality collisions, higher than the region's 12 response quarterly average. See the map on the below for a distribution of these fatalities responded to by the incident response program. Fatality collisions increased in all regions proportionately.

IR Responses to Fatality Collisions

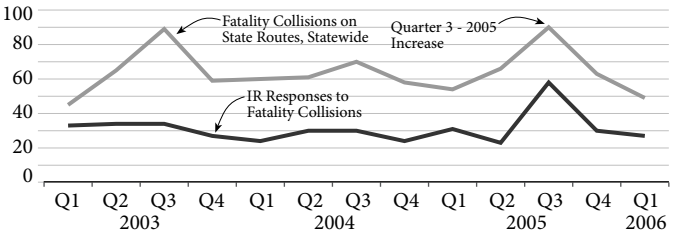
January 2002 - June 2006



Source: WSDOT Incident Response Tracking System

Fatality Collisions on State Routes and WSDOT IR Responses

January 2003 - March 2006

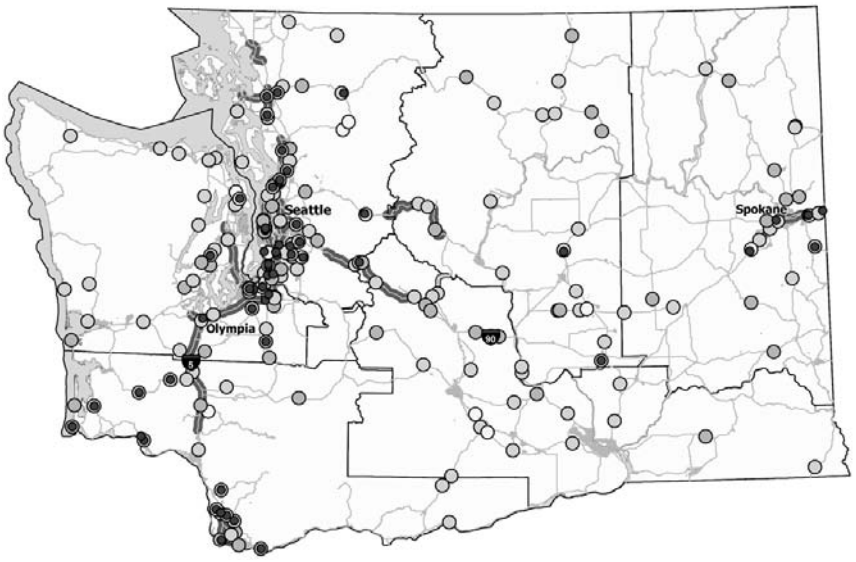


Source: WSDOT Incident Response Tracking System & Traffic Data Office

Fatality Collisions on State Routes and Incident Program Responses

July - September 2005

- IR Program Response
- Dead at Scene (61)
- Dead on Arrival (5)
- Died at Hospital (24)
- IR Roving Zones
- State Routes
- WSDOT Regions



Source: WSDOT Incident Response Tracking System & WSDOT Traffic Data Office

Incident Response: Quarterly Update

Alcohol and speeding tend to result in more serious collisions. In the third quarter of 2005, there was a 67% increase in fatality collisions that involved alcohol and an increase from 12 to 19 fatality collisions that involved speeding. Also, the IR field crew felt that awareness of the program within the Washington State Patrol contributed to the increase in the number of call-out requests in the third quarter of 2005.

Summary of Analysis

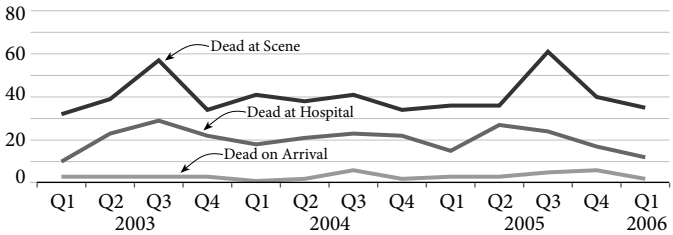
The temporary increase in the responses to fatality collisions in the third quarter of 2005 may be due to multiple factors.

- The major contributor appears to be the above normal increases in the number of fatality collisions on State Highways, a 36% increase from the second quarter of 2005 (from 66 to 90 fatality collisions).
- There were more "dead-at-scene" collisions (a 69% increase from previous quarter), possibly due to increased alcohol and speed factors involved.
- Generally, when a fatality occurs, emergency responders request assistance by IR teams to manage congestion and to assist with clearing the scene. WSP requested IR presence more often due to increased awareness of the program, even in non-fatality collisions.

Limitation of Data Comparison between WSDOT Collision Data Systems and WSDOT's Incident Response Program Data Systems

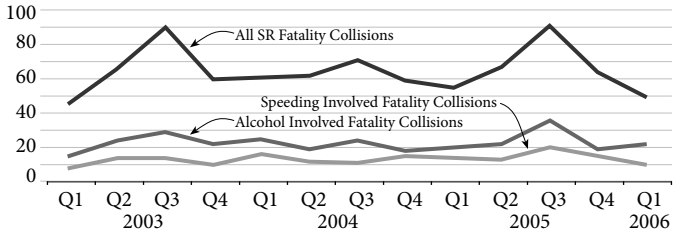
The two data systems collect information for different purposes. The use of the two systems for comparison of fatality collisions should be limited to overall trend monitoring and not looked at on a case-by-case level. See the Highway Safety article on p. 50 that discusses fatality rates using the collision data system.

Fatality Collisions on State Routes
By Type of Fatal Collision
January 2003 - March 2006



Source: WSDOT Incident Response Tracking System & Traffic Data Office

Fatality Collisions on State Routes
January 2003 - March 2006



Source: WSDOT Incident Response Tracking System & Traffic Data Office

Intelligent Transportation Systems Operations: First Annual Update

Running parallel to virtually the entire state highway network is a less visible, but very important, technology infrastructure. This technology infrastructure is typically referred to as Intelligent Transportation Systems, or ITS. ITS includes ramp meters, variable message signs, radio advisories, and several other systems. ITS helps communicate traffic and weather conditions to the public, manage traffic flow, and collect traffic data, among many other valuable functions.

Quantifying the impact that ITS has on traffic congestion can be difficult. Many factors can lead to congestion: the number of cars exceeding road capacity, constraining roadway geometrics, accidents, slow vehicles, erratic drivers, and bad weather. Because of this, it can be difficult and expensive to extract quantifiable performance measures specific to each of the elements of ITS. Where possible in this article, WSDOT tries to provide data on similar systems in other states.

ITS Communications

WSDOT operates a communication system composed of radio, microwave, and fiber optic elements that touch all sections of the road network. This provides radio communications for those maintaining the roads, and condition data for those managing the roads. Data transmitted over the system comes from many ITS elements that are part of WSDOT's overall traffic management efforts. Some of the key ITS elements include:

Closed-Circuit Television Traffic Cameras (CCTV)

WSDOT operates an extensive network of closed-circuit televisions across the state to help detect congestion and accidents, to provide real-time traffic and road condition awareness. The closed-circuit camera sends images to WSDOT's traffic management centers, the WSDOT web site for travelers to see, and to the media. This feature is available at www.wsdot.wa.gov/traffic/.

A Closed-Circuit Traffic Camera provides real-time information to the public on WSDOT's web site.

WSDOT Intelligent Transportation Systems Elements

As of June 30, 2006

Device Type	Number of Devices or Sites	Approximate Cost per Device or Site
Closed Circuit Television Cameras (CCTVs)	478	$15,000-30,000
Variable Message Signs (VMSs)	172	$100,000
Highway Advisory Radios (HARs)	44	$50,000
Road/Weather Information Systems (RWIS)	79	$25,000-$50,000
Ramp Meters	117	$10,000 - $100,000
Traffic Data Collectors	5,000 (Approx.)	$1,000-$10,000
Traffic Management Centers (TMCs)	8[1]	N/A

Source: WSDOT Traffic Operations Office

[1] This includes one winter operations site in the Snoqualmie Pass

Variable Message Signs (VMS)

A variable message sign is an electronic traffic sign used on roadways to provide motorists with important information on traffic congestion, incidents, roadwork zones, travel times, special events, or speed limits. VMSs may also recommend alternative routes, limit travel speed, warn of the duration and location of a problem, or simply provide alerts or warnings.

A recent survey of drivers in Wisconsin found that approximately 68% of respondents reported adjusting their travel routes based on the travel time or traffic information provided by the VMS. About 18% of respondents adjusted their travel routes more than five times per month using this information.[1]

A variable message sign displays travel time information.

[1]From: Ran, Bin et al., *Evaluation of Variable Message Signs in Wisconsin: Driver Survey*, University of Wisconsin at Madison, May 2002. www.dot.wisconsin.gov/library/research/docs/finalreports/45-17variablemessagesigns.pdf

Highway Advisory Radios (HAR)

Low-power AM radio stations installed along the roadway provide highway advisories and general information regarding traffic and travel. The presence of a HAR transmitter is marked by a "Tune to 1610 AM" roadway sign (see picture below). The 1610 frequency is one of several used by HAR radios. A survey of drivers during the Salt Lake City Olympics found that 76% of those who reported seeing HAR signs on the roadway found the information provided by the HAR to be helpful.[2]

Road/Weather Information Systems (RWIS)

A typical Road/Weather Information System station uses instruments and equipment installed along the roadway to measure air and road surface temperature, barometric pressure, humidity, wind speed and direction, precipitation, visibility and road surface condition (dry, wet, freezing). This information is used to inform highway maintenance strategies and provide information to drivers.

In a recent survey, WSDOT road maintenance crews ranked RWIS pavement conditions data as the most useful ITS technology deployed, followed by camera images and radar data on the Internet. Additionally, 94% of responding motorists said web-based road weather information made travelers better prepared for their trips. Over half of the respondents (56%) agreed the information helped them avoid travel delays.[3]

A Highway Advisory Road Sign

Cell Phone and GPS Traffic Detection Systems[4]

Any vehicle on the road can act as a "data probe," relaying travel time, speed, and delay information to data detection devices. When a substantial number of vehicles work as probes, they become a low-cost data collection system covering large geographic areas without the need to install costly roadway monitoring equipment. WSDOT is exploring "data probes" to broaden traffic data collection to better manage the system. Considerable effort is underway to test and develop these systems nationally. Most efforts fall into one of two methods: cell phone and GPS tracking.

Cell Phone Tracking

By tracking the movement of cell phones, it is possible to determine the speed of the cell phone - and the car it is in. By restricting the analysis to phones located on roadways, cell phone tracking provides a means to measure vehicle speeds.

Global Positioning Satellite Tracking

Global Positioning Satellite (GPS) in-car transponder devices can report highly accurate location, heading, and speed information. When combined with electronic map information, GPS devices provide an excellent vehicle location system. Storage and analysis of the GPS location data allows for accurate roadway performance measurement.[4]

WSDOT's Approach

WSDOT is not currently involved in any projects that involve cell phone tracking but may look at this technology in the future. The agency is investigating using tags on commercial vehicles to provide accurate travel times for large trucks, and evaluating GPS tracking of some of the WSDOT maintenance fleet to see what kind of information can be provided. Neither of these methods provide information about traffic volume, only speed and travel times. If probe vehicles are the primary source of performance information, supplemental data collection will be needed for highway use performance measures.

[2]From: Glazer, et al., *Intelligent Transportation Systems at the 2002 Salt Lake City Winter Olympic Games: Event Study Traffic Management and Traveler Information*, Prepared by Iteris, Inc. for the Utah DOT and USDOT FHWA, EDL No. 13850. Washington DC: April 2003. www.itsdocs.fhwa.dot.gov//JPODOCS/REPTS_TE//13850.html

[3]From: *Evaluation of Rural ITS Information Systems Along U.S. 395, Spokane, Washington*, Prepared by Batelle Memorial Institute; Meyer, Mohaddes Associates, Inc. for the USDOT, EDL No. 13955. Washington DC: January 2004. www.itsdocs.fhwa.dot.gov//JPODOCS/REPTS_TE//13955.html

[4]Adapted from: *Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation*, Prepared by Cambridge Systematics, Inc. for the USDOT FHWA. Washington DC: September 2005. http://ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf

Intelligent Transportation Systems Operations: Annual Update

ITS Field Devices

Ramp Meters

Ramp meters are traffic signals on freeway on-ramps which alternate between red and green to control the flow of vehicles entering the freeway mainline. Metering rates are automatically adjusted by the system based on prevailing freeway traffic conditions. A 1999 study of ramp metering found these systems decrease total system travel time by 6-16% and increase average mainline speeds by 13-26%.[5]

A ramp meter controls the flow of traffic onto the highway, increasing average speeds on the road.

Traffic Data Collectors

Traffic data collectors are one of the key set of tools used to track what is happening on the roadways. The most common detector WSDOT uses is the induction loop, a simple low-voltage wire coil buried in the roadway that sends an electrical pulse when a vehicle passes over it (see picture below). Other, less common detectors use infrared, radar, sound, or video imaging to detect vehicles. This data is sent from the roadside to WSDOT traffic management centers to monitor operations, and provide traffic conditions to the web and the WSDOT 511 traffic information hotline.

The data collector information directly supports the WSDOT web site to keep travelers informed of real-time traffic conditions and estimated travel times. See www.wsdot.wa.gov/traffic/seattle/traveltimes/ for WSDOT's travel times page.

An induction loop embedded in the highway collects traffic data and sends it to a traffic management center.

Traffic Management Centers (TMC)

WSDOT operates seven regional Traffic Management Centers. They are the nerve centers for WSDOT's operations activities, gathering real-time information 24 hours a day, seven days a week from many sources including the ITS network, the Washington State Patrol, road crews, WSDOT's incident response teams, and media traffic reporters. WSDOT uses this information to coordinate responses to clear accidents, deal with other problems that occur, and notify the public and the media.

WSDOT's seven Traffic Management Centers are located in Shoreline, Tacoma, Bellingham, Vancouver, Yakima, Spokane, and Wenatchee. Each varies in capabilities and is sized to meet regional needs. The centers in Tacoma, Vancouver, and Yakima are co-located with other operating agencies. WSDOT also has a winter operations center on Snoqualmie Pass.

A study in the Seattle area found that the morning peak period total system delay along a north end corridor was reduced by 1.5% by the operations of the TMC. In addition, the TMC reduced travel time variation by 2.5%, making travel more reliable for drivers.[6]

Inside a WSDOT Traffic Management Center

Using Traffic Data

In addition, to allow the TMCs to monitor and react to traffic problems and to inform drivers of those problems, data from the traffic data collection network is also used to provide a historical and comprehensive record of the state's highway network performance. This provides WSDOT with a better picture of some of the causes of traffic congestion and identifes possible solutions to these specific problems. More information on this topic is available in the annual *Gray Notebook* Congestion and Driver delay Report, last published in the September 2005 edition (p. 57).

[6] From: Hourdakis, J & Machalopoulos, P. (2002). Evaluation of ramp meter control effectiveness in two twin cities freeways. *Transportation Research Record*, 1811, 21-29.

[5] From: Wunderlich, et al., *ITS Impacts Assessment for Seattle MMDI Evaluation: Modeling Methodology and Results*, Prepared by Mitretek Systems for the USDOT FHWA, EDL No. 11323. Washington DC: September 1999. ntl.bts.gov/lib/9000/9700/9756/8qj01.pdf

Travel Information: Quarterly Update

Three Year Anniversary

The 5-1-1 call system offers an easy means to obtain real-time traffic information over the phone. The 5-1-1 system started in July 2003 as a way to enhance travel information throughout the state. The system now offers callers a multitude of options, including roadway conditions, traffic incidents, and weather, as well as information on ferry travel, transit, railway, and airlines. The 5-1-1 phone system was initially operated by voice activation. Touch-tone was added in November 2004. In May of 2006, the 5-1-1 system received over three million calls. Since its inception, the 5-1-1 system has received 3,050,398 calls, its highest monthly total was 421,600 in January of 2006.

The number of calls to 5-1-1 continues to increase. The calls from other WSDOT Travel Information lines (1-800-695-ROAD & 1-206-DOT-HIWY) were forwarded to the 5-1-1 system in January of 2005. In December 2005, the 5-1-1 system was enhanced to double its call capacity from 48 to 96 incoming lines. In February 2006, capacity was again doubled to 192 lines.

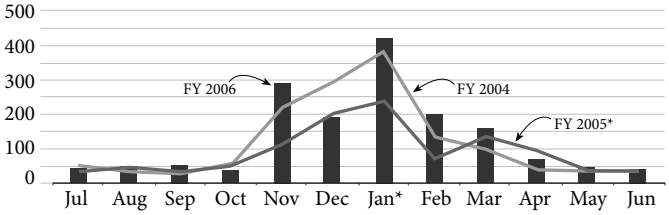
The peaks and valleys shown in the graph to the right illustrate caller usage patterns. The largest peaks tend to be in the winter months when mountain pass conditions rapidly change.

Call Volumes Decrease 20% Since Last Quarter

In the second quarter of 2006, call volumes decreased 20% from the previous quarter. This is a 9% decrease from the same quarter last year. April received the highest call volume (68,660) for this quarter.

Total Calls to Travel Information[1]

(5-1-1, 1-800-695-ROAD, and 206-DOT-HWY)
Three-Year Trend: FiscalYear 2004-06
Numbers in Thousands



Source: BCMS, Traffic Office.

[1] Starting January 2005, 1-800-ROAD and 206-DOT-HWY numbers connect directly to 5-1-1, and the call counts are reported in 5-1-1 call total.

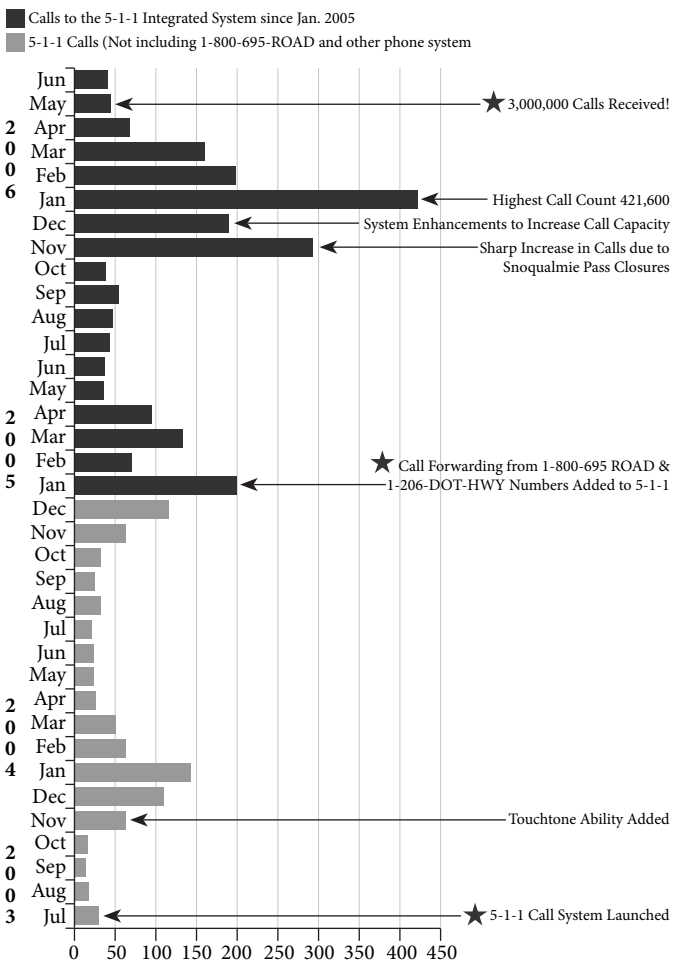
On the WEB: Quarterly Growth

In the second quarter of 2006, WSDOT's website averaged 3.3 million daily page views. This was 29% higher than the same quarter last year. This time last year the site averaged 2.5 million daily page views. This is the first time in the last four quarters that the site did not grow at least 40% over the previous quarter.

5-1-1 Milestones

Three-year Milestones ★

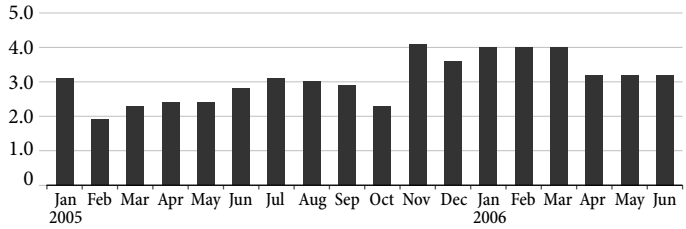
Numbers in Thousands



Source: BCMS, Traffic Office.

Website Usage

Average Daily Page Views: January 2005 to June 2006
In Millions



Source: WSDOT Communication Office

Note: A page view is counted each time a visitor views a webpage on WSDOT's website. Each time a page is refreshed in a user's browser, a page view is recorded. Pages are comprised of numerous files. Every image in a page is a separate file. When visitors look at a page, they may see numerous images, graphics, pictures, etc., each generating multiple hits by a user. For example, a page with 10 pictures will generate 11 hits (10 pictures and one for the html file). This is the reason WSDOT tracks page views and not hits.

Environmental Program: Annual Update

Programmatic Permits: Improving Regulatory Efficiency

WSDOT continues to develop programmatic permits with resource agencies to help simplify and expedite the regulatory process. Programmatic permits provide regulatory coverage for routine activities that have minimal impacts, like some aspects of highway maintenance and preservation work.

The following table displays the types of programmatic permits that have been issued for WSDOT activities by resource agencies such as the Washington Department of Fish and Wildlife (WDFW) and the Department of Ecology (DOE). There are no new permits for 2005, but two are under development.

Environmental Programmatic Permits, 2004-05

Permit Name	Activity Description	Permit Agency	Date Issued	Date Expires	2004 Activities Using Permit	2005 Activities Using Permit
Overwater Structure Maintenance and Repair	Covers all bridge and ferry terminal maintenance and repair including washing, painting, and deck replacement	WDFW	7/16/03	7/15/08	270	972
Beaver Dam Removal Statewide GHPA[1]	Allows the removal of beaver dams within WSDOT right of way	WDFW	7/06/04	8/25/08	94	282
Large Woody Debris Removal Statewide GHPA[1]	Allows the removal of woody debris and up to 50 cubic yards of bed load material at WSDOT water crossing structures	WDFW	6/29/04	6/01/09	47	36
Sediment Test Boring in Marine Waters Statewide GHPA[1]	Allows test boring and sediment sampling for WSDOT projects in all state marine waters	WDFW	3/10/04	2/15/09	5	8
Sediment Test Boring in Fresh Waters Statewide GHPA[1]	Allows test boring and sediment sampling for WSDOT projects in all state fresh waters	WDFW	7/16/03	7/15/08	1	3
Channelized Stream Maintenance	Allows 50 cubic yards sediment removal per project per year	WDFW	6/28/04	6/01/09	3	23
Maintenance of Fishway Facilities	Allows 50 cubic yards sediment removal per project per year	WDFW	6/28/04	6/01/09	1	0
Culvert Maintenance	Allows structural repair and allows 50 cubic yards sediment removal per project per year	WDFW	6/10/04	6/01/09	29	10 [2]
Culvert Replacement in Non-Fish Bearing Waters	Allows replacement of culvert in same location	WDFW	6/10/04	6/01/09	0	0
Marine Pile Removal and Replacement	Allows the replacement and removal of up to 40 piles per project in marine waters	WDFW	3/07/05	3/05/10	New	5
Aquatic Mosquito Control	Allows the application of pesticide to control mosquito species within WSDOT right of way	DOE	5/10/02	5/10/07	24	86
Nuisance Aquatic Plant and Algae Control	Allows the application of herbicide to control non-noxious invasive plant species within right of way	DOE	7/05/02	7/05/07	7	0
Aquatic Herbicide Application	Allows the application of herbicide to control noxious plant species within WSDOT right of way	DOE	6/14/02	6/14/07	5	0
Bridge Washing and Painting	Allows the routine maintenance washing and painting of bridges over water and ferry terminals	DOE	4/03/04	4/03/09	25	37
Pile Replacement and Repair in Freshwater Statewide	Covers the replacement or repair of piles, piers or abutments located on WSDOT structures in freshwater throughout the state of Washington	WDFW	Future permit	N/A	N/A	N/A
Seismic Retrofit in Freshwater Statewide	Covers the seismic retrofit of WSDOT structures in freshwater throughout the state of Washington	WDFW	Future permit	N/A	N/A	N/A

Source: WSDOT Environmental Services Office

[1] General Hydraulic Project Approval

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

Environmental Programs: Annual Update

Improving Fish Passage

Road culverts can be physical barriers interrupting the migration and movement of salmon and resident fish. As scientific knowledge of fish capabilities at various stages of life has increased, culverts originally thought to allow for fish passage have come to be recognized as barriers. Removing these barriers and maintaining unobstructed fish passage corridors for salmon and resident fish is important for supporting the long-term recovery strategies for these species.

Inventory of Fish Passage Barriers

Since 1991, WSDOT and the Washington Department of Fish and Wildlife (WDFW) have worked cooperatively on a program to inventory and prioritize barrier culverts on streams that flow under our state highways. To date, WDFW has completed the WSDOT barrier inventory for 92% of culverts on the west side of the state. The total amount of inventory equates to 3,784 road miles out of a total of 7,045 miles, or 54% of the total highway system.

WDFW has inspected 803 of 5,853 highway crossings since last year, identifying 1,136 WSDOT-owned fish passage barriers where modification to the culvert or other water crossing would result in significant habitat gain. WSDOT has removed 180 of these barriers, improving access to more than 411 miles of stream habitat. To achieve the full environmental value of this work, other non-WSDOT barriers will also need to be corrected in the future.

2005 Fish Passage Barrier Removal Projects

Since the last report in the March 31, 2005 *Gray Notebook*, 12 fish passage barrier projects have been completed. The three projects listed below were completed in 2005 using dedicated funding to fix the highest-priority fish barrier sites.

SR 20 near Mazama, Little Boulder Creek (milepost 181.34)
A new 26-foot-wide arched culvert replaced a 10-foot wide culvert with a six foot outfall drop (see pictures on right). The new culvert will allow chinook salmon and resident cutthroat trout access up to three miles of upstream habitat.

SR 106 near Union, Skobob Creek (milepost 0.85)
A 121-foot single span bridge replaced a six-foot concrete box culvert. Coho and chinook salmon, steelhead, and resident and sea-run cutthroat trout can now easily access over 500 acres of habitat. This project was a cooperative effort undertaken among WSDOT, the Hood Canal Salmon Enhancement Group, and the Skokomish Tribe.

SR 92 north of Lake Stevens, Stevens Creek (milepost 0.47)
A 13-foot concrete box culvert replaced a single three-foot round culvert, restoring access to over a mile of potential habitat for coho and kokanee salmon and other fish species.

2006 Fish Passage Barrier Removal Projects

The following stand-alone fish passage barrier projects will be completed during Summer 2006. For more information about these projects and others, see the May 2006 Progress Performance Report for WSDOT Fish Passage Inventory at www.wsdot.wa.gov/environment/fishpass/state_highways.htm and click on the 2006 report.

Fish Passage Barrier Removal Projects 2006

Project Location (milepost)	Project Actions to Improve Fish Passage
U.S. 2 near Stevens Pass (70.21)	Replace an existing 11-foot metal culvert at Mill Creek with a 38-foot, bottomless plate arch culvert
SR 20 at Methow Valley near Twisp (205.82)	Replace two four-foot round pipes and a six-foot box culvert with a new 26-foot box culvert at Beaver Creek
SR 20 at Methow Valley near Twisp (206.87)	Replace two three-foot culverts at Frazer Creek with a 15-foot, three-sided structure
SR 112 at Bear Creek near Joyce (54.35)	Replace a six-foot-wide box culvert with an 18-foot-wide, three-sided concrete structure
SR 112 near Clallam Bay (24.91)	Replace two three-foot round culverts on a Physt River tributary with a 14-foot-wide concrete box
SR 142 at Snyder Canyon Creek (13.4)	Remove the existing concrete apron on the box culvert, and replace with a well-graded streambed to simulate natural stream conditions
SR 142 at Bowman Creek (20.2)	Remove a 12-foot box culvert and replace with a 60-foot bridge

Source: WSDOT Environmental Services Office

BEFORE
SR 20 near Mazama, Little Boulder Creek: A ten-foot culvert with a six foot drop created a fish passage barrier.

AFTER
A new 26-foot wide culvert replacement on Little Boulder Creek contains no drop and restores fish passage.

Environmental Program: Annual Update

Noise Quality: Quieter Pavement Test Sections

Traffic noise is a growing concern for many people who live near major roadways and fast moving highways. When cars and trucks move at over 50 mph, 70% to 90% of the noise comes from the contact between tires and pavement. Although noise barriers like walls and earth berms can be effective at reducing noise for people who live next to roadways, WSDOT is looking for other ways to reduce noise for residents living further away and in locations where noise barriers are less effective. WSDOT is currently developing and installing quieter pavement surfaces in test locations to evaluate their effectiveness.

To be useful, this pavement surface needs to provide traction for safety, a smooth ride, adequate strength to support traffic, and long-term durability to minimize life cycle costs. It must also be quieter than other roadway surfaces (such as concrete and hot mix asphalt) over a sufficient period of time to be cost effective.

Hot mix asphalt pavements can be made quieter by placing an open-graded friction course, which is composed of smaller, more uniformly sized rocks that results in air pockets. Portland Cement Concrete can be made quieter one of two ways: (1) by diamond-grinding grooves in a pattern similar to corduroy into the surface of the existing pavement, or (2) by either longitudinally tining, or dragging Astroturf™ over, the wet surface of a new concrete pavement (see gray box for more information on these terms). All of these techniques allow some of the noise energy to be captured in the pavement and dissipated as heat.

Vocabulary for Quieter Pavement Testing

Carpet drag: Dragging Astroturf™ over the surface of new, wet concrete.

Transverse tining: "combing" the wet concrete surface across the lanes of traffic

Longitudinal tining: "combing" the wet concrete surface in the direction of traffic

OGFC-AR: open-graded friction course modified with asphalt rubber binder

OGFC-SBS: open-graded friction course modified with polymer modified binder

HMA: hot mix asphalt (WSDOT "standard" paving material)

Diamond ground concrete: grinding the surface bumps off of worn concrete and creating a corduroy-like texture in the direction of traffic.

Quiet Pavement Test Performance Measures

WSDOT is currently placing test sections of the quieter pavements in several locations around the state (see table on the next page). The agency will evaluate these test sections for a minimum of five years for both pavement and noise qualities. The evaluation will measure pavement smoothness, friction, wear (from studded tires), cracking, and how long the noise reduction benefits last.

Quiet Pavement Measures for Statewide Test Sections

Pavement Condition Measures: Measured twice per year for five years (once in Spring and once in Fall)	
Measures	**Measurement Technique**
Smoothness	Smoothness levels are collected with a high accuracy laser measurement system
Friction	Friction assessment are collected with the WSDOT friction tester
Wear (aka Rutting)	Wear/Rutting levels are collected with a high accuracy laser measurement system
Cracking	The WSDOT pavement condition van collects images of the roadway surface for assessing pavement cracking.
Noise Tracking Measures: Measured once per month for the first year, re-evaluate frequency after the first year results are available	
Measures	**Measurement Technique**
Noise quantity (decibels)	1. A microphone placed on the wheel of a specially-equipped WSDOT car will measure the sound intensity of direct tire-against-pavement noise. This includes the "slap" as the tread hits the pavement, the "slip" of friction on the roadway surface, and the "snap" when the tread leaves the pavement surface. 2. A noise meter on the side of the road will measure the noise of vehicles passing by. 3. A noise meter will measure sound inside a vehicle, emulating a person in a car.
Noise quality (noise frequency ranges)	Same as above

Source: WSDOT Materials Laboratory and WSDOT Environmental Services Office

Noise Quality: Quieter Pavement Test Sections

The noise evaluation will be broken up into two criteria: quantity and quality. WSDOT will evaluate the quantity of noise by measuring total decibels coming from the tire to pavement interface. Quality will be evaluated by measuring the frequencies of sound generated from the tire to pavement interface. Higher frequencies tend to be more bothersome, while lower frequencies tend to be more soothing. WSDOT will post the results of pavement and noise testing on its website so the public can follow the progress of the studies: www.wsdot.wa.gov/biz/mats/pavement/QuieterPavements/.

To date, a states such as Arizona and California have evaluated quieter pavement options. On average, the quieter pavements have reduced the noise level by about four decibels, with slightly higher noise reductions accruing when the pavements are new. Washington State's testing, compared with other states, will factor in how studded tire wear and wetter climates affect the durability of quieter pavements and their noise benefits over time.

Washington State Highway Noise Reduction Test Sites

State Route	Construc-tion Year	Project Location	Test Section Comparisons[1]	Existing Pavement Type	Expected Knowledge Gained
I-90	2004	Argonne Rd to Sullivan Rd (Spokane)	Carpet drag Transverse tining	New concrete	Noise and pavement durability in lower volume traffic with high studded tire use
I-5	2005	Federal Way to 317th Street HOV Direct Access	Carpet drag Transverse tining	New concrete	Noise and pavement durability in high traffic environment
I-5	2006	Pierce County Line to Tukwila	Carpet drag Longitudinal tining Transverse tining	New concrete	Noise and pavement durability in high traffic environment
I-5	2006	52nd Avenue West to SR-526 (southbound only) (Lynnwood)	OGFC-AR (approx. ¾ mile) OGFC-SBS (approx. ¾ mile) HMA (remaining project length)	Hot mix asphalt pavement	Noise and pavement durability of two types of asphalt quieter pavement compared to standard asphalt in high traffic environment (including truck traffic)
I-405	2008-09	112th Avenue SE to SE 8th Street (north and south bound)	OGFC-AR (approx. 1 mile) OGFC-SBS (approx. 1 mile) HMA (approx. 1 mile) Diamond ground concrete	Hot mix asphalt and concrete pavement	Pavement durability of two types of asphalt quieter pavement overlaid on concrete pavement and noise durability of a diamond ground concrete surface
SR 520	2007	Test section location to be determined (east and west bound)	OGFC-AR (approx. ½ mile) OGFC-SBS (approx. ½ mile) HMA (approx. ½ mile)	Hot mix asphalt pavement	Noise and pavement durability of two types of asphalt quieter pavement compared to standard asphalt for wayside homes because it covers both directions of traffic

Source: WSDOT Materials Laboratory and Environmental Services Office

[1]For definitions of these test sections types, see the gray box on p. 65.

Environmental Program: Annual Update

WSDOT's Operational Improvements to Support Air Quality

Diesel emissions from transportation affect air quality and health for many people in Washington. WSDOT is reducing diesel emissions in a variety of ways and looking for additional opportunities in the future.

Yakima Diesel Retrofit Pilot Project Cuts Emissions 30%

In 2005 and early 2006, WSDOT worked with the Yakima Regional Clean Air Authority and the Washington Department of Ecology to retrofit WSDOT's diesel vehicles and equipment around the cities of Yakima, Union Gap, and Selah with filters that reduce soot and pollutants about 30%. This pilot project retrofitted 29 vehicles and equipment with tailpipe catalysts and 24 engine blow-by filters. The project was funded through a $75,000 U.S. Environmental Protection Agency Grant and an additional $9,000 from the Washington State Department of Ecology.

To assure success, Ecology helped WSDOT test engine fitness. An expert engine team from Pacific Marine and Donaldson worked with WSDOT mechanics to identify the right equipment sizes on which to install the retrofits. To date, the vehicles and equipment retrofitted in the three cities have performed well and WSDOT anticipates the retrofits will help keep emissions in check for the life of the vehicles.

Example of a light-emitting diode (LED) arrow sign board.

WSDOT Applies for More Retrofit Funding to Take a Bite out of Pollution

LED Lights Save Fuel and Reduce Pollution

WSDOT has partnered with the Oregon State Department of Transportation (ODOT) to re-apply for a $400,000 grant through the West Coast Diesel Collaborative in January 2007. This grant would be used to replace incandescent lights on 152 arrow sign boards and warning lights with low energy use, light emitting diode (LED) lights. These retrofits would be placed on state maintenance vehicles. Replacement of these lights would allow WSDOT to turn off vehicle engines while still running warning lights when on the job. This will save fuel, reduce tailpipe pollution, reduce greenhouse gas emissions, and reduce engine wear from usage.

Retrofitting WSDOT's Maintenance Vehicles Will Reduce Pollution

WSDOT applied for $1.5 million to retrofit maintenance equipment in the Puget Sound area using federal Congestion Mitigation Air Quality (CMAQ) funding. Three types of retrofits in King, Pierce, and Snohomish counties will be part of this project, if funding is approved.

- Replacement of incandescent warning lights with LED lights (like the Collaborative grant above) on about 160 vehicles.
- Replacement of standard diesel exhaust systems with diesel oxidation catalysts which reduce soot and tailpipe exhaust on about 260 vehicles.
- Installation of filters that reduce diesel emission straight from the engines on about 260 vehicles.

The engine and exhaust retrofits will reduce tailpipe pollution by about 30%. The LED retrofits will reduce emissions (including greenhouse gases) by 100% for the period when engines are turned off. This application has moved through the first round of recommendations, with final decisions due from the Puget Sound Regional Council on October 26th, 2006.

Example of truck targeted for LED light replacement.

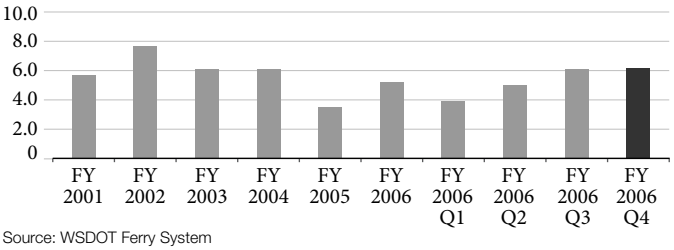
Washington State Ferries: Quarterly Report

Customer Feedback

In the fourth quarter of fiscal year (FY) 2006, WSDOT's Ferry System completed 41,915 trips. There were 6.1 million riders this quarter, and a total of 378 complaints. Complaints per 100,000 customers were 6.2, a 2% increase from the preceding quarter and a 71% increase from the same period last year. The fourth quarter fiscal year 2006 includes the months of April 2006 through June 2006.

Total complaints for FY 2006 were up 58% from the previous fiscal year. However, fiscal year 2005 was the best year on record, and fiscal year 2006 performance is the second best year on record.

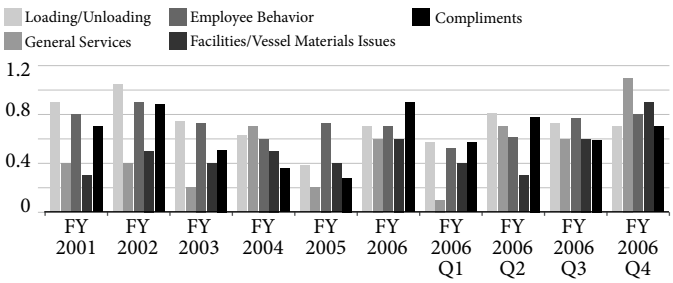
Total Number of Complaints per 100,000 Customers



Source: WSDOT Ferry System

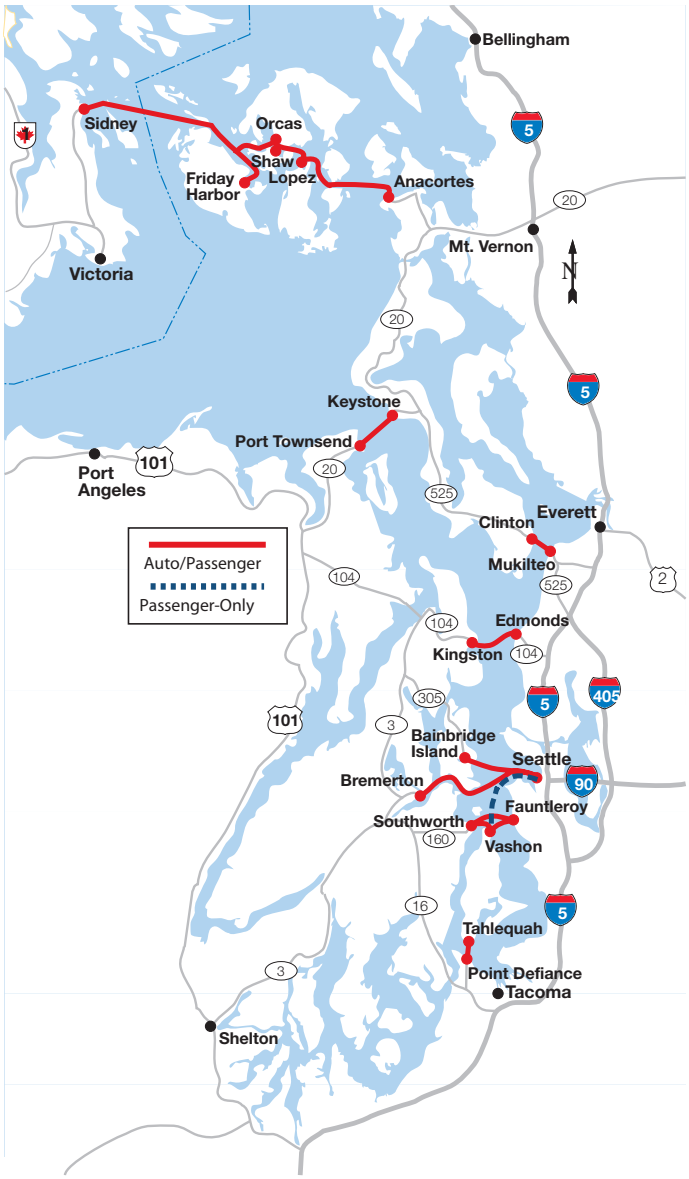
A total of 64 complaints about general service issues were received this quarter compared to 28 total complaints last quarter. This represents 1.1 complaints per 100,000 customers. In the same quarter last year, the Ferry System received only one complaint in this category. The increase was a result of a combination of seasonal increases of tourists and specific events such as the Seattle terminal evacuation on June 14, 2003. The second highest incident of customer complaints was in the facilities/vessel materials issue category. The Ferry System experienced 55 complaints in this category, or 0.9 complaints per 100,000 customers. This is a 58% increase from the preceding quarter and an 89% increase (an increase of 26 complaints) from the same period last year. The new satellite ratio at Colman Dock and the new security announcements introduced this quarter

Common Complaints Per 100,000 Customers



Source: WSDOT Ferry System

Cyclists getting off the ferry.



Washington State Ferries: Quarterly Report

received a large number of complaints. Customer compliments for the fourth quarter of FY 2006 increased by 10 (0.7 per 100,000) from the preceding quarter.

Trip Reliability

In the fourth quarter of FY 2006, there were 42,060 scheduled trips, of which 188 were cancelled; however, 43 make-up trips were made. The resulting number of completed trips was 41,915. Total completed trips is the actual trips after deducting net cancellations and adding make-up trips (42,060 – 188 + 43 = 41,915). The table on the right shows a system-wide average reliability index. Using this index, the Ferry System cancels an average of 1.4 ferry trips per year for a commuter who travels 200 days a year and makes 400 trips annually. This equates to an average of 0.02 trips per thousand riders. This is a 63% improvement in performance compared to the preceding quarter and a 100% improvement from the same period last year. This increase in trip reliability is related to completion of the planned closure at the Point Defiance-Tahlequah terminals during the preceding quarter (102 trips were cancelled during the closure).

In FY 2006, the Ferry System cancelled an average of 1.6 trips for a commuter who makes 400 trips annually.

On-Time Performance

This quarter, on-time trip performance totaled 37,950 trips and represents the total number of trips captured by the automated on-time monitoring system. In the fourth quarter of FY 2006, the average delay was 20% higher (0.6 minutes) than the preceding quarter (3.6 minutes average delay for this quarter).

Reliability Index

Average Annual Missed Trips per Commuter

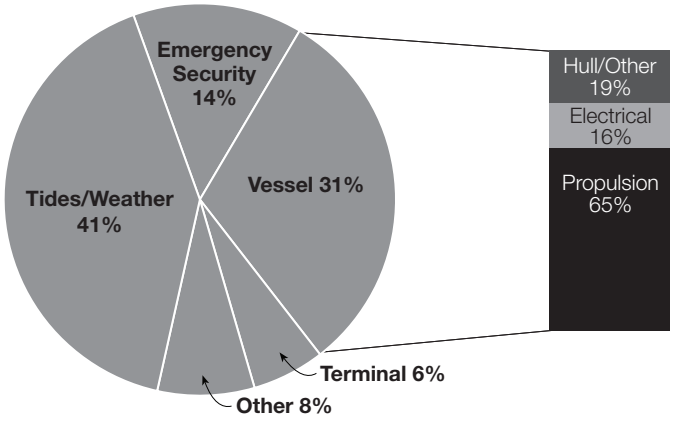
FY 2001	1.6
FY 2002	2.3
FY 2003	1.7
FY 2004	2.2
FY 2005	1.5
FY 2006	1.6
FY 2006 Qtr 4	1.4

Source: WSDOT Ferry System

A total of 81 trips for the Port Townsend-Keystone route were cancelled due to the weather and/or tides. In fact, excluding trips lost to tidal conditions at Keystone, WSF completed 99.1% of all trips and had a reliability index of 0.4, per legislative direction. For FY 2006, WSF's performance adjusted for Port Townsend-Keystone was 99.94% trip delivery and a reliability index of 0.2. WSF continues to study alternatives and in harbor options at Keystone.

Most Common Trip Cancellations

Fourth Quarter, Fiscal Year 2006



Source: WSDOT Ferry System

	Fourth Quarter FY 2005			Fourth Quarter FY 2006			FY 2006		
Ferries	Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time	Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time	Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time
San Juan Domestic	6,011	84%	4.1 minutes	5,943	89%	2.8 minutes	25,896	84%	3.8 minutes
International Route	218	73%	7.9 minutes	14	100%	0.7 minutes	638	78%	8.2 minutes
Edmonds-Kingston	4,493	96%	3.0 minutes	4,500	96%	3.0 minutes	18,015	90%	4.2 minutes
Pass-Only Seattle-Vashon	988	99%	1.7 minutes	369	99%	2.1 minutes	1,812	98%	2.1 minutes
Fauntleroy-Vashon-Southworth	9,526	94%	3.2 minutes	9,560	93%	3.4 minutes	40,633	91%	3.7 minutes
Keystone-Port Townsend	7,720	89%	3.9 minutes	1,717	88%	4.5 minutes	8,469	86%	5.0 minutes
Mukilteo-Clinton	6,421	99%	1.9 minutes	6,421	99%	2.0 minutes	26,315	97%	2.5 minutes
Pt. Defiance-Tahlequah	3,040	97%	2.7 minutes	2,952	98%	2.6 minutes	12,036	95%	3.5 minutes
Seattle-Bainbridge Island	4,046	96%	3.2 minutes	3,976	95%	3.5 minutes	16,267	90%	4.4 minutes
Seattle-Bremerton	2,475	98%	2.4 minutes	2,498	98%	2.6 minutes	9,778	98%	2.8 minutes
Total	**38,938**	**94%**	**3.0 minutes**	**37,950**	**94%**	**2.9 minutes**	**159,859**	**91%**	**3.6 minutes**

Source: WSDOT Ferry System

Washington State Ferries: Quarterly Report

A total of 91% of trips sailed on-time, a slight decrease from the preceding quarter (3.2%). A trip sailing on-time will be within ten minutes of its published sailing schedule.

The table at the bottom of the previous page compares on-time performance across the system for the fourth quarters of FY 2005 and FY 2006. Comparing these quarters, the average delay time improved slightly from a 3.0 minute delay to a 2.9 minute delay per departure. The average percentage of trips sailing on-time remained the same for both quarters (94%).

In FY 2006, the Ferry System completed 159,859 trips compared to 160,743 from the previous year, a decrease of 884 trips. There was an average delay of 3.6 minutes for all trips. This time was a 0.2 minute decrease (5.6%) from FY 2005. In FY 2006, 91% of trips sailed within ten minutes of their scheduled departure time. This was a 1% improvement from the previous year.

Ferries Life Cycle Preservation Performance

The Ferry System plans to replace or refurbish 76 Category One systems and 82 Category Two systems during the 2005-07 biennium. Through the end of the fourth quarter of FY 2006, 21 Category One systems and 20 Category Two systems have either been refurbished or replaced.

The work plan addresses backlogs in the systems that are past due, and on-going deterioration of remaining systems. It measures the impacts and investments by life cycle ratings. Based on the level of investment improvements authorized by the 2005 Legislature, the life cycle rating of Category One terminal and vessel systems is projected to increase from 80% to 81% from the beginning to the end of the biennium. Category Two system life-cycles are projected to increase from 51% to 52% this biennium.

The actual to planned Category One and Category Two Terminal and Vessel Preservation projects sometimes do not align. The actual number and type of systems preserved is dependant on vessel availability. A preservation activity may be postponed because the vessel cannot be taken out of service as planned. Also, the time window a particular vessel can be taken out of service can change, so other vessels may be preserved earlier or later than planned in the biennium.

Explanation of Key Terms

Systems Preserved - This measure focuses on performance of work planned and work delivered. The work measured is the number of terminal and vessel systems refurbished or replaced.

Life Cycle Rating - A life cycle rating is a percentage calculated by dividing the number of system structures weighted by their costs that are within their life cycle by the total inventory of systems weighted by costs. This measure focuses on program performance. It reflects the favorable impact of the organization's work achieved, offset by the unfavorable impacts of deferred preservation backlogs and on-going deterioration of the infrastructure.

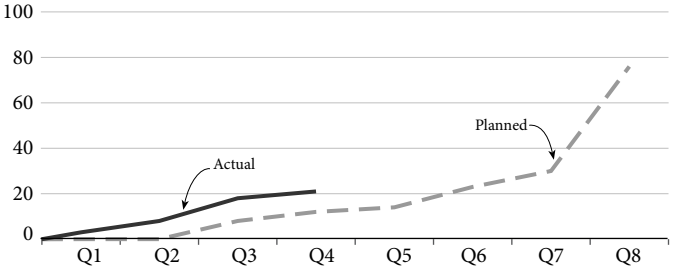
In January 2001, the Legislature's Joint Task Force on Ferries recommended WSDOT work toward achieving a life cycle rating for Category One systems between 90% and 100% and for Category Two systems between 60% and 80%. The Task Force set FY 2011 as the target year for achieving this objective.

Category One systems are those designated by regulatory agencies as "vital" to the protection of people, the environment, and infrastructure. Included are vessel and terminal systems necessary to start, keep in motion, stop, land, and unload a vessel.

Category Two systems are all other terminal and vessel systems.

Category One Terminal and Vessel Preservation Performance

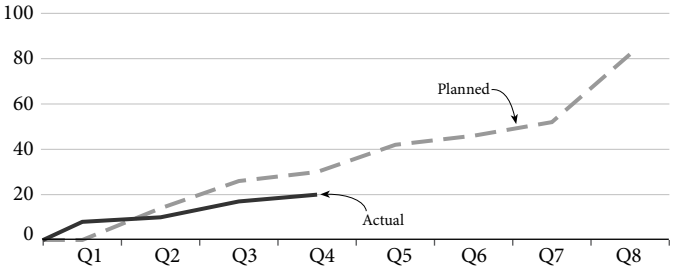
Cumulative Planned Projects vs. Actual Systems/Structures Preserved
Change in Life Cycle Cost Rating
Fourth Quarter, 2005-07 Biennium



Source: WSDOT Ferry System

Category Two Terminal and Vessel Preservation Performance

Cumulative Planned Projects vs. Actual Systems/Structures Preserved
Change in Life Cycle Cost Rating
Fourth Quarter, 2005-07 Biennium



Source: WSDOT Ferry System

Washington State Ferries: Quarterly Report

Capital Expenditure Program

WSDOT makes capital investments in the Ferry System through the WSF Construction Program. This program preserves existing terminals and builds new ferry terminals and vessels. The resulting infrastructure gives the Ferry System the physical capability to deliver responsible and reliable marine transportation services to riders.

At the end of June 2006, a total of $90.1 million was spent for the 2005-07 biennium on capital investments. The total expenditures planned through June 2006 were $95.3 million. Currently, the Ferry System is $5.2 million under its planned expenditures. There are three reasons for this:

Vessel Construction Biennium-To-Date
Vessel construction biennium-to-date activities are under spending the plan by $2.2 million.

Terminal Construction Biennium-To-Date
Terminal construction activities are under spending the plan by $2.8 million.

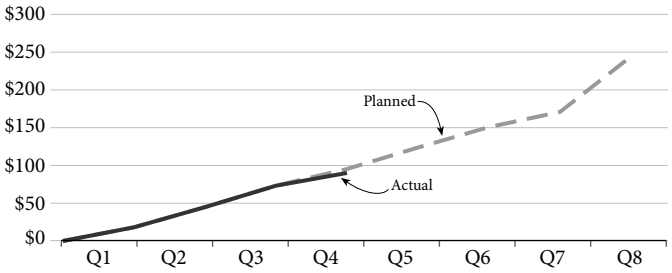
Emergency Repair Biennium-To-Date
Emergency repair activities are under spending the biennium-to-date plan by $0.1 million.

Ridership and Revenues

Fiscal year to date, ridership is slightly lower than the forecasted plan by 0.4%, or roughly 94,000 passengers. However, ridership is virtually the same compared to the same quarter last year. Passenger only ridership on the Vashon-Seattle ferry route is 27.5% lower than the same period last year, or 34,000 passengers. Under direction from the Legislature, the Ferry System reduced service in September and now offers passenger-only service to Vashon Island for the morning and the afternoon commutes.

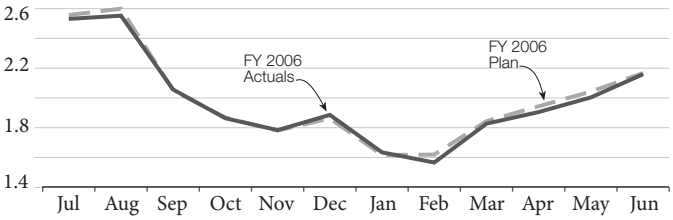
Fiscal year to date, the Ferry system has received nearly $140 million in revenues, which is 5.2%, or $6.9 million more in fare revenue than the same period last year. When compared to the forecasted plan, revenues are up $1.5 million, or 1.1% above plan.

Construction Program Expenditures
Washington State Ferry System
Through Fourth Quarter, 2005-07 Biennium
Cumulative Dollars in Millions
Authorized vs. Actual



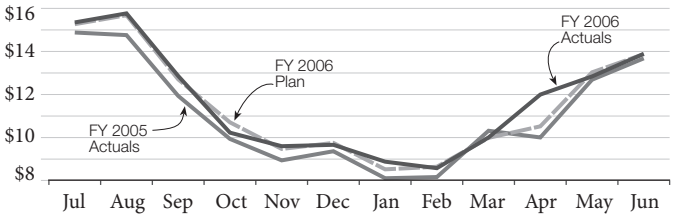
Source: WSDOT Ferry System

Ridership by Month
Fiscal Year 2006
In Millions



Source: WSDOT Ferry System

Farebox Revenues by Month
Fiscal Year 2005-06
Dollars in Millions



Source: WSDOT Ferry System

Rail: Quarterly Update

State-Supported Amtrak *Cascades*

Ridership

Ridership on state-supported Amtrak *Cascades* trains totaled 106,334 in the second quarter of 2006. This total is 2.4% below the second quarter total for 2005. Ridership was down 6.8% in April and 3.4% in May when compared to the same months in 2005. However, it rebounded in June to surpass the 2005 monthly total by 2.8%.

In the first six months of the year, state-supported Amtrak *Cascades* ridership totaled 183,668, which is almost 6% lower than the first half of 2005. Winter mudslides, poor on-time performance, and fewer seats available due to repairs on four Amtrak *Cascades* coach cars contributed to the drop in ridership levels. WSDOT expects the ridership gains observed in June to continue through the rest of the year, which will primarily be driven by a new daily round trip added to the Amtrak *Cascades* schedule on July 1, 2006.

On-Time Performance Improves Slightly

On-time performance for state-supported Amtrak *Cascades* trains averaged 49% in the second quarter of 2006, compared to 39.5% in the first quarter of 2006. While on-time performance improved 24% when compared to the last reporting quarter, it is still below WSDOT and Amtrak's goal of at least 80% on-time.

In early May 2006, WSDOT, BNSF Railway, and Amtrak management met to discuss Amtrak *Cascades*' low on-time performance. The goal was to identify and implement strategies to bring Amtrak *Cascades* schedule reliability up to the goal of 80% on-time or better. Since the meeting, total delay minutes experienced by all Amtrak *Cascades* trains (from Eugene, Oregon to Vancouver, B.C.) fell from 3,333 minutes per week in mid-May to 2,367 minutes per week in early June. However, by the last week of June, total delay minutes per week rose to 3,161. This increase was caused by freight train interference from Union Pacific trains between Eugene and Portland. There were also several major track improvement projects on the BNSF main line in Washington that caused trains to slow down during construction.

WSDOT is hopeful that recent efforts to modify some operating practices by BNSF and a reduction in mechanical problems experienced by Amtrak will continue to drive Amtrak *Cascades* on-time performance toward the goal of 80% or better.

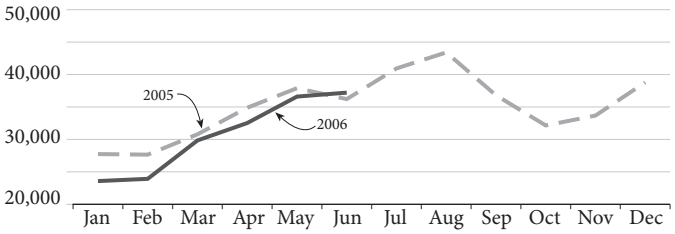
New Amtrak *Cascades* Service Added

In the second quarter of 2006, WSDOT and Amtrak worked together to prepare for the launch of a fourth Amtrak *Cascades* round trip train between Seattle and Portland. Inaugural celebrations were arranged for the train stations in Bellingham, Seattle, Centralia, and Portland. Local media were also contacted in advance. This resulted in several articles in Pacific Northwest newspapers and stories on local television.

The new service began operations on July 1, 2006. An analysis of the ridership impact of this new daily round trip train will be featured in the next *Gray Notebook*.

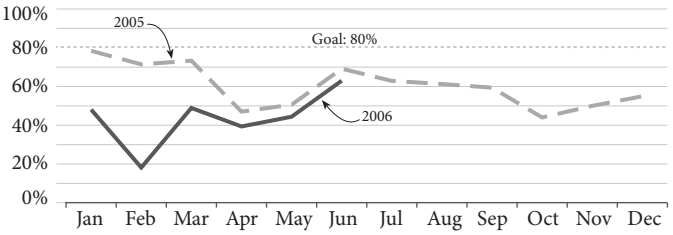
WSDOT Secretary Doug MacDonald commemorates expanded Amtrak *Cascades* service on July 1, 2006.

State Supported Amtrak *Cascades* Monthly Ridership
2005-06
Number of Passengers



Source: Amtrak and WSDOT Rail Office.

State Supported Amtrak *Cascades* On-Time Performance
2005-06
Number of Passengers



Source: Amtrak and WSDOT Rail 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.

Rail: Quarterly Update

State Supported Amtrak *Cascades* and Washington Grain Train

WSDOT initiated the Grain Train program to help alleviate a shortage of grain cars. Since its inception, the Grain Train has become a financially self-sustaining transportation program. It supports the state's agricultural community, while helping short line railroads maintain a sufficient customer base for long-term financial viability.

WSDOT Repositions Grain Train Cars

WSDOT and the Port of Walla Walla own 89 grain cars which help Washington farmers move grain to market. There are 29 cars positioned on the Columbia Basin Railroad, which extends from Moses Lake to Connell. These cars continue to be used regularly to carry grain to the Port of Portland, the Port of Vancouver, and the Port of Kalama.

Late last year the cost to ship grain to the coast on the Palouse & Lewiston branch (P & L branch) of the Palouse River and Coulee City Railroad (PCC) rose sharply. The P & L branch also extends to Pullman on the BNSF mainline near Cheney. The increase in costs made it economically impossible for farmers to ship grain to the coast by rail.

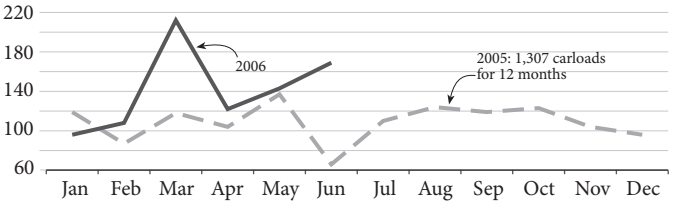
As a result of this economic shift, WSDOT repositioned its cars from the P & L branch to the Pleasant Valley (PV) Hooper branch of the PCC. The PV Hooper branch extends from Thornton to Hooper Junction and from Pullman to Hooper Junction. The grain no longer continues on the rail lines to the coast, but is instead emptied into barges on the Snake River at Wallula for river transport to the Vancouver and Portland area.

A final set of cars is used on the Blue Mountain Railroad, which extends from Dayton through Walla Walla to Wallula. The grain in these cars is also emptied into barges for river transport to the coast.

Three elements decreased shipping costs: the continued strong use of grain train cars on the Columbia Basin Railroad, cars repositioned from the P & L line and the shift to the rail to barge methods of operation. Carloads for the second quarter of 2006 increased 41% from the second quarter of 2005. There were 434 carloads shipped in the second quarter of 2006 compared to 307 in 2005. Staff will continue to monitor car usage and changes in the economics of grain transportation to maximize use of the grain train cars and to ensure Washington State grain growers continue to benefit from its use.

Washington Grain Train Carloads

Carloads per month 2006 vs. 2005



Source: WSDOT Rail Office

Special Feature
Incident Response Screens

Incident Response Screen Pilot Project

Portable incident response screens are designed to block the view of traffic and decrease traffic delays from rubbernecking. As noted in the December 31, 2005, issue of the *Gray Notebook* (p. 73), WSDOT's Eastern Region planned to test a portable traffic incident response screen system. The pilot test was held on April 27, 2006, at 4:00 pm, on the eastbound shoulder of I-90 near the Idaho border. WSDOT personnel and a Washington State Patrol (WSP) trooper were on-site to observe the test.

Set-up Time and Wind Speed Increase Risks

A vehicle was parked on the shoulder and the Incident Response vehicle rolled up to the location. It took one person 20 minutes to set-up two sections of the screens (60 feet).

Setup time is a concern; a set-up time of 20 minutes or longer greatly limits the benefits of the screen and its effectiveness to reduce traffic delays due to rubbernecking. The weight of the screen and assembly of its components are factors that affect the set-up time.

Another significant issue is wind. Wind speeds between 10-15 mph tipped the screen over on its side. Slats cut into the fabric to prevent it from blowing over were not effective. Wind gust from passing trucks, measured at up to nine mph, also destabilized the screen.

State Patrol and Emergency Services Personnel Express Safety Concerns

WSDOT also gathered information on driver response to the screen. Data was collected on traffic flow and traffic volumes using real-time traffic volume information, and traffic activity was recorded to capture driver reaction. However, due to lighting conditions, it was very hard to see these reactions on the tape.

Traffic speeds decreased 10-15% during the test. However, it could not be determined how much of this reduction was due to the portable screen and how much was normal slowing due to the "incident". Further, a driver in the fast lane almost lost control of his vehicle due to the slowdown.

Additionally, emergency services personnel and WSP expressed concern that the screen would block their line of sight to oncoming traffic, limiting their ability to react to an errant vehicle.

WSDOT Decides to Stop Development of Portable Incident Response Screens

Test results indicated the portable incident screen design had significant operational problems and would not be practical for general deployment. The need to reduce set-up time and improve wind stability are critical design elements to address in order to move this initiative forward. Acceptance by emergency services, WSP, and WSDOT Incident Response staff also presents challenges to using portable screens.

WSDOT's conclusion is that this particular prototype cannot be effectively deployed. Unless the obstacles can be overcome, use of the screen system could increase the risks of a secondary incident. While there may be some benefits from the use of portable incident screens, the tests showed risks were higher than expected, which negates potential benefits. Due to this risk, further development of portable incident screens is not planned.

The top of a WSDOT Incident Response Truck peeks over a Portable Incident Screen.

Portable screen is blown over from wind during April 27, 2006 test.

Transportation Benchmarks Annual Update

Overview of The Transportation Benchmarks

On August 20, 2003, the Washington State Transportation Commission adopted a set of benchmarks to measure the performance of the state's transportation system. Benchmark development was guided by the requirements of the Revised Code of Washington (RCW) 47.01.012, which established policy goals in the areas of safety, pavement condition, bridge condition, traffic congestion and driver delay, per capita vehicle miles traveled, non-auto share of commute trips, administrative efficiency, and transit cost efficiency. These policy goals are the basis for the performance benchmarks discussed here.

This update includes the latest results for the transportation benchmarks first introduced two years ago. For more background and information about the development of each benchmark, including issues related to data quality and availability, measure effectiveness, and benchmark intent, see the Transportation Benchmarks Implementation Report (August 2003), which is available on-line at www.wsdot.wa.gov/accountability/benchmarks/.

Some of the policy goals establish a general standard or target to assess achievement, such as "improving safety" or "none in poor condition." Others are closer to the traditional definition of benchmarking: measuring Washington's performance or comparing Washington to other states to gain information that will help WSDOT improve its performance.

Safety Goal

The benchmark law established a goal to improve safety. While many criteria and measures are used to track safety on the state transportation system, the Transportation Commission and WSDOT use the state motor vehicle fatality rate to determine progress.

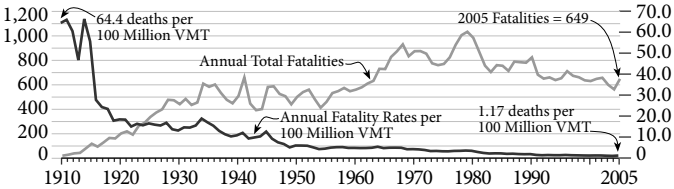
Based on the national Fatality Analysis Reporting System (FARS) numbers, the 2005 Washington State fatality rate was 1.17 deaths per 100 million vehicle miles traveled (VMT) on all Washington roadways, while the total fatality count shows 649 people killed in motor vehicle collisions. In addition, six other people died on the highways in non-motor-vehicle-related accidents. For more information, see the gray box to the right.

In 2004 (the most recent year for which state-by-state data is available), Washington ranked as the 6th state in the nation for fewest road fatalities, averaging 1.02 deaths per 100 million VMT. By comparison, the national average was 1.44 fatalities per 100 million VMT.

For an in-depth analysis of the highway safety statistics, please refer to the Highway Safety Annual Update on pp. 50-55 of this edition of the *Gray Notebook*.

Washington Motor Vehicle Total Fatalities and Fatality Rates

1910-2005



Sources: Washington State Highway Transportation Commission, Washington State Patrol, Fatality Analysis Report System (FARS), Office of Financial Management, Dept. of Licensing, WSDOT

FARS Fatality Count and WSDOT Fatality Count

The Fatality Analysis Reporting System (FARS), used by the Washington State Traffic Safety Commission and developed by the National Center for Statistics and Analysis, uses data similar to WSDOT's benchmarks when calculating fatality rates. Both FARS and WSDOT data exclude certain fatalities: fatal collisions that are ruled suicides; deaths due to natural causes rather than injuries received in the collision; and collisions that occur on private roadways. If a FARS analyst confirms that the facts of the collision in the police report need to be changed to recategorize a fatality, then WSDOT's data will be changed to reflect that.

There are key differences between the two systems, however. To qualify as a FARS case, there must be a motorized vehicle involved in the crash. WSDOT, in following the direction given by the Blue Ribbon Commission on Transportation, considers non-auto-related fatalities on the highways. In addition, FARS does not count traffic fatalities due to natural catastrophic events, whereas WSDOT does count those fatalities. (This year, FARS has no outstanding death certificates, and therefore there is no difference between WSDOT and FARS data based on late death certificates, as there was last year.)

The preliminary FARS count for 2005 is 649 deaths in Washington State, which amounts to a fatality rate of 1.17 deaths per 100 million VMT. WSDOT's data includes six more fatalities: three fatalities associated with an I-90 rock slide; one bicycle accident in which a pedestrian was killed, one two-bicycle accident in which one bicyclist was killed, and one solo bicycle accident fatality. This puts the total highway fatalities tabulated by WSDOT to 655, and the fatality rate at 1.18 per 100 million VMT, compared to the 1.17 reported by FARS.

Transportation Benchmarks Annual Update

Pavement Condition Goal

The benchmark law enacted in 2002 established a goal that no interstate highways, state routes, and local arterials should be in poor condition. Pavement is in good condition if it is smooth and has few defects. Pavement rated in poor condition is characterized by cracking, patching, roughness, and rutting.

Pavement data for calendar year 2005 is not yet available. Therefore, this report provides the most recent data, which is up to and including calendar year 2004 data. Calendar year 2005 data is scheduled to be published in the Pavement Assessment Annual Update in the December 2006 *Gray Notebook*.

State Highway Pavement

WSDOT has been rating pavement conditions since 1969. The graph to the right shows pavement trends from 1973 to 2004. WSDOT uses Lowest Life Cycle Cost (LLCC) analysis to manage two types of pavement for preservation, chip seal and Hot Mix Asphalt (HMA). (Concrete is the third type). The principles behind LLCC are that if rehabilitation is done too early, pavement life is wasted; if rehabilitation is done too late, very costly repair work may be required, especially if the underlying structure is compromised. WSDOT continually looks for ways to best strike the balance between these two basic principles.

While the goal for pavement is zero miles in "poor" condition, marginally good pavement may deteriorate into "poor" condition during the lag time between assessment and actual rehabilitation. A small percentage of marginally good pavement may move into "poor" condition for any given year. WSDOT's policy goal for the 2003-05 biennium was to maintain 90% of all pavement types in "fair" or better condition.

In 2003, the percent of all state highway pavement in "poor" condition increased to 10%, up from 9.3% as reported in the 2002 pavement survey. In 2000, there were 1,068 lane miles (6.1%) of pavement in "poor" condition. In 2003 the total was 1,774 lane miles, and in 2004, 1,797 or 10.1%. Since 2000, WSDOT has seen an increase of 729 lane miles in "poor" condition.

In 2003, 79 more chip seal lane miles fell into "poor" condition, bringing the total to 3.3% of all state highway lane miles. Contributing factors may include the annual pavement condition survey being conducted before chip seal construction, and the fact that small roadway sections are combined to create more cost-effective regional contracts and achieve an economy of scale. This leads to some pavement not getting fixed immediately. For 2003, the increase in "poor" condition of HMA was 51 lane miles, to a total of 5.8% of state highway lane miles. Total lane miles of concrete in poor condition remained the same from 2002 to 2003.

From 2003 to 2004, 21 more chip seal lane miles fell into "poor" condition; total chip seal lane miles in "poor" condition were 3.4%. The condition of HMA improved from 2003 to 2004; 162 fewer lane miles were in "poor" condition, or 4.9% of total lane miles. Total lane miles of concrete in "poor" condition increased to 152 miles or 1.8% of the total. This is attributable to more faulting and cracking in the concrete leading to an increase in roughness of ride. As noted in the December 31, 2004 *Gray Notebook,* WSDOT is working with the University of Washington to develop a method to predict when concrete pavement will need rehabilitation and hopes to have an explanation for this sudden deterioration by the end of 2005.

Local Arterial Road Pavement

The local arterial road network is surveyed every biennium. Updated data will be available in the next benchmarks report. For more information on arterial road conditions, please see Washington's City Arterials Condition Report 2004, available at www.wsdot.wa.gov/TA/T2Center/Mgt.Systems/Pavement-Technology.

As of December 31, 2004, WSDOT owns and maintains 20,002.88 lane miles of highway, including ramps, collectors, and special use lanes. Special use lanes include High Occupancy Vehicle (HOV), climbing, chain-up, holding, slow vehicle turnout, two-way turn, weaving/speed change (previously referred to as auxiliary), bicycle, transit, truck climbing shoulder, turn and acceleration lanes. Special use and ramp/collector lane miles make up 1,688.02 of the 20,002.88 lane miles. There are approximately 69 lane miles under construction.

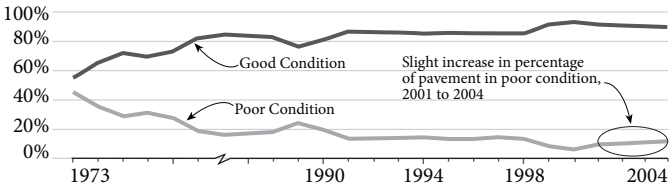
Pavement Condition Rating Summary 2000-2004

Percent of Pavement in Poor Condition

2000	2001	2002	2003	2004
6.1	8.9	9.3	10.0	10.1

Note: This data is that same data that was reported in the previous benchmarks report. Data for 2005 is not yet available.

State Highway Pavement Trends, 1973-2004



Source: WSDOT

Note: This data is that same data that was reported in the previous benchmarks report. Data for 2005 is not yet available.

Bridge Condition Goal

The benchmark law established a goal for no bridges to be structurally deficient, and for safety retrofits to be performed on state bridges at the highest seismic risk levels. WSDOT tracks bridge condition but does not use the "zero deficient bridge" goal. Moving to the "zero deficient bridges" standard would promote cheap and fast fixes that would ultimately be counterproductive. A "zero deficient bridge" approach would require setting aside WSDOT's Bridge Management System (BMS), which is the basis for preserving bridges to get optimum service life.

The structural deficiency rating is based on inspection findings, and does not measure important cost-effective preservation activities. At the same time, some bridges are more vital and expensive than others. BMS considers the cost-effectiveness of several feasible corrective actions for any given bridge deficiency, providing cost-effective indices for each potential action in various time periods.

Bridge Condition Results

This report provides data for fiscal year 2006 (July 2005 – June 2006). WSDOT's policy is to maintain 95% of its bridges at a structural condition of at least fair, meaning all primary structural elements are sound. In 2006, 2.5% of bridges showed a condition rating of "poor." (This is rounded to 3% in the table below).

No bridge currently rated as "poor" is unsafe for public travel, but some bridges may have structural deficiencies that restrict the weight and type of truck traffic allowed. Any bridge determined to be unsafe is simply closed to traffic. In 2006, WSDOT did not close any bridges due to unsafe conditions.

Bridge Seismic Retrofit Program

WSDOT's Bridge Seismic Retrofit Program prioritizes state bridges for seismic retrofit, and performs these retrofits as funding permits. The number of seismic projects does not match perfectly with the number of bridges; a seismic retrofit project may encompass more than one bridge, while one bridge might have multiple retrofit projects planned. Some bridges have been partially but not completely retrofitted to withstand earthquake forces.

A total of 920 bridges are part of the Bridge Seismic Retrofit Program. Retrofit priorities are based on seismic risk of a site, structural detail deficiencies, and route importance. From 1991 to the end of June 2006, WSDOT has fully or partially retrofitted 358 bridges: 195 bridges are completely retrofitted, and 163 are partially retrofitted. Fifteen additional bridges are under contract to be retrofitted.

As of June 30, 2006, 547 bridges need complete retrofits, in addition to the 163 that have been partially completed. These two groups combine for a total of 710 bridges left to be retrofitted for earthquake safety.

The 2005 Transportation Partnership Account (TPA) fund includes $87 million to perform bridge seismic retrofits on bridges designated "High" and "Moderate" risk. Design and construction is scheduled to start after July 2007 and be completed in eight years.

Bridges in the Seismic Retrofit Program

Cumulative 1991-2005, 2006

	1991-2005	2006
Completely retrofitted	191	195
Partially retrofitted	162	163
No work done to date	569	547[1]
Under Contract for work	15 (in 2005)	15
Total Bridges in Seismic Retrofit Program	937	920[1]

Source: WSDOT Bridge Office

[1] The number of bridges in the seismic retrofit program decreased in 2006 due to further analysis that determined that some bridges do not warrant a retrofit.

Bridge Structural Condition Ratings

Category	Description	2000	2001	2002	2003	2004	2005	2006
Good	A range from no problems to some minor deterioration of structural elements.	84%	85%	87%	86%	87%	89%	88%
Fair	All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, cracking, spalling, or scour.	11%	11%	10%	11%	10%	9%	9%
Poor	Advanced deficiencies such as section loss, deterioration, cracking, spalling, scour, or seriously affected primary structural components. Bridges rated in poor condition may be posted with truck weight restrictions.	5%	4%	3%	3%	3%	2%	3%

Source: WSDOT Bridge Office

Per Capita Vehicle Miles Traveled Goal

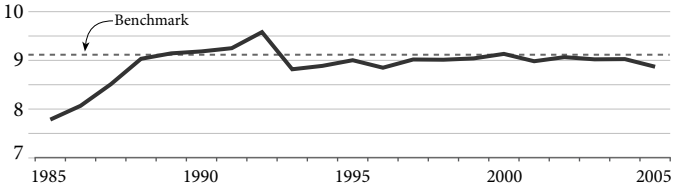
The benchmark law established a goal for Vehicle Miles Traveled (VMT) per person to be maintained at 9,133, the level it was when the benchmarks were developed in 2000. In calendar year 2005, Washington State citizens traveled 8,869 vehicle miles per person on all roadways, down from 9,026 in 2004, and below the benchmark level of 9,133 miles per person. Since the late 1980s, annual VMT per person in Washington has stayed at roughly 9,000 miles per person, meaning the number of vehicle miles traveled throughout the state has grown at roughly the same pace as the number of new residents.

VMT is influenced by a range of trends in population, economy, land use, and employment, as well as investment in the transportation system. For 2005, the decline in per capita VMT was likely influenced by the spike in gasoline prices in the Summer and Fall 2005. Anecdotal evidence indicates that residents curtailed their "discretionary" travel (such as for summer vacations), and WSDOT data shows a substantial increase in commuter interest in ridesharing, particularly in the vanpool program (as reported in the December 31, 2005 edition of the *Gray Notebook,* p 64).

Although it is difficult for WSDOT to directly influence the public's traveling patterns, the Commute Trip Reduction (CTR) program supports this goal by working with employers to reduce VMT to their worksites. The commute VMT per CTR employee decreased from 8.7 miles per day in 1997 to 8.3 miles per day in 2005, even as CTR employees continued to live farther away from their worksite.

Annual Vehicle Miles Traveled per Capita

*In Thousands, 1985 to 2005**



Source: WSDOT Transportation Data Office and Office of Financial Management
* The method for calculating VMT changed in 1993 as more complete data became available. This accounts for the decrease shown in the graph from 1992 to 1993.

Administrative Efficiency Goal

The benchmark law established a goal that WSDOT's administrative cost as a percentage of transportation spending achieve the most efficient quartile nationally. Finding common ground for comparisons of administrative efficiency among state Departments of Transportation (DOTs) is very difficult. Each DOT accounts and tracks for expenditures in different ways, and the state DOTs vary widely in structure, size, and function, with the result that there is little direct comparability among the "administrative" activities.

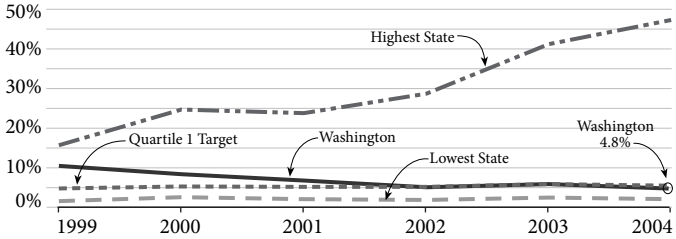
The best national source of financial information is the Federal Highway Administration's (FHWA's) annual Highway Statistics report. WSDOT uses the general administration cost (line item A.4.a.) as a percentage of capital outlay, maintenance, and operations expenditures, to make the national comparison. While FHWA cautions strongly against using these numbers to compare states, all state DOTs complete the report annually, and it is the only national source for administrative costs. FHWA presents the data by fiscal year, and collects fiscal year data in the winter to publish the next Fall. Therefore, the most recent information for which data is available is fiscal year 2004.

In 2004, Washington's administrative cost was 4.8%, putting it at ninth-lowest nationally and inside the first quartile. This is down from 5.9% in 2003. A number of variables affected administrative cost reporting from 2003-04. In 2004, reduced WSDOT expenses included savings realized from staff position vacancies, a reduction in health care premiums, and elimination of funding for information technology projects. Also, in 2004 WSDOT spending for the highway construction program increased due to the 2003 "Nickel" Transportation Funding package.

The lowest state, Louisiana, was at 2.1%, and the highest state, Delaware, was at 47.3%.

Washington Administrative Cost Target

Percent of Capital Outlay, Maintenance, and Operations Expenditures, 1999-2004



Source: Federal Highway Administration Highway Statistics (FHWA) 2004

Non-Auto Share of Commute Trips Goal

The benchmark law established a goal to increase the non-auto share of commute trips. WSDOT and the Transportation Commission interpret this benchmark as the measure of the combined ability of many different transportation agencies to provide alternatives to drive alone commuting. The commute patterns for the state are calculated using data collected annually by the U.S. Census Bureau's American Community Survey (ACS).

Slight changes from year to year in the commute patterns and trip distribution do not constitute a trend; these changes generally are not statistically significant unless indicated. Washington's 2004 commute trends, according to the ACS, showed a statistically significant growth in walking as a means of traveling to work, compared to the 2000 ACS commute trends (from 2.4% to 3.2%). Carpooling, transit, and other means showed a statistically significant decrease from the 2000 commute mode share. The drive-alone share of commuting in 2004 was not significantly different than the share in 2000. See the table below for complete results.

One of WSDOT's programs that influences the non-auto share of commute trips goal is the Commute Trip Reduction (CTR) program. The CTR program works with major employers in the state's nine most populous counties to encourage employees not to commute alone. The goals for the program are to reduce traffic delay, air pollution, and energy use. About 560,000 employees at more than 1,100 work sites in the state have access to CTR programs.

The percentage of commuters who drive alone to CTR worksites declined from 66.3% in 2003 to 65.7% in 2005. Overall, the percentage of commuters who drive alone to all CTR sites declined more than 7% from 1993 to 2005, and the drive-alone rate for the program remains below the state and national drive-alone rate. The drive-alone rate for those employers with complete data that began the program in 1993 declined more than 14% from 1993 to 2005.

Traffic Congestion and Driver Delay

WSDOT calculates annual changes in the peak period travel times for 12 Central Puget Sound commutes to track congestion trends. Information on congestion measures will be published later this year in the *Gray Notebook*.

Washington State Commuting Patterns – Workers 16 and Over, 2000-2004

	2000	2001	2002	2003	2004	Change from 2000-2004	Statistically Significant?
Total Workers 16 yrs & Older	2,753,377	2,739,113[1]	2,760,912	2,793,978	2,800,303	1.7%	N/A
Drive Alone	73.8%	74.4%	74.7%	73.8%	75.3%	1.5%	no
Carpool	11.5%	11.5%	11.4%	11.3%	10.3%	-1.2%	yes
Public Transportation	5.1%	5.5%	4.6%	5.0%	4.3%	-0.8%	yes
Walked	2.4%	3.1%	3.0%	3.2%	3.2%	0.8%	yes
Other Means	2.4%	1.8%	1.8%	2.2%	1.7%	-0.7%	yes
Worked at Home	4.8%	3.8%	4.5%	4.6%	5.2%	0.4%	no

Source: U.S. Census Bureau, American Community Survey, 2001 to 2004

[1] In the June 30, 2005, *Gray Notebook*, Total workers 16 yrs and older was reported incorrectly as 2,729,113. The correct number was 2,739,113.

Transportation Benchmarks: Annual Update

Transit Cost Efficiency Goal

The benchmark law required the Transportation Commission to establish a cost efficiency benchmark for the state's public transit agencies. To accomplish this mandate, the Commission worked with the Washington State Transit Association (WSTA), which proposed four measures to address cost efficiency, cost effectiveness, and service effectiveness. This report, prepared by WSTA, updates these four measures with 2004 data. The transit summary data for 2005 has not yet been finalized.

The four adopted benchmarks compile statewide averages for fixed-route (scheduled) service at urban, small urban, and rural transit agencies, and statewide averages for demand response (on-call paratransit) and vanpool services. This allows comparisons of the state's similar transit agencies with each other, although there are still important differences between the agencies. Identifying national peers for benchmarking is also difficult due to the large variations among systems in size, government support, fare levels, costs, and purposes, as well as data collection processes.

WSDOT's annual Washington State Summary of Public Transportation Systems provides an overview of each system and is a data source for the transit benchmarks calculated by WSTA. This report is available online at www.wsdot.wa.gov/Transit/. The National Transit Database was used to calculate the passenger mile measure. Also, see the Transportation Benchmarks Implementation Report (at www.wsdot.wa.gov/accountability/benchmarks/BenchmarksImplementationReport.pdf) for more background on benchmark limitations, measure development, recent trends, and comparing services and system types.

Operating Cost per Total Hour

Costs are directly related to the size of the transit system and the nature of the area served. Larger transit systems are more complex and incur costs for fixed facilities (transit centers, park-and-ride lots, etc.), security, and other areas that are not cost items for smaller systems. They also operate larger equipment in metropolitan areas with higher wage structures than small systems. The 2004 data shows a modest increase in cost per hour for urban systems with a significant increase in the cost per hour for small urban and rural systems.

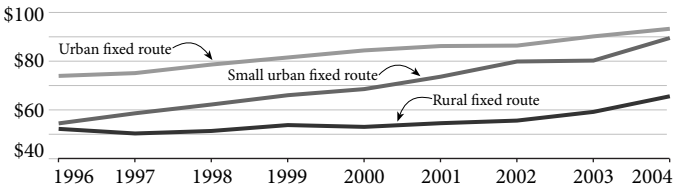
A closer review of the data indicates this increase reflects significant cost increases at two of the six agencies in the small urban category, Whatcom Transit (24% increase) and Kitsap Transit (15% increase). In 2004, Kitsap Transit has experienced a significant increase of approximately $2.0 million, or 10%, in its operating cost, primarily due to increased operating costs related to salaries and wages, benefits and fuel. The increase at Whatcom Transit has been traced preliminarily to the fact that 2003 was its first full year with maintenance "in-house"; previously it had contracted the work from the City of Bellingham.

Among the rural systems, increases at Mason Transit (25%) and Jefferson Transit (97.7%) drove the increased numbers. During this time, Mason Transit's operations were being brought in-house from a private operator, requiring a duplication of costs for several months. Mason Transit also purchased a new operating facility and renovated it, incurring a number of one-time costs. Many of these costs were classified as operating rather than capital costs.

The average cost per hour for demand-response service increased slightly in 2004. The cost per hour has remained stable over several years despite inflationary pressure.

Fixed Route Service: Average Cost per Hour

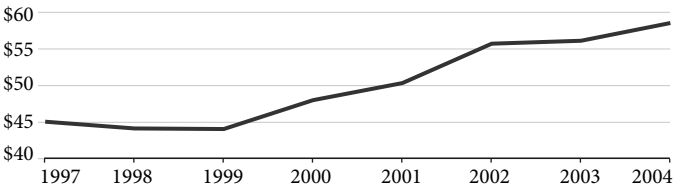
Washington State Average by Transit System Size, 1996-2004



Source: Washington State Transit Association

Demand Response Services: Average Cost per Total Hour

Washington State Average for All Transit Systems, 1997-2004



Source: Washington State Transit Association

Transportation Benchmarks: Annual Update

Boardings per Revenue Hour

This measure also illustrates the importance of the characteristics of the area served on a transit system's performance. Boardings[1] per revenue hour generally depend on density and service type – local, urban service performs better than express service.

Boardings per revenue hour increased by over 10% for urban systems and over 6% for small urban systems. The increase for the urban category is driven by King County Metro, which experienced an increase of approximately 15% in boardings despite a reduction in revenue hours. In this same time, rural fixed-route ridership per hour increased slightly, and demand response ridership per hour dropped slightly. These changes are both fairly negligible.

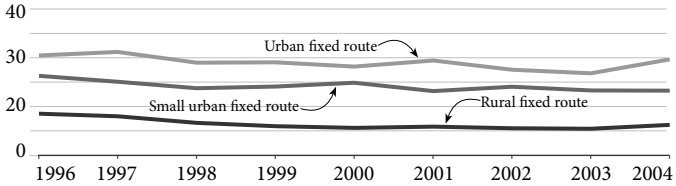
Cost per Passenger Mile

The trend for this measure generally reflects inflationary cost increases. The cost per passenger-mile increased sharply for small urban systems from 2000 to 2001, due to significant service reductions and fare increases in 2000 by several systems in this category. Passenger-mile data is not collected by rural transit systems.

The cost per passenger mile increased slightly for urban systems and appear to have increased for small urban systems.[2] Since data is incomplete for the small urban figures, there is no analysis available yet to explain this increase.

Fixed Route Service: Average Boardings per Revenue Hour

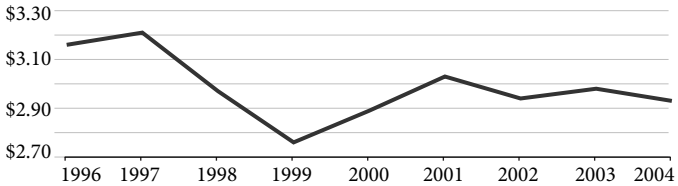
Washington State Average by Transit System Size, 1996-2004



Source: Washington State Transit Association

Demand Response Services: Average Boardings per Revenue Hour

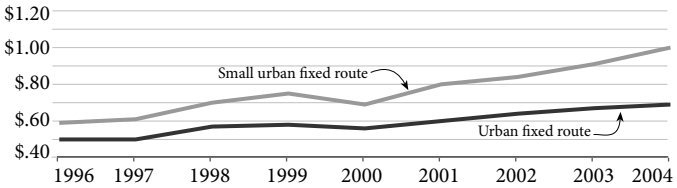
Washington State Average for All Transit Systems, 1996-2004



Source: Washington State Transit Association

Fixed Route Service: Average Cost per Passenger Mile

Washington State Average by Transit System Size, 1996-2004



Source: Washington State Transit Association

[1]"Boardings" are the total number of times a person boards the bus. For example, a person taking one bus and transferring to anothers bus to reach his destination would represent two boardings.
[2]The NTD did not have passenger-mile data for Ben Franklin Transit and Intercity Transit for 2004. The Small Urban number is a projected ratio based on the assumption that passenger miles would grow at the same rate as passengers from 2004 and 2003.

Transportation Benchmarks: Annual Update

Cost per Boarding

Fixed Route Service

Cost per boarding has increased at approximately the rate of inflation for urban systems. Rural and small urban systems have seen the cost per boarding increase at a much higher rate. Small urban systems saw a significant increase from 2000 to 2001 as service reductions increased the cost per hour of service and higher fares led to fewer passengers. This leveled off from 2001 to 2002. Rural systems faced inflation also and were hit particularly hard by increased health care and other employee costs.

The 2004 cost per boarding increase was relatively modest across the three system size categories. Significant cost increases seen in the small urban category were partially offset by increased ridership.

Demand Response

The cost per boarding is driven by two factors – the cost of providing service and the number of boardings. While the cost per hour of demand-response service has decreased slightly, this has been offset by a small but proportionately larger reduction in boardings per hour from 2003 (3.0) to 2004 (2.8).

This was caused by policy decisions at a number of transit systems to move demand-response riders to fixed-route service by offering them travel training on how to ride fixed-route transit. This shift helps riders achieve more travel flexibility and does not require advanced reservations. In addition, several transit agencies reduced their demand response service boundaries to be more consistent with the federally required three quarters of a mile on either side of a fixed route, and implemented disability standards that included conditional or limited eligibility for the demand response services.

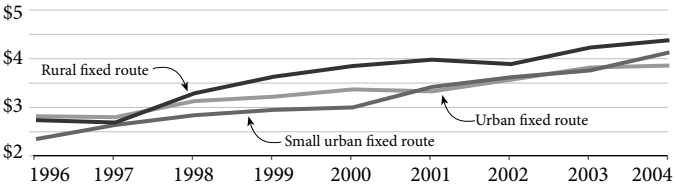
The net result of these changes is that the cost per boarding for demand-response service has increased slightly.

Vanpooling

The cost-effectiveness of vanpooling is particularly impressive when one considers average trip lengths, and that in many systems the vanpool passenger fares cover a substantial portion of the operating and capital cost of the program. Some systems choose to subsidize vanpool fares to make the service as attractive as possible. The 2004 operating cost per boarding was approximately 10% higher than in 2003. The operating costs are influenced by a variety of factors, including fuel costs, insurance, inflation, and Transit Board policies. These factors are believed to have driven the increase from 2003 to 2004.

Fixed Route Service: Average Cost per Boarding

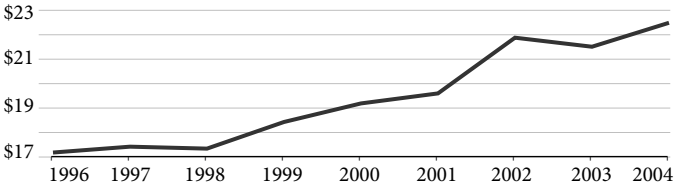
Washington State Average by Transit System Size, 1996-2004



Source: Washington State Transit Association

Demand Response Services: Average Cost per Boarding

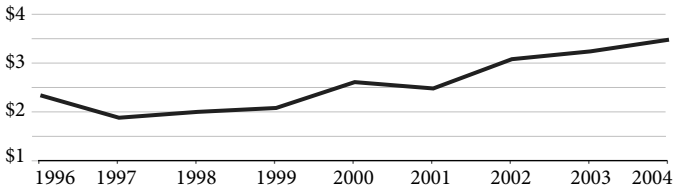
Washington State Average for All Transit Systems, 1996-2004



Source: Washington State Transit Association

Vanpool Service: Average Cost per Boarding

Washington State Average for All Transit Systems, 1996-2004



Source: Washington State Transit Association

Highlights of Program Activities

Project Starts, Completions, or Updates

U.S. 2 Cashmere

Crews began work to pave approximately eight miles of U.S. 2 between Cashmere and Wenatchee on April 3. Repaving preserves the existing roadway structure and extends pavement service life for another 10-15 years. The project also includes safety improvements. Work is scheduled for completion in June 2006.

I-405 Kirkland

WSDOT reopened the intersection of Totem Lake Boulevard and NE 128th Street to through traffic on March 30, more than three weeks ahead of schedule. Crews rebuilt the intersection, raising the elevation to meet the height of the new NE 128th bridge over I-405. WSDOT and Sound Transit are building HOV on and off-ramps in the I-405 median at NE 128th Street in the Totem Lake area of Kirkland. A new bridge at NE 128th Street will provide a new east-west route over the freeway in Kirkland.

SR 3 Silverdale

Work got under way at the Waaga Way intersection where SR 3 and SR 303 connect. The project will provide congestion relief and improve mobility for traffic movements between SR 3 and SR 303. The project also increases safety in the area by adding the direct connections between SR 3 and SR 303, eliminating highway traffic on Clear Creek Road, and reducing the number of turning conflicts at the existing intersections.

I-5 Woodland

On April 17, WSDOT began repair work on I-5 from I-205 to the North Fork Lewis River Bridge just south of Woodland. Crews will replace damaged concrete panels on I-5 and install dowel bars between panels to join them together. Originally constructed in the 1940s, this portion of I-5 has not seen major construction since the highway was widened to six lanes during the 1970s. This repair work includes grinding ruts in the pavement surface which will result in a smoother ride for motorists.

U.S. 97A Chelan County

Crews finished re-lining the Knapps Hill Tunnel with a concrete shell on April 12, one week ahead of schedule. This was the third of four phases of work to preserve and strengthen the tunnel between Wenatchee and Chelan. Project completion and reopening of the highway ended a six-mile long detour that had been in place since February 6.

SR 20 Whidbey Island

Project work wrapped up on Whidbey Island in late April on a section of SR 20 between Monkey Hill and Troxell Road. The safety project will reduce rear-end and run off the road accidents, and increase site distance, while relieving congestion at several key intersections. Crews widened the lanes and shoulders, improved intersections, and added new turn lanes. Work started in November 2005 and crews were able to work through the winter thanks to the rain shadow effect that the Island receives.

Crews finish paving SR 20 on Whidbey Island between Monkey Hill and Troxell Road.

I-5 Bellingham

Crews began to install five miles of new cable guardrail in the I-5 median between Old Fairhaven Parkway and Lakeway Drive, and between Sunset Drive and Bakerview Road in Whatcom County on April 24. This work is part of a larger $8.8 million project to install approximately 70 miles of cable guardrail in eight counties and on nine separate highways across Washington to help prevent crossover and head-on collisions.

SR 24 Yakima

On April 28, crews shifted traffic from the existing SR 24 bridge to the newly constructed bridge over I-82, a major milestone in this project. When the project is finished, SR 24 will be a four-lane highway from I-82 to Riverside Road. The interchange will be reconstructed and wider bridges will be built over I-82 and the Yakima River. The end result will be the cure for one of the worst chokepoints in Yakima.

I-90 Easton

Work to repair and repave the deck of the eastbound I-90 Kachess River Bridge started May 7 and finished May 18, one day ahead of schedule. The project, located 19 miles east of the Snoqualmie Pass summit, provides a smoother ride across the river for eastbound I-90 motorists.

SR 512 Puyallup

WSDOT and Tucci & Sons Inc. began work on May 15 to pave SR 512 from 104th Street to SR 167. The project consists of repairing pavement, removing existing pavement from the Puyallup River Bridge and repaving with asphalt, and instal-

lation of new traffic markings and signs. Safety enhancements will bring existing guardrail up to current standards. The $2.3 million project is scheduled for completion in late June.

I-90 Spokane

On May 15, crews began a reconstruction project to smooth the ride for motorists on I-90 through downtown Spokane. Contractor crews will resurface the rutted pavement and install new expansion joints during the 2006 and 2007 summer construction seasons. Ruts up to two inches deep in all six lanes of the freeway are a safety hazard to the nearly 100,000 motorists that pass through downtown each day.

Aerial shot of I-90 through Downtown Spokane.

SR 161 Graham

Widening work is complete on SR 161 (Meridian Avenue) between 176th and 204th streets, north of Graham. Crews widened the highway from two lanes to four lanes with a center two-way left turn line. The project was built in two stages, with the southern portion, 204th Street to 234th Street, completed in 2005. The project improves traffic flow on four miles of highway and includes intersection and other safety improvements such as turn lanes and traffic signals at several locations.

SR 14 Vancouver

On May 1, crews began repairing the Lieser Road overpass over SR 14 in Vancouver. The project is divided into three phases – demolition, erecting and installing two new bridge girders, and repaving the bridge deck. The bridge was damaged in November 2005 when an oversized truck carrying a crane hit the structure while traveling on SR 14. Since the damage occurred, the lane adjacent to the girder damage has been closed.

Crews began repairing damage to the SR 14 Leiser Road Bridge in May. An oversize load hit the bridge in November 2005.

U.S. 2 Leavenworth

Crews began work on May 8 on a project to install centerline rumble strips, recessed pavement markers, and paint new stripes on 39 miles of U.S. 2. The project is designed to improve safety and reduce collisions. Contractor crews have finished installing rumble strips from Leavenworth west to Nason Creek. Work is continuing from the Nason Creek Rest Area west to about six miles from the Stevens Pass summit. The project was completed on June 5.

SR 285 North Wenatchee

Crews began a project on May 22 to pave 3.4 miles on two highways in the North Wenatchee vicinity. One section, SR 285 (Wenatchee Avenue), runs the length of the City of Wenatchee and is a busy commercial district. Paving and other improvements to the U.S. 2/97 Odabashian Bridge across the Columbia River on the north end of town was included in the SR 285 paving job, saving both money and time. The $2.25 million project got under way May 22 and will be complete by September.

SR 543 Blaine

A ground breaking ceremony held on May 31 marked the start of operations to drill 1,000 shafts that will support a new D Street overpass and retaining walls on SR 543 in Blaine. Crews will lower the road near D Street for the overpass by 25 feet, removing enough dirt to cover two lanes of I-5 with soil ten feet deep for three miles. When this project is completed in 2008, drivers will see a wider, less congested, and safer SR 543 between I-5 and the border with Canada. WSDOT will convert SR 543 through Blaine into a five lane highway, including an overpass for local traffic and a designated northbound truck lane.

SR 20, SR 104, SR 116-Jefferson County

Crews will pave several state highways in Jefferson County this Summer. The project contractor will pave approximately six miles of SR 20, 13.5 miles of SR 104, and three miles of SR 116. The $5.5 million project includes pavement repair, guardrail installation, permanent signing and striping, and sidewalk ramp construction in and near the community of Port Hadlock on SR 116. The project began May 30 and is expected to be completed by August 31, weather permitting.

Highlights of Program Activities

SR 202 Redmond

Eastside motorists are driving on a newly-widened SR 202 (Redmond Fall City Road). Crews finished work during the week of June 5, paving and striping the newly-widened roadway section between the SR 520 interchange and E. Lake Sammamish Parkway in Redmond. This is part of an $84 million two-stage project that widens almost three miles of SR 202. This first stage of the project adds an additional lane in each direction between SR 520 and E. Lake Sammamish Parkway and improves the intersection of SR 202 and E. Lake Sammamish Parkway.

SR 501 & SR 503 Battle Ground

Crews began a paving project along portions of SR 501 and SR 503 in the Ridgefield and Battle Ground vicinity on June 15. The project will repave or repair portions of SR 501 (Pioneer Street), between Main Street and South 56th Place in Ridgefield. Paving work will also be completed on portions of SR 503 (NE Lewisville Highway) between Main Street and N.E. Rock Creek Road in Battle Ground.

I-90 Snoqualmie Pass

In mid-June, crews began work to stabilize rock slopes along I-90 east of Snoqualmie Pass near Easton. The first phase of the project includs building a temporary bypass road to provide two lanes in each direction. This allows room for drivers to pass through the work zone and at the same time prevent rock from spilling onto the roadway as crews work. Contractor crews will remove loose rocks and stabilize the slopes using bolts and protective fencing.

SR 165 Carbonado

In late June, crews started work on a project to repave a seven-mile section of SR 165. The project contractor will pave SR 165 from the community of Carbonado to the junction with SR 410 in Buckley. The project also realigns the SR 162 and SR 165 junction into a 'T' intersection. Work will last through the Summer.

SR 510 Lacey

A $1.2 million project that provides for improvements on SR 510 between Sitka Street SE near Lacey and 93rd Avenue SE in Yelm started the week of June 19. The project includes paving two sections of SR 510 from Sitka Street in Lacey to Old Pacific Highway and from Fort Lewis Military Road to 93rd Avenue, totaling nearly seven miles. Work on the section of SR 510 between Old Pacific Highway and the boundary to the Nisqually Indian Reservation includes installation of center-line rumble strips and recessed pavement markers. Work is scheduled for completion in early August.

Announcements and Events

SR 20 North Cascades Highway

WSDOT crews opened the North Cascades Highway (SR 20) May 1, after six weeks of challenging and dangerous snow removal work. The North Cascades Highway is the northern-most pass across the Cascades in Washington. SR 20 had been closed since November 7.

SR 504 Mount St. Helens

WSDOT reopened Spirit Lake Memorial Highway (SR 504) to traffic beyond the Coldwater Ridge Visitor's Center on Friday, May 5. SR 504 east of Coldwater Ridge had been closed since December 2005 due to heavy snowfall.

SR 410 Chinook Pass Opened for the Season

WSDOT opened Chinook Pass on SR 410 to vehicle traffic May 25. Snow-clearing crews are finishing up snow removal on the west slope. Guardrail repairs, sign replacement, and lane striping work make up the remaining tasks prior to opening the pass. Snowfall was much greater than last year in the area; workers faced snow 25-30 feet deep in some places. WSDOT strives to open the pass before the Memorial Day weekend each year. A WSDOT contractor has repaired the damage to a section of the roadway from a 2005 washout.

SR 123 Mount Rainier

A road washout and rockslide in two separate locations delayed the annual reopening of SR 123 within Mount Rainier National Park until June 30. WSDOT maintenance crews discovered the washout last month while clearing snow two-miles south of the Cayuse Pass summit. WSDOT maintains SR 123 within park boundaries under an agreement with Mount Rainier National Park. Mount Rainier National Park is responsible for planning and funding highway improvements and repairs.

Ferries

WSDOT's Ferry System Presents Draft Long-Range Strategic Plan

Washington State Ferries completed its Draft Long-Range Strategic Plan for ferry system operations and investments through 2030. The final plan will guide the Ferry System investments and priorities over the next 25 years, and will become part of the statewide Washington Transportation Plan (WTP). The Ferry System held a series of public meetings in April and early May to explain the draft plan and gather comments from the public. The plan will be finalized this Summer.

Highlights of Program Activities

Ferry Ticket Kiosks Debut at Port Townsend and Keystone Terminals

The next phase of Washington State Ferries' new electronic ticketing system, called *Wave2Go*, was introduced the last week of May at both the Port Townsend and Keystone Terminals. Ticket kiosks will give customers new options to purchase tickets. The new system also provides a safe alternative for walk-on passengers. Walk-on passengers can purchase their tickets from a kiosk in the terminal, bypassing the vehicle tollbooth where they used to have to cross in front of vehicles to make a purchase. The next phase of the rollout of *Wave2Go* is an on-line ticketing store, which will allow our customers to purchase their tickets and print them at home. We hope to have this component of the system available in early summer.

Aviation

Airport Grants Awarded

WSDOT's Aviation Local Airport Aid Grant Program has provided $13.3 million for 39 different airport improvement projects in the state. Airport improvement projects slated for the 2005-07 biennium include improvements in pavement, safety, planning, maintenance, security, and runway safety. Pavement maintenance, which is the main focus of WSDOT's grant program, comprises about 78% of the planned projects. A total of 31 public-use airports in Washington will benefit from WSDOT's latest round of state, local, and federal grants awarded during the 2005-07 biennium. Of the $13.3 million awarded, WSDOT used approximately $1.8 million in state grants to fund the projects. WSDOT also used $288,423 in state funds to leverage more than $10.8 million in federal funds.

Stehekin State Airport Now Open

WSDOT Aviation has reopened Stehekin State Airport for the season. In cooperation with the National Parks Service North Cascades National Park, WSDOT has made some of the most dramatic improvements in the history of this state-operated airport. Located at the head of Lake Chelan, this state-operated airport offers spectacular scenery and is a favorite among pilots. Stehekin also provides crucial support for fire fighting, medical airlift, and other emergency services. This winter, crews working for WSDOT removed trees within the airport boundary permit area to improve safety for pilots and their passengers. In October 2005, crews began grading and smoothing the entire length of the runway. Since then 500 pounds of grass seed has been applied and rolled into the runway surface. WSDOT has activated an irrigation system, which has helped to keep the new grass growing. WSDOT has also installed a new windsock and will reinstall runway markers at Stehekin by the end of May 2006.

Improved Motorist/Project Information

Virtual Open House a First for WSDOT

After extensive analysis, WSDOT engineers identified a preferred design for widening I-90 at Snoqualmie Pass. On June 20, WSDOT hosted a virtual open house via the web at the Summit Inn at Snoqualmie Pass and invited anyone who has ever used I-90 or has an interest in construction at the pass to participate in the live webcast. Secretary of Transportation Doug MacDonald joined engineers as they talked about the plans for the $387 million project to redesign I-90 at the pass with the goal to keep the critical road open 365 days a year. Members of the public watched the open house and emailed questions to the project team. This is a first for WSDOT. Given that I-90 is an interstate of regional and statewide significance, WSDOT felt it was important to allow anyone – from apple shippers in Eastern Washington to snow sports-enthusiasts in Western Washington to business owners in Idaho – to learn more about the future of this critical cross-state corridor.

Public Transit

WSDOT Announces Projects to Motivate Change in Commuting Habits

WSDOT recently selected 17 projects to receive over $1.3 million in funding under the Trip Reduction Performance Program (TRPP). These projects will remove a combined total of 3,831 daily commute vehicle trips from the state highway system. The Washington State Legislature created the TRPP program in 2003 to encourage private companies, public agencies, developers, and property managers to provide services and incentives that get people out of their cars and onto buses, trains, vanpools, and other commute alternatives. For a list of projects selected for the 2005-07 TRPP, please visit: www.wsdot.wa.gov/tdm/program_summaries/trpp_projects_2005-2007.cfm

Gray Notebook
Subject Index

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16**= Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic ***Edition***

Aviation

Air Search and Rescue 6, 13, 17
Airport Aid Grant Program: Amount Awarded 6, 13, 17, 21
Airport Land Use Compatibility and Technical Assistance 21
Airport Pavement Conditions 17, 21
Airports in Washington 6, 13, 17
Aviation System Planning 17
Fuel: Taxable Gallons 6
Project Delivery 21
Registrations of Pilots, Mechanics and Aircraft 6, 10, 13, 17, 21
Registration Revenue 10, 13, 17
Training of Pilots and Mechanics 6

Benchmarks (RCW 47.01.012)

Administrative Efficiency 9, 14, 18, 22
Bridge Condition Goal 14, 18, 22
Non-Auto Share Commute Trips Goal 14, 18, 22
Pavement Goal 14, 18, 22
Transit Efficiency 9, 14, 18, 22
Safety Goal 14, 18, 22
Vehicle Miles Traveled (VMT) per Capita 9, 14, 18, 22

Bridge Conditions on State Highways

Age of WSDOT Bridges 4
Bridge Ratings (FHWA): Structurally Deficient and Functionally Obsolete 4
Bridge Condition Ratings: State Comparison 8
Bridge Replacements 19
Bridge Structural Condition Ratings 11, 15, 19, 22
Deck Protection Program: Overview 4, 8, 11, 15
Deck Protection Projects: Planned vs. Actual Projects 4, 5, 8, 11, 15
Hood Canal Bridge Update 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Inspection Program 4, 11, 15, 19
Inventory of WSDOT Bridges 4, 5, 8, 11, 15, 19
Movable Bridge Repair 19
Preservation Program Results 11, 15, 19
Rehabilitation and Replacement Project Schedule 4, 11, 15, 19
Repairs 19
Risk Reduction 19
Scour Mitigation 4, 11, 15, 19
Seismic Retrofit Program: 1990-2020 Status 4, 8, 22
Seismic Retrofit Program: Planned vs. Actual Projects 4, 5, 8, 11, 15
Seismic Retrofit Program: Risk Reduction 19
Seismic Retrofit Program: Top 10 Priority Bridges 4, 8
Steel Bridge Painting: Planned vs. Actual Projects 4, 5, 8, 11, 15
Tacoma Narrows Bridge Update 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Commute Options

Award for the Commute Trip Reduction Program 6, 11
City of Redmond Case Study 19
Commute Mode Share Trends 4, 6, 7, 13
Commuting Trends at CTR Work Sites and Work Sites in General 4, 19, 22
CTR Task Force Report: Biennial Results 4, 13
Cost Effective Strategies 19
Drive Alone 6, 7, 20
Eastgate Park and Ride Expansion 9
Effectiveness of CTR Program (Biennial Results) 4
Employer Participation, Investment, and Benefits 2
Gasoline Consumption Per Capita (Northwest Environment Watch) 7
Grant Programs 20
Opportunities for Commuters 15
Park and Ride Lot Occupancy Rates: Central Puget Sound 4, 14
Park and Ride Lot Occupancy Rates: King County 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
Park and Ride Lot Security 5
Park and Ride Lot Puget Sound System 8
Vanpool Investments 15

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16**= Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic ***Edition***

Vanpool Operation in the Puget Sound Region 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Vanpooling Share of Daily Puget Sound Area VMT 2, 15
VanShare Trends 8, 9, 11, 12, 15

Congestion on State Highways
Accidents on Interstate 405: 2001 and 2002 9
Benchmark Policy Goals for Congestion: Analysis 5
Case Studies: Before and After Results 15, 19
Comparisons of Conditions 2002-2003 15
Congestion Measurement Principles 5, 6, 19
Congestion Monitoring 19
Cost of Delay 15
Daily Vehicle Hours of Delay per Mile, Sample Commutes Measured
by Delay, Time of Day Distribution of Delay, and Travel Rate Index 2, 5
Distribution of Traffic Between Freeways and Arterials: 1999 to 2003 9
Earlier Congestion Measurement Efforts: 9
Employment in the Puget Sound Region 9
Highway Improvements Have Reduced Congestion 9
HOV Lane Performance 19
Induction Loop Detectors 5
Intelligent Transportation Systems in Washington State 5, 22
Lost Throughoput Efficiency 19
Measuring Delay 19
More Work on Recurrent and Non-Recurrent 15
Peak Travel Times for 20 Routes 15
Peak Travel Times: Key Commute Routes 19
Recurrent and Non-Recurrent Congestion 19
Sources of Congestion 15
Traffic Speeds and Volumes on SR 520: 2000 and 2003 9
Traffic Volumes at Seven Locations in March, 2000 to 2003 Average 9
Traffic Volumes on Nine Puget Sound Region Corridors 5
Travel Time Performance 19
Travel Time Reliability 6, 9, 15
Travel Time to Work Comparison: State and County Rankings 5
Travel Times on 11 Puget Sound Region Corridors 5, 9
Travel Times With and Without Incidents 6
Typical Freeway Traffic Volume Trend: 1993 to 2002 9

Construction Program for State Highways
Advertisements Process 13
Advertisements by Subprogram: Planned, Actual & Deferred 4, 5
CIPP Value of Advertised & Deferred Projects by Subprogram 4, 5
Construction Program Cash Flow: Planned vs. Actual Expenditures 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
Construction Program Delivery: Planned vs. Actual Advertisements 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
Contracts Awarded: Award Amount to Engineer's Estimate 6, 10, 14, 18, 22
Contracts Completed: Final Cost to Award Amount 6, 10, 14, 18, 22
Contracts Completed: Final Cost to Engineer's Estimate 6, 10, 14, 18, 22
End-of-Season Highway Construction Project Evaluations 12, 16, 20
FHWA Federal Performance Report Card 12
Hood Canal Bridge Update 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Hot Mix Asphalt Pavement Delivery 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 22
Lane Miles Added to State Highway System 2, 13
Rising Cost of Construction Materials 15, 19
Safety Construction Program: Planned vs. Actual Advertisements 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19
Tacoma Narrows Bridge Update 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Design
Age Related Safety Issues 10
Cable Median Barrier Installation: Before and After Collision Data 12, 20
Driving Speeds on State Highways 4
Guardrail Retrofit Program 11
Roundabout Installation: Before and After Collision and Injury Data 12, 22
Value Engineering 6, 10

Environmental Stewardship
Agencies Approve Projects 18
Compost Use 7
Construction Site Erosion and Runoff Protection 4, 6, 9, 12, 16
Chronic Riverbank Erosion - Hoh River 15
Diesel, Particulate Matter 17

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16**= Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic ***Edition***

"Ecology Embankment" Pollutant Removal 8
Environmental Assessments 18
Environmental Compliance Assurance: Tracking 9, 12, 16, 18, 20
Environmental Impact Statement Processing Time 9, 13
Environmental Impact Statement Concurrence Request Approval Rate 13
Environmental Management Systems Update 20
Erosion Control Preparedness 20
Fish Passage Barriers 4, 13, 17, 22
GIS Workbench 14
Hazardous Materials Removal 15
Herbicide Usage Trends 5, 8, 12, 16
Operational Improvements 22
Organic Recycling Award for WSDOT 12
Programmatic Permits 13, 17, 22
Quieter Pavements 22
Recycling Aluminum Signs 7
Stormwater Treatment Facilities 12, 16, 20
Violations 9, 12, 16
Water Quality Impacts 16, 20
Wetland Internship 14
Wetland Mitigation and Monitoring 5, 9, 12, 16, 20
Wetland 14, 16
Wildlife Crossings 18

Ferries (WSF)

Capital Expenditure Performance: Actual vs. Authorized 19, 20, 21
Capital Expenditure Performance: Planned vs. Actual 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,18, 21, 22
Customer Comments 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Electronic Fare System and Smart Card 17
Fare Comparison: WSF to Other Auto Ferries 4
Farebox Recovery Comparison: WSF to Other Auto Ferries and Transit 5
Farebox Recovery Rate 5, 12, 16
Farebox Revenues by Month 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22
Fleet Condition: Ferry Ages by Class of Vessels 13, 21
Life Cycle Preservation Performance: Planned vs. Actual 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
On-Time Performance 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Operating Costs Comparison: WSF to Other Ferry Systems 3
Ridership by Month 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Trip Planner 17, 18
Trip Reliability Index and Trip Cancellation Causes 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

GPS at WSDOT

Tour the State Highway system- SR view Development of the "Smart Map" 13

Maintenance of State Highways

Achievement of Biennial Maintenance Targets (MAP) 3, 4, 8, 12, 16
Anti-Icer Evaluation 17, 18, 21
Anti-Icer Use 21
Anti-Litter Campaign Update 5, 11
Automated Anti-Icing Systems 7
Avalanche Control 15, 21
Capital Facilities Construction Projects 18, 22
Costs of State Highway Maintenance 4, 16
Customer Satisfaction with WSDOT Highway Maintenance Activities 3
Debris Pusher Maintenance Attachment 6
Facilities 19, 22
Facilities Condition Rating 18, 22
Global Positioning for Snow and Ice Control 13
Guidepost Driver 11
Herbicide Usage Trends 5, 8, 12, 16
Highway Sign Bridges: Planned vs. Actual Repairs 3, 4, 6, 8
Highway Signs: Number of Maintenance Actions 6, 8
Integrated Vegetation Management 5, 12, 16, 20
Landscape 19
Litter Removal from State Highways 5, 6, 8, 11, 15
Living Snow Fence on SR 25 9
Maintenance Accountability Process 20
Mountain Pass Highway Closures 7, 9, 17, 21
Pavement Striping: How Do They Paint the Stripes So Straight? 6
Pavement Striping: Planned vs. Actual Miles Painted 3, 4, 6, 8
Pavement Striping: Winter Field Test 18

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16**= Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic ***Edition***

Road Kill on State Highways 5
Safety Rest Area Condition Report 21
Safety Rest Area Improvement Program 21
Safety Rest Area Locations and Amenities 9, 13, 17, 19
Safety Rest Area Level of Service 17, 21
Safety Rest Area Preservation 17, 21
Safety Rest Area Survey 9, 17, 21
Safety Rest Area Truck Parking and Security 17, 21
Safety Rest Area Visitors 21
Safety Rest Areas Wireless Internet Access 19
Salt Pilot Project 7, 10, 17, 18
Snow and Ice Control Operations 4, 7
Snow and Ice Expenditures 17, 21
Survey on Pass Travel Conditions and Anti-Icer Use 2, 13,17
Tools for Winter Driving 17
Traffic Signals: Annual Energy Costs and Incandescent Bulb Conversion 3
Trucks to Get Through the Winter 17
Vortex Generators 5
Water Conservation 19
West Nile Virus 16
Winter Overtime Hours and Snowfall Amount 7, 9
Winter Roadway Condition Level of Service and Anti-Icer Chemicals 9, 13, 17
Winter Severity and Snow and Ice Expenditures 4, 9, 13, 17, 21

Pavement Conditions on State Highways
Concrete Pavement 16
Concrete Pavement Lane Miles by Age and Dowel Bar Retrofit Status 12
"Due" Pavement Rehabilitation Needs 4, 8
Pavement Condition of Various Pavement Types 2,
Pavement Condition Trends 4, 8, 12, 16, 20, 22
Pavement Lane Miles, Annual Vehicle Miles Traveled, and Programmed Dollars 12, 16
Pavement Ratings 20
Pavement Smoothness Rankings by State 4, 8, 12, 16, 20
Portland Cement Concrete Pavement 16
Selecting Pavement Types 16

Program Activities Highlights
Project Starts, Completions, Updates 20, 21
Highlights 20, 21

Project Reporting (Beige Pages)
Construction Cost 20, 21, 22
Construction Employment Information 20, 21, 22
Construction Safety Information 20, 21
Current Project Highlights and Accomplishments 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22
Environmental Documentation, Review, Permitting and Compliance 20
Financial Information 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22
Transportation 2003 (Nickel) Account 20, 21, 22
Multimodal Account 20, 21, 22
Transportation Partnership Account 20, 21, 22
Pre-Existing Funds 20, 21, 22
Hot Mix Asphalt 21
Nickel Program: 2003 Transportation Funding Package 20, 21, 22
Overview of WSDOT's Three Capital Project Delivery Mandates 20, 21, 22
Partnership Program: 2005 Transportation Funding Package 20, 21, 22
Planned vs Actual Number of Projects 20, 21, 22
Pre-Existing Funds Project 20, 21, 22
Program Management Information 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21. 22
Project Delivery 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Right of Way Risks 20, 22
Roll-Up of Performance Information 20, 21, 22
Special Project: Hood Canal Bridge 20, 21, 22
Special Project: Tacoma Narrows Bridge 20, 21, 22
Utilities 20, 22

Rail: Freight
2005 Results Flatline 18
Grain Train - Long Term 18
Grain Train Carloads 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Grain Train Route Map 5, 9
Washington Fruit Express: Car Loadings Per Week 5, 8

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16**= Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic	***Edition***
Rail: State-Supported Amtrak *Cascades* Service	
Amtrak Funding Update	17, 18
Amtrak's Future	5, 6, 7, 9, 10, 17, 18
Budget Update	10
Capital Improvement Program and WSDOT Service Goals	2
Customer Satisfaction	2, 3, 4, 7, 9, 12, 14, 16, 21
Farebox Recovery Percentage by Train	4, 8, 12, 16, 20
Internet Reservations and Automated Ticketing	6
Investment in Intercity Rail Comparison	5
New Crossovers and additional service	18
On-Time Performance	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Operating Costs	4
Passenger Trips by Station	6, 20
Rail Plus Program	15, 16, 19, 20
Ridership by Month	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22
Ridership by Year	20
Ridership by Year: Long-Term Trends	2, 4, 8, 12, 16
Ridership Patterns by Segment (Seats Sold)	3
Route Map: Amtrak in Washington	6
Schools on Trains	18
Station Update	11, 13, 14, 15, 16. 17. 22
Vehicles Diverted Annually from I-5 by *Cascades*	2
Safety on State Highways	
Age-Related Safety Issues	10
Alcohol-Related Fatalities: State Comparison	7
Alcohol-Related Fatality Rate	12, 22
Before and After Collision Data for Highway Safety Improvement Projects	12, 16, 20
Bicycle and Pedestrian Safety: Federal Benchmark	9
Bicyclist Fatality Rates: State Comparison	9, 20
Cable Median Barrier Installation: Before and After Collision Data	12, 20
Corridor Safety Program Results	8, 19
Demographics of Pedestrian Risk	20
Driving Speeds on State Highways	4
Fatal and Disabling Collisions: Circumstances and Type	8
Fatal and Disabling Collisions: at Intersections	9
Fatal and Disabling Crashes and VMT, Percent Change	3, 7, 11, 16, 22
Fatalities and Fatality Rates in Washington	13, 16, 22
Fatalities by Gender and Age Group	10
Fatalities per Capita by State	13, 22
Fatality Rates: State Highways, All State Public Roads & U.S.	3, 7, 11, 16
Guardrail Retrofit Program	11
High Accident Corridors and Locations by Region	4
High Accident Corridors and Locations Statewide	3, 15, 20
Intermediate Driver's License Program	13
Low Accident Locations and Corridors in Cities Over 22,500	20
Low Cost Safety Enhancement Program: Planned vs. Actual Projects	3, 4, 5
Low Cost Safety Enhancement Program: Sample Projects	4, 6
Low Cost Enhancement Safety Program: Before and After Analysis	20
Pedestrian Factors in Vehicle/Pedestrian Collisions	8
Pedestrian Fatality Rates by State	8, 16, 20
Pedestrian Safety in Washington	16
Photo Enforcement	16
Roundabout Installation: Before and After Collision and Injury Data	12, 18, 22
Rumble Strips	14, 18
Safe Routes to Schools Grant Program Status	9, 12
Safety Construction Program: Planned vs. Actual Project Advertisements	3, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17
Washington State Safety Data	13
Safety Laws: Booster Seats and Mandatory Seat Belts	5
Seatbelt Use: State Comparison	7, 11, 22
Safety Enhancements	20
Safety Rest Area Level of Service Trends	13, 17, 21
Safety Rest Area Locations and Amenities	9, 13, 17, 21
Safety Rest Area Preservation: Capital Investment Program 2003-05	13, 17, 21
Safety Rest Area Program	13, 17, 21
Safety Rest Area Survey	9, 17, 21
Safety Rest Area Truck Parking and Security	17, 21
Safety Rest Area Usage	13, 17, 21
Top Ten High Accident Corridor: 2007-09 Biennium	20
Top Ten High Accident Locations: 2007-09 Biennium	20
Wildlife crossings	18

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16**= Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic ***Edition***

Special Features

Eruption Watch....15
Guardrail Sign Mount....15
Overweight and Oversize Permit....16
Performance Audits and Reviews....16
Photo Enforcement....16
Portable Incident Screens....20, 22
"Smart Map" Development....13
Tour the State Highway System with WSDOT's SRview....13
Traffic Signcal Operations....17
Using Plain English at WSDOT....17
Water Conservation Activities....17
West Nile Virus....15

Traffic Operations on State Highways

Blocking Disabled Vechicles and Debris - Trends....15
FHWA Self-Assessment....9
History of Incidence Response....16
Incidents On I-5- Everett to Seatac....15
Incident Response: A Day in the Life Of....19
Incident Response: Anatomy of a 90-minute incident....18
Incident Response Calls Responded to by Region....2
Incident Response Clearance Times....2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22
Incident Response Customer Comments....8
Incident Response Economic Analysis....10
Incident Response Non-Collision Response Types....8, 9, 10, 11, 12, 13, 14, 19, 20, 21, 22
Incident Response Program Activities on Urban Commute Routes....15
Incident Response Program: Construction Zone Traffic Management....19
Incident Response Program: Types of Responses....9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22
Incident Response: Roving Units Compared to Response by Called-Out Units....13, 14, 18
Incident Response Service Actions Taken....7, 10, 11, 12, 13, 14, 18, 22
Incident Response Teams Go to the Olympics....5
Incident Response Teams: Location and Type....7
Incident Response Then and Now....16
Incident Response Timeline....6
Incident Response Times....2, 3, 4, 5
Incident Response: Total Number of Responses by Month....7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18
Incident Response: Total Number of Responses by Quarter....19, 20, 21, 22
Incidents with Clearance Times Over 90 Minutes....6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 21, 22
Induction Loop Detectors....5
Intelligent Transportation Systems in Washington State....5
Joint Operations Policy Statement between WSDOT and Washington State Patrol....5, 17
Number of Responses to Incidents....18, 20
Operational Efficiency Program Strategies....2
Overall Average Clearance Time....20
Response Modes....16
Responses to Fatality Collisions....20, 21, 22
Roving Coverage....16, 18
Service Patrols Contacts....3, 4
Spokane Interstate 90 Peak Hour Roving Service Patrol Pilot....5
Traffic Incident Management Self Assessment....17
Training Incident Responders....16

Travel Information

Award for Traveler Information Web Site....11
Calls to 1-800-695-ROAD and 511....7, 8, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21, 22
Camera Views....7, 8
Evaluation Survey....10
Three-Year Milestones....22
Traveler Information Services Overview....7
Types of Information Requested to 511....18, 20
Website Feedback....8, 9
Website Daily Usage....7, 8, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21, 22

Truck Freight

Automatic De-icers Help Keep Truckers Safe....16
CVISN - Commercial Vehicle Information Systems and Networks....15
Cross Border Truck Volumes....6, 10, 16, 21
Freight Industry Survey....16
Freight Routes and Border Crossings in Washington....6, 10, 16, 21

Edition Key: **1** = Quarter 1 2001, **2** = Quarter 2 2001, **3** = Quarter 3 2001, **4** = Quarter 4 2001, **5** = Quarter 1 2002, **6** = Quarter 2 2002, **7** = Quarter 3 2002, **8** = Quarter 4 2002, **9** = Quarter 1 2003, **10** = Quarter 2, 2003, **11** = Quarter 3, 2003, **12** = Quarter 4, 2003 **13** = Quarter 1, 2004 **14** = Quarter 2, 2004 **15** = Quarter 3, 2004 **16** = Quarter 4, 2004 **17** = Quarter 1, 2005 **18** = Quarter 2, 2005 **19** = Quarter 3, 2005, **20** = Quarter 4, 2005, **21** = Quarter 1, 2006, **22** = Quarter 2, 2006

All editions can be accessed at *www.wsdot.wa.gov/accountability*

Topic ***Edition***

Freight Shipments To, From, and Within Washington 10
Impediments to Truck Shipping: Bridges with Posted Weight Restrictions 6
Improvement Projects with Freight Benefits 10
Intelligent Transportation Systems Use for Trucks 6, 10
Managing Over-Sized Truck Loads 6
Marine Cargo Forecast 16, 21
Osoyoos/Oroville Border Facts 10
Overdimensional Trucking Permits 6, 16
Projects with Freight Benefits 16, 21
Revenue Prorated to Washington for Trucks in Interstate Use 6, 10, 16, 21
Road Segment Ranking 16
Severe Weather Closures 16, 21
Truck Registrations in Washington 6, 21
Truck Share of Total Daily Vehicle Volumes 6

Worker Safety

Accident Prevention Activities 14, 15, 16, 17, 18, 19, 20, 21
Ferry Vessel Workers Recordable Injuries 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21
Highway Engineer Workers Recordable Injuries 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21
Highway Maintenance Workers Recordable Injuries 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21
North American Association of Transportation Safety and Health Officials Meeting 3
Number of OSHA-Recordable Injuries/Illnesses: WSDOT Regions and Ferry System 22
OSHA-Recordable Injuries: Quarterly Rate 22
OSHA-Recordable Injuries: Fiscal-Year-to-Date

Workforce Levels and Training

Highway Maintenance Workers Safety Training 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22
Required Training for all WSDOT Employees 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Required Training for Maintenance Workers by Region 20, 21, 22
Workforce Levels 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

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
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