



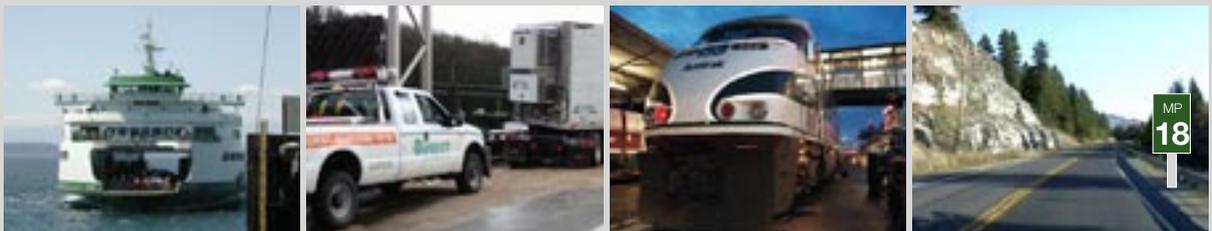
**Washington State  
Department of Transportation**

# Measures, Markers and Mileposts

The Gray Notebook for the quarter ending  
June 30, 2005

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

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# Measures, Markers and Mileposts

The Gray Notebook for the quarter ending June 30, 2005  
18th Edition, Published August 17, 2005

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# Project Reporting on the 2003 Transportation Funding Package

## Introduction

WSDOT prepares information for legislators, state and local officials, interested citizens and the press on the progress of the program funded by the 2003 Transportation Funding Package. 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:

- **Project Reporting**
- **Current Project Highlights and Accomplishments**
- **Project Delivery**
- **Financial Information**
- **Program Management Information**



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

Overall, 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/](http://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.

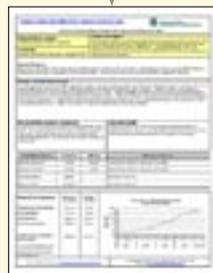
# Project Reporting on the 2003 Transportation Funding Package

## Project Reporting

### Project Information Roadmap



Home Page



Gray Notebook

### Project Pages

Project Pages report on all WSDOT 2003 Transportation Funding Package (Nickel) 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.

Currently, approximately 230 Project Pages, of which 115 are Nickel Projects, provide on-line updates.

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



# Current Project Highlights and Accomplishments

## Capital Construction Overview

The sixteen-year Capital Construction Program represents over 1,300 projects and \$17 billion in planned expenditures. While the highway capital construction program represents the largest capital program at WSDOT, other capital projects include ferry vessels and terminals, rail projects, facilities, local programs, and the Tacoma Narrows Bridge. Funding of these projects includes a variety of fund sources, primarily Pre-Existing Funds (PEF) and 2003 Transportation Funding Package (Nickel) funds. The recently passed 2005 Transportation Funding Package provides a total of \$7.1 billion for all capital programs for 2005 to 2021 (\$6.7 billion for the Highway Construction Program).

The following *Beige Pages* provide information on the delivery of the 2003 Transportation Funding package.

Pre-Existing Funds project information is provided on a programmatic basis in the *White Pages* (Highway Construction Program). The *White Pages* provide information on meeting program advertisement dates, cashflow, details on the delivery of the Safety Improvement Program and selected project highlights and project updates on the Tacoma Narrows and Hood Canal Bridge projects.

All Capital Programs Combined: 2005-2021	
	Dollars in Millions
Facilities	118.6
Improvement Program	10,474.0
Preservation Program	3,992.0
Traffic	143.7
Ferries	1,832.2
Rail	349.2
Local Programs	166.2
<b>Total</b>	<b>\$17,075.9</b>

Pre-Existing Funded Projects: 2005-2021	
	Dollars in Millions
Facilities	118.6
Highway Improvement	1,573.0
Highway Preservation	3,341.0
Traffic	143.7
Ferries	1,477.0
Rail	231.6
Local Programs	45.3
<b>Total</b>	<b>\$6,930.2</b>

2003 Transportation Funding Package: 2005-2021	
	Dollars in Millions
Highway Improvement	2,693.7
Highway Preservation	142.9
Ferries	169.8
<b>Total</b>	<b>\$3,006.4</b>

2005 Transportation Partnership Funding Package: 2005-2021	
	Dollars in Millions
Improvement	6,207.3
Preservation	508.1
Ferries	185.4
Rail	118.3
Local Programs	120.9
<b>Total</b>	<b>\$7,140.0</b>

Notes: All programmatic values are preliminary estimates and are subject to change after a full Plan, Specifications and Estimates (PS&E) is completed on a project basis. Values include all sources of funds at the programmatic level.  
 Source data: 2005 legislative final provided to WSDOT on April 25, 2005.  
 Dollars include: Reserves, Statewide activities and Reductions.

# Current Project Highlights and Accomplishments

## Summary of Project Advertisements, Awards and Completions

The following is WSDOT's report of quarterly developments in the delivery of the 2003 Transportation Funding Package for the quarter ending June 30, 2005. This report will focus on project delivery resulting from adjustments adopted by the Legislature and passed in the 2004 Supplemental Transportation Budget and development of the 05-07 Capital Improvement and Preservation Program.

This project information is gathered from a variety of sources within WSDOT and is principally the responsibility of the various regional administrators and their project teams.

As a regular part of its project management and accountability strategy for the Legislature's 2003 Transportation Funding Package, a team of senior WSDOT managers from Olympia meets in each region every quarter to review the progress and status of each project and to offer assistance, support, and coordination of issues or problems arising with any project. This process also facilitates the ability of headquarters staff to discuss project status with legislative members and staff and to report firsthand to the Secretary, the Governor, and the Transportation Commission.

### Projects Advertised and Completed Biennium to Date

As of June 30, 2005, 39 highway projects have been advertised. Of those, 13 have been completed. Since the March 31, 2005 publication of the *Gray Notebook*, one additional project has been completed, the I-5 Roanoke Noise Wall.

### Recap of Thirteen Nickel Projects Completed as of June 30, 2005

Project Description	On Time Advertised	On Time Completed	Within Scope	On Budget (Dollars in Thousands)		
				Planned	Actual	
I-5 Roanoke Noise Wall	✓	✓	✓	\$3,500	\$1,166	✓ <sup>1</sup>
SR 9/SR 528 Intersection – Signal	✓	✓	✓	\$ 710	\$ 565	20% Under
I-90, Cle Elum River Bridge	✓	✓	✓	1,272	784	38% Under
I-90, Geiger Road to U.S. 2 Median Barrier	Early	Early	✓	781	781	✓
I-90, Highline Canal to Elk Heights – Truck Climbing Lanes	Early	Early	✓	4,200	4,483	2% Over <sup>2</sup>
I-90, Ryegrass Summit to Vantage – Truck Climbing Lanes	Early	Early	✓	8,389	8,389	✓
I-90, Sullivan – State Line Median Barrier	Early	Early	✓	1,040	973	6% Under
SR 97A, Entiat Park Entrance– Turn Lanes	✓	Early	✓	196	136	31% Under
SR 124, East Jct SR 12 – Reconstruction	✓	✓	✓	295	295	✓
I-182/U.S. 395 Interchange – Roadside Safety	✓	Early	✓	76	59	22% Under
SR 203, NE 124th/Novelty Road Vicinity	✓	Early	✓	1,487	1,487	✓
U.S. 395, Kennewick Variable Message Sign	✓	Late	✓	332	308	7% Under
SR 500, NE 112th Ave. – Interchange	Early	Early	✓	21,300	21,300	✓
<b>Cumulative Cost to Date</b>				<b>\$ 43,578</b>	<b>\$ 40,726</b>	

#### Definitions:

"On Time Advertised": the project was advertised within the quarter as planned.

"On Time Completed": the project was operationally complete within the quarter as planned in the 03-05 Budget.

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

"On Budget": within +/- 5% of the baseline budget.

Section 503 2004 Supplemental Budget provides the Transportation Commission flexibility to balance project cost increases and decreases between Nickel projects, and to balance cash flow between biennia near biennial lines, as long as the adjustment does not impact the overall delivery of the ten-year program and does not involve changing the scope of any Nickel funded project.

#### Project Details:

1. Stage 1 complete, Stage 2 under construction

2. During excavation for the new lane, a large amount of saturated clay was found; this increased the cost of construction.

# Current Project Highlights and Accomplishments

## Summary of Project Advertisements, Awards and Completions

### Biennium To Date

Completed projects (13) - see recap on previous page

#### Projects Advertised and Awarded (23)

I-5, 2nd Street Bridge – Replace Bridge  
I-5, Salmon Creek to I-205  
I-5, Pierce County Line to Tukwila – HOV  
I-5, South 48th to Pacific Avenue – Core HOV  
I-5, NE 175th Street to NE 205th Street – NB Lane  
I-5, SR 526 to Marine View Dr.  
I-5, Roanoke Vicinity Noise Wall - Stage 2  
U.S. 12/SR 124 to McNary Pool – Add Lanes  
SR 16, 36th Street to Olympic NW – HOV  
SR 16/I-5 to Tacoma Narrows Bridge – HOV  
SR 18, Covington to Maple Valley Highway  
SR 24, I-82 to Keys Road  
SR 31, Metaline Falls to International Border  
I-90, Pines Road to Sullivan Road – Widen  
I-90 Argonne Road to Pines Road – Widen  
I-90, Eastbound Ramps to SR 18 – Signal  
SR 106, Skobob Creek – Fish Passage  
SR 161, 204th to 176th Street  
SR 161, 234th Street to 204th Street E  
SR 161, Jovita Blvd. to South 360th Street  
SR 240/I-182 to Richland Y – Add Lanes  
SR 240, Richland Y to Columbia Center Interchange  
SR 395, NSC – Francis Ave. to Farwell Rd.  
SR 527, 132nd Street SE to 112th Street SE

#### Projects Advertised, Pending Award (3)

SR7/SR 507 to SR 512 – Safety  
SR 9/SR 522 to 228th Street SE – Widening  
SR 9, 228th Street SE to 212th Street SE (SR 524)

#### Awarded Projects

The total Contract Award value for the 36 awarded projects is \$589 million, \$3.7 million below the pre-bid engineer's estimate of \$593 million. Three projects have been advertised and are pending award. These projects are not included in the engineer's estimate of \$593 million.

#### Delayed/Deferred Projects (8)

##### 1) *SR 3/SR 303 Interchange (Waaga Way) – New Ramp*

Due to delays in completing environmental documentation, the advertisement date for this project has been delayed from May 2005 to August 2005.

##### 2) *SR 9, Nooksack Rd. Vicinity to Cherry Street*

Because of right of way issues described in June 30, 2003 *Gray Notebook*, the project has been deferred to the 05-07 biennium.

##### 3) *I-90, Seattle to Mercer Island*

This project has been delayed to provide for the issuance of the draft Environmental Impact Statement. This Draft EIS will allow the design to be completed by October 2005. This change was reported in the December 31, 2003 *Gray Notebook*.

##### 4) *SR 167, 15th Street SW to 15th Street NW – HOV*

Because of previous funding uncertainties the construction phase of this project had been on hold for several years. The advertisement date has been delayed to allow time for revisions to previous designs of storm water treatment, wetland mitigation and floodplain investigations to meet today's newly applicable environmental requirements. This project now has a planned advertisement date of October 2005.

##### 5) *SR 270, Pullman to Idaho State Line*

The advertisement date will be delayed approximately ten months, from January 2005 to November 2005, to make necessary changes to the design plan as reported in the June 2004 *Gray Notebook*.

##### 6) *SR 522, Bothell – UW Campus Access*

The additional funding needed for construction from the legislature, University of Washington, and General Administration did not materialize during the 03-05 biennium. As a result, this project has been deferred to the 05-07 biennium.

##### 7) *SR 522/I-5 to I-405*

Because of the benefits of coordinating work with the City of Lake Forest Park, the project has been deferred to the 05-07 biennium. See the "Watch List" on page 15.

##### 8) *SR 543/I-5 to International Boundary*

Right of way acquisition and design revisions have caused this project's advertisement date to be delayed to November 2005. See the "Watch List" on page 15.

# Current Project Highlights and Accomplishments

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## Contract Advertising and Awards 2003 Transportation Funding Package (“Nickel Funds”)

### Projects Advertised this Quarter:

#### **SR7/SR 507 to SR 512 – Safety**

This project consolidates access points and constructs sidewalks, retaining walls, illumination, all in order to improve safety on the SR 7 corridor. This project was advertised on June 20, 2005. The low bid was \$13.7 million, \$2.6 million over the engineer’s estimate of \$11.1 million. The contract is awaiting award. The chief factor in the award value exceeding the engineer’s estimate was the escalating cost of materials, primarily concrete. See the “Watch List” on page 14.

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

This project adds lanes and enhances safety on 1.8 miles of SR 9. It was advertised in May 2005. The low bid is at \$18 million, \$400,000 under the engineer’s estimate of \$18.4 million. The contract is awaiting award.

#### **SR 99, Aurora Ave N Corridor Project**

SR 99 will receive significant upgrades between North 145th and North 165th Streets in Shoreline. The project will include the addition of business access and transit lanes, sidewalks, crosswalks, landscaping, illumination, two new signals and left and u-turn lanes. The City of Shoreline is also implementing a regional trail parallel to Aurora Avenue to serve bicyclists. The City of Shoreline is the lead for the construction of this project. Construction began on July 5, 2005. WSDOT’s contribution to funding this project is capped at \$10 million.

# Current Project Highlights and Accomplishments

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## Construction Highlights

### Highway Construction Program

#### **I-5, Pierce Co. Line to Tukwila Interchange – HOV (Stage 4)**

This project widens Interstate 5 between South 320th Street and the Pierce County Line by adding an HOV lane in order to relieve congestion. Construction on this project stage began in the spring of 2005. Currently crews are shifting traffic away from the I-5 median between South 320th Street in Federal Way and the Pierce County line in preparation for HOV lane construction.

#### **I-5, NE 175th Street to NE 205th Street – NB Lane**

This project adds an additional lane on Interstate 5 between northbound NE 175th Street on-ramp and NE 205th Street exit in Shoreline in order to relieve congestion and improve safety for merging traffic. Crews are currently working on drainage and electrical systems in the middle of the freeway.

#### **I-5/SR 526 to Marine View Drive – HOV**

The project constructs northbound and southbound HOV lanes in Everett between SR 526 and the vicinity of Marine View Drive. Contract award was in May 2005 based on the best value proposal submitted by the joint venture team of Atkinson Construction and CH2M Hill, one of several design-build competitors. The design-build contract was executed on May 25, 2005 for \$185 million dollars.

The consultant design-build team has now co-located its staff with WSDOT and FHWA in the Port Gardner Building in downtown Everett. Co-location provides for more efficient design reviews and accelerated completion of the construction plans. Construction is scheduled to begin in fall 2005 with a ceremony scheduled for September 9, 2005.

#### **I-5, 2nd Street Bridge – Replace Bridge**

This project replaces the 2nd Street Bridge over I-5 with increased vertical clearance to avoid a costly and inconvenient detour for trucks. Crews have extended the new 2nd Street Bridge over I-5 and are making significant progress. The project is on schedule to be open for traffic by early October 2005.

#### **I-5, S 48th to Pacific Avenue – Core HOV**

This project adds new ramps and widens structures on I-5 in Tacoma to eliminate the high accident, SR 16/NB I-5 weave and prepare for HOV lanes. The project will ease traffic flow and reduce the very high frequency of accidents on Interstate 5 between South 48th Street and Pacific Avenue in Tacoma.

On June 22, 2005 the construction contract was awarded to Kiewit Pacific Co. of Renton for \$72.9 million. Construction is expected to begin in July 2005.

#### **I-5, Salmon Creek to I-205 – Widening**

This project adds lanes on a two mile bottleneck segment of I-5 between NE 99th Street and NE 134th Street in Vancouver, including the replacement of two bridges over I-5. One of the new bridges has been completed and is now open to traffic. I-5 traffic has been moved along a temporary alignment while embankment and new lane locations have been attended to. Challenges to construction have been presented by wet soils and an unexpected underground spring, adding to the project cost by an as-yet-undetermined amount. All lanes are scheduled to be open to traffic in January 2007.

#### **U.S. 12/SR 124 to McNary Pool – Add Lanes**

This project constructs two additional lanes on 3.6 miles of U.S. 12 and a frontage road. It is the second of five phases that will provide a four-lane section on U.S. 12 from SR 124 to the Wallula vicinity. This is part of an overall, long-range plan to complete a four-lane highway from Burbank to Walla Walla. Work began in January 2005 and is currently 85% complete. On May 31, 2005, the two new U.S. 12 eastbound lanes were opened to traffic, five months ahead of schedule. Work continues towards installing permanent signals at the Humorist Road and Hanson Loop intersections with U.S. 12, installing signs, pavement markings, fencing and other miscellaneous work. Work is likely to be suspended in late July or early August until seeding operations can be done in October. Overall, the project is on schedule and within the proposed budget.

#### **SR 16/I-5 to Tacoma Narrows Bridge – HOV**

A project to build HOV lanes and other improvements on SR 16 from the Tacoma Narrows Bridge to I-5. There are two separate construction contracts. The first was completed in May. The second widens SR 16 from Union Ave to Jackson. Work includes bridge widenings, new retaining walls, new drainage systems and runoff detention ponds and a new frontage road. Work has been moving quickly and all its phases have been very visible to passing motorists. The project is on budget and expected to be open to traffic on schedule (May 2007), despite difficulties launching the project due to lawsuits challenging environmental permits.

# Current Project Highlights and Accomplishments

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## Construction Highlights

### **SR 16, 36th St to Olympic Dr NW, Core HOV**

This project will widen the west side of SR 16 from the new 36th Street interchange to the Olympic Drive Interchange. Construction began in April 2005 and the estimated completion of the widening is the end of the 2005 construction season. The initial construction on this job has paved the eastbound and westbound inside lanes. The single slope median barrier has been placed throughout the project construction limits. The drainage system work is almost completed and the ramp meters are being installed. The eastbound onramp at Olympic Drive is currently being widened. Shoulder paving and the final paving and striping in the eastbound and westbound lanes will occur this fall. Currently, the project is on schedule and within budget.

### **SR 18, Covington Way to Maple Valley**

The clearing and grading permit for this area's widening of SR 18 (completed earlier this year) required a separate contractor to return to the alignment in order to grade and landscape the new highway. This is the contract for that work, with planting expected to begin in 2005 and be completed in 2006, subject to a four year plant establishment warranty. The work began in June 2005 and is on schedule and budget.

### **SR 24/I-82 to Keys Road**

This project widens SR 24 by adding one lane in each direction from I-82 to Riverside Road, improves the interchange, and constructs a new bridge over the Yakima River. The project was awarded to Max J. Kuney Co. in April 2005 for \$34 million. The project budget was adjusted to the award amount and approved by the Transportation Commission. A project ground breaking, featuring Governor Christine Gregoire, occurred on July 12, 2005.

Site preparation activities began during the last week of May. The contractor placed high visibility construction fencing, cleared areas for new bridge foundations, and started forming and pouring foundations for bridges.

### **SR 31, Metaline Falls to International Border**

This project constructs an all-weather highway and replaces the Sullivan Creek Bridge. This is a multi-phased project with two contracts. On the first contract, Metaline Falls to Int'l Border, construction activities resumed in early May 2005 after being shut down for last winter. Excavation of the slopes plus blasting and building of the roadway embankments are in progress. The contract is on schedule with construction

planned during the 2005 and 2006 construction seasons. On the second contract, Sullivan Creek Bridge, the bridge design is underway and a geotechnical report is being prepared. Advertisement is planned for January 2006.

### **I-90, Pines Road to Sullivan Road – Widen & I-90, Argonne Road to Pines Road – Widen**

This project constructs one additional lane in each direction on a 2.1 mile long stretch of I-90 in the Spokane area. Work is now more than 70% complete. Reconstruction of the westbound lanes commenced in March 2005. Concrete-paving began in May. Other ongoing activities, including noise wall construction and electrical installation, are also underway.

### **SR 106, Skobob Creek – Fish Passage**

This project builds a new bridge to replace an undersized culvert, advocated for by a local habitat restoration group. The project was awarded in April 2005. Construction began in June and is expected to be completed in December 2006. For reasons described in the *Beige Pages* in the *Gray Notebook* for December 31, 2004, the construction contract for the project was bid at a higher price than the Legislature's budget expectation (the cost estimate had not been prepared by WSDOT). The contract is now proceeding well.

### **SR 161, Jovita Blvd to S 360th Street**

This project will widen SR 161 to five lanes through the commercial area, and to four lanes in residential areas. Construction crews are nearly finished building retaining walls and can now begin widening the roadway and installing drainage pipes throughout the project. Crews have installed a new culvert underneath SR 161. The new culvert will prevent flooding, and improve fish passage and habitat in Hylebos Creek, an important regional body of water.

### **SR 161, 234th St to 204th Street E &**

### **SR 161, 204th Street to 176th Street**

Provides additional capacity and safety improvements along four miles of SR 161. There are currently two lanes. There will be five lanes when this project is completed. Construction work is being completed on the southern segment, 204th to 234th Streets. The contractor has finished paving, and striping will be completed in August. Roadway widening is nearly complete on the northside project with earthwork for widening and drainage remaining at 176th Street. Signal and lighting work is underway. Construction continues ahead of schedule and within budget.

# Current Project Highlights and Accomplishments

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## Construction Highlights

### **SR 240/I-182 to Richland Y – Add Lanes and SR 240, Richland Y to Columbia Center Interchange**

This project constructs additional lanes on SR 240 between Richland and Kennewick, linking I-182 with the U.S. Department of Energy's Hanford site, the Columbia Center commercial areas, and east Kennewick's industrial zones. Activities during the last quarter include the completion of demolition of all buildings and the relocation of an existing pressurized 12 inch water main for the City of Richland. Clearing and grubbing operations are approximately 80% complete. Embankment construction of the new eastbound lanes continues between the Yakima River and the Richland Y Interchange. Construction of the new Richland Y and George Washington Way Interchange bridge structures are currently underway with concrete footings in place. Excavation for retaining wall footings started during the first week of June.

### **SR 395, NSC – Francis Ave. to Farwell Rd.**

This project constructs two lanes of the North Spokane Corridor between Francis Avenue and Farwell Road and completes the grading between U.S. 2 and Wandermere. The project will have four contracts. The first contract, Farwell Road Lowering, opened Farwell Road to traffic on June 4, 2005 and will be completed under estimated costs. The second contract, Gerlach to Wandermere Grading, completed the roadway clearing and placement of 95% percent of the roadway fill for the U.S. 2 detour. Work has started on the Market Street detour and the realignment of Hawthorne Road. The detours will be completed in early July 2005. Design work is underway for the remaining two contracts, Francis Avenue to U.S. 2 – Grading and Paving, and Francis Avenue to U.S. 2 – Structures.

### **SR 527, 132nd Street SE to 112th Street SE**

This project will construct one new lane in each direction with a two-way left-turn lane from 132nd SE to 112th SE to increase safety and reduce congestion. This is a partnership project with the City of Everett. Crews have completed paving on the eastern half of the roadway and moved traffic onto the new surface from 121st Street SE to 112th.

## **Other Capital Programs – Ferries**

### **Anacortes Multimodal Terminal**

This project will improve parking and circulation, replace and expand the terminal building, and relocate the tie-up slips to deeper water. The upland parking lot expansion has been completed. Work is currently focused on design of the tie-up slip improvements.

## **Other Capital Programs – Rail**

### **Tacoma R.M.D. RR Morton Line Repairs – Phase 2**

The second phase of this project fully restored rail service and was completed in June 2005. Ten miles of the lowest quality track have been upgraded, two key bridges have been rehabilitated, and the trans-load facility in Morton and a rail spur to a new shipper in Frederickson have been completed.

### **High Speed Crossovers – Titlow**

This project provides a crossover near Titlow Park in Tacoma, to allow passenger and freight trains traveling in either direction to change tracks. The track and signal system construction began in March 2005, after completion of the earthwork. All work was completed in June 2005.

### **Mt. Vernon Siding Upgrade**

This project creates a new siding to allow opposite direction passenger trains to safely pass each other near Mount Vernon. The rail siding construction was completed in May 2005. Additional rail storage tracks are now in design, and are expected to be completed on schedule in June 2007.

## **Other Capital Programs – Local Projects**

### **Columbia Center Blvd Railroad Crossing**

The railroad crossing bridge is complete and was opened to traffic in April. Work is underway on the remaining excavation to complete the railroad relocation. Work will continue through the 2005 construction season on excavation, retaining walls and drainage. The project is within budget and on schedule for completion in November 2005.

# Current Project Highlights and Accomplishments

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## Construction Highlights

### Other Highlights and Accomplishments

#### **I-405/SR 520 to SR 522**

The I-405 Kirkland Nickel project is now one year ahead of schedule. This congestion relief project addresses the “Kirkland Crawl.” Stage 1 of the Kirkland Nickel project will construct one additional lane in each direction on I-405 from NE 85th St. to NE 124th St. The request for proposals for design-build will be issued on July 15, 2005, and work can begin immediately following award and execution of the contract. The close coordination efforts of the Multi-Agency Permitting Team and local jurisdictions allowed all permit approvals to be received in time to meet this schedule, resulting in a hoped for opening to traffic in December 2007, one year early.

# Project Delivery

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## Proposed Adjustments to Delivery Planning

### Highway Construction Program

#### **I-5, S 48th to Pacific Avenue – Core HOV**

This the project is on I-5 between South 48th Street and Pacific Ave in Tacoma building new ramps, widening bridge structures over I-5, and making other changes to eliminate the NB I-5/SR16 weave, one of the worst (and most accident prone) traffic bottlenecks in the state, and preparing for HOV lane extension in this area.

Recent construction cost increases, especially in steel and concrete which are big components of this project, have caused expected project costs to be revised upward from the Legislature's Nickel fund expectations. Strong and competitive bids were received on the contract and WSDOT has awarded the contract at a cost of \$72.9 million. WSDOT is proposing a \$3.7 million increase in Nickel funding for the project.

#### **I-90, Ryegrass Summit to Vantage**

This project has been completed. The project constructed a new truck climbing/passing lane. Unexpected soil conditions and earthwork requirements increased the contract from one construction season to two seasons and increased engineering costs. WSDOT needs to increase Nickel funding in the 03-05 biennium close out by \$299,000.

#### **SR 161, 204th Street to 176th Street**

This project provides new lanes along four miles of SR 161. There are currently two lanes. In order to pay a right of way settlement, WSDOT proposes to transfer \$1,600,000 from the 05-07 construction phase to the 03-05 Right of Way phase of this project. Because the construction phase is under budget, this transfer can be accommodated with no change to project cost or schedule.

# Project Delivery

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## Opportunities and Options for Legislative Consideration

### Highway Construction Program

#### **SR 522, Snohomish River Bridge to U.S. 2 (Stage 5)**

This critical corridor, where concerns for safety and the aggravations of back-ups go hand in hand, has been widened to a modern four-lane highway from Woodinville (Route 9) to Paradise Lake Road. Two sections remain: Paradise Lake Road to Snohomish River Bridge (3.6 miles) and Snohomish River Bridge to Monroe (U.S. 2, 4.2 miles). The 2003 Legislative Funding Package provided funding for the Snohomish River Bridge to Monroe section and stipulated that the middle section, Paradise Lake Road (including an interchange) to Snohomish River Bridge, would be funded through the Regional Transportation Improvement District (RTID) program.

RTID funding has not materialized. The mid-corridor section this would have funded (Paradise Lake Road to Snohomish River Bridge) has higher traffic and much greater safety needs than the last section reaching U.S. 2 in Monroe. Furthermore, design for the middle section is 80% complete and environmental permits are in hand that are in danger of going stale and having to be reacquired if the project is not expiring. WSDOT proposes that Nickel funds be used to build the middle section and make provisions for the most critical improvement needed in Monroe, an interchange improvement to facilitate the flow of westbound traffic on U.S. 2 turning left to SR 522.

#### **SR 539, Ten Mile Road to SR 546**

The amount designated by the Legislature for this project in 2003 proved to be too low because the rapid rise in right of way costs in this corridor was not adequately taken account of by WSDOT in its cost estimate. To keep the project moving by acquiring the necessary right of way, WSDOT proposes to shift \$9.8 million in construction funds from 07-09 and 09-11 to use for right of way in 05-07. With the remaining construction funds (about \$58.6 million), WSDOT can proceed with a "Phase 1" construction program taking the widening to about the south city limits of Lynden. The remaining work would then reside in a "Phase 2" project for which additional funds would be required. A more accurate picture of the respective costs of the project elements will be developed in August 2005.

## 2003 TRANSPORTATION FUNDING PACKAGE - PROPOSED ADJUSTMENTS TO PROJECT DELIVERY (Dollars in Thousands)

Project	03-05			05-07			07-09			09-11			11-13			Total by Project Net Change			
	Approved Q7 Budget*	Proposed Q8 Budget**	Net Change																
<b>Proposed Quarter 8 Budget Versus Last Approved Budget</b>																			
I-5, South 48th to Pacific Avenue - Core HOV	5,000	2,963	(2,037)	75,021	79,749	4,728	12,014	13,053	1,039	-	-	-	-	-	-	92,035	95,765	3,730	
I-90, Ryegrass Summit to Vantage	8,389	8,688	299	-	-	-	-	-	-	-	-	-	-	-	-	8,389	8,688	299	
SR 161, 204th Street to 176th Street	3,265	4,865	1,600	9,300	7,643	(1,657)	-	-	-	-	-	-	-	-	-	12,565	12,508	(57)	
All Other Projects, Minor System Adjustments and Rounding	476,255	476,255	-	923,765	923,765	-	788,635	788,635	-	601,265	601,265	-	425,937	425,937	-	3,215,857	3,215,857	-	
<b>Total</b>	492,909	492,771	(925)	1,008,086	1,011,157	3,071	800,649	801,688	1,039	601,265	601,265	-	425,937	425,937	-	3,328,846	3,332,818	3,972	
<b>Proposed Quarter 8 Budget Versus 2004 LEAP Budget (Baseline)</b>																			
2004 LEAP Budget	560,466	492,771	(67,695)	897,506	1,011,157	113,651	834,329	801,688	(32,641)	608,743	601,265	(7,478)	425,232	425,937	705	2004 LEAP Budget	3,326,276	3,332,818	6,542

### 2003 TRANSPORTATION FUNDING PACKAGE HIGHWAY PROJECTS: OPPORTUNITIES AND OPTIONS (Dollars in Thousands)

Project	03-05			05-07			07-09			09-11			11-13			Total by Project Net Change		
	Budget*	O&O Budget**	Net Change															
<b>For Legislative Consideration in 2006 Supplemental Budget</b>																		
Quarter 8	4,881	4,832	(49)	8,269	14,425	6,156	62,850	57,894	(4,956)	8,000	6,849	(1,151)	-	-	-	84,000	84,000	-
SR 539, Terminiile Road to SR 546																		

Notes: \*\*"Budget\*" column is defined as the last approved adjustment to LEAP 2004 Supplemental Budget.

\*\*\*"O&O Budget\*" column is defined as the proposed Opportunity and Option budget.

\*\*\* All Opportunities and Options for Quarters 4 -7 were presented to the Legislature and were approved and included in the 2005-2007 Budget.

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## “Watch List” Projects – Cost and Schedule Concerns

### Updated Projects from the “Watch List” since March 31, 2005

#### Highway Construction Program

##### SR 4, Svensen’s Curve – Realignment

Update from the March 31, 2005 *Gray Notebook*. This project continues to experience difficulties with right of way acquisition. Appraisals for all parcels necessary for the project have been completed. Currently, WSDOT has acquired one parcel, is in active negotiations with a property owner, and will be making offers to all remaining property owners by the end of June 2005.

With local elected officials supporting the continuation of this project, WSDOT is evaluating the project funds to complete preliminary engineering, Right of Way and construction. Preliminary engineering costs are rising as a result of increased environmental permitting requirements and the development of design options to accommodate various right of way acquisition scenarios. Right of Way acquisition/negotiations continues to be the project’s highest risk activity. The cost increases associated with Right of Way reflect inflation and high-risk property acquisition. WSDOT anticipates construction costs will increase due to increased costs associated with oil prices (i.e. equipment operation costs and asphalt) and new wetland mitigation requirements. This project will remain in the *Gray Notebook* Watch List as WSDOT proceeds with right of way acquisition.

##### I-5, Chehalis River Flood Control

This project remains on the “Watch List” while the failure of the U.S. Army Corps of Engineers’ planned funding contribution (see the March 31, 2005 *Gray Notebook*) is being considered. A new finance package must be built if the project is to proceed. This has not yet happened.

##### I-5, Salmon Creek to I-205 – Widening

Update from the March 31, 2005 *Gray Notebook*. During construction of the northbound lane addition on this project, the contractor encountered subsurface drainage conditions that caused costs to rise by about \$2 million, as reported in the *Gray Notebook* for the quarter ending December 2004. The same soil circumstances are also expected on the southbound lanes. Another \$3 million in expenses is expected to be required for the project. This project will continue to be reported in the Watch List until the cost impacts on the project are finalized.

##### SR 7/SR 507 to SR 512 – Safety

This project was advertised for construction in June 2005. On July 27, bids were opened and the low bid was \$13.7 million or 24% above the engineer’s estimate. Currently, WSDOT is analyzing the bid in conjunction with its funding partners, Pierce County and Pierce Transit, to determine if the project can be awarded. The high bid is the result of escalated costs for the extensive sidewalk and other concrete work. Three business owners have also filed a lawsuit in Pierce County Superior Court over business access issues specific to the RCW 47.50. The court will hear arguments on the constitutionality of RCW 47.50 on September 2, 2005. Pending the court ruling on constitutionality, subsequent arguments on the access issues will be heard in November 2005, with a ruling expected in January 2006. WSDOT’s decision to award will not be made until after the court rules on the question of constitutionality, which is expected in early September 2005.

##### SR 9, 268th Street Intersection

Update from the March 31, 2005 *Gray Notebook*. The value engineering review in June identified alignment and wall design changes that could result in a revised construction cost of \$1.39 million. The current budget for this intersection is \$1.31 million. The project team expects to meet the full funding need from cost savings also identified in the value engineering study for the Schloman Road to 256th St. segment of the project.

##### U.S. 12, Attalia Vicinity – Add Lanes

A cost risk assessment performed in April drew together the cost implications of several factors affecting the project. There are several bridges and other structures on the project whose estimated cost will be increased by the run-ups in construction material costs, especially steel and concrete. In addition, Boise Cascade, one of the project abutters with whom discussions have been conducted about the alignment, has advised WSDOT of costly issues with the original proposed alignment, which would have crossed a waste disposal and composting site leading to high costs for monitoring, possible remediation, and the risk of encountering unsuitable subsoils. Alignment changes to respond to these concerns have produced an alignment with desirable safety and operational features, but with new right of way plan requirements as well as coordination issues with utilities and the railroad. The advertisement date for the project has been delayed to January 2006 from October 2005. The open to traffic date should not slip. The new projected cost of the project in Nickel funds is \$15 million as contrasted with the original estimate of \$10.3 million.

# Project Delivery

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## “Watch List” Projects – Cost and Schedule Concerns

### **U.S. 395, NSC-Francis Avenue to Farwell Road and U.S. 395, NSC-U.S. 2 to Wandermere & U.S. 2 Lowering**

As noted in the March 2005 *Gray Notebook*, costs for both Nickel funded projects on the North Spokane Corridor could increase at completion in 2011, due to higher than anticipated costs in Right of Way acquisition and construction materials. To account for cash flow needs due to these increases, WSDOT is proposing to transfer funding from the NSC-U.S. 2 to Wandermere & U.S. 2 Lowering Project to the NSC-Francis Avenue to Farwell Road Project. The expenditure plan will also be revised. Based on the current estimates, \$17 million would be advanced and transferred to the 05-07 biennium from 09-11 biennium, and between \$15 million and \$20 million transferred in the 07-09 biennium. These transfers do not result in a net change in the Nickel funding for these two projects. However, the transfers shift the \$32 to \$37 million shortfall in the funding to the NSC-U.S. 2 to Wandermere and U.S. 2 Lowering project. The region is investigating project design changes to reduce costs and develop alternative funding proposals to address this cost increase.

### **SR 543/I-5 to International Boundary**

As reported in detail in previous editions of the *Gray Notebook*, this project's original cost estimate has proved to require adjustment based mostly on two factors: (1) problems with right of way acquisition in the commercial area near the border crossing point; and (2) problems with engineering redesign as a result of soil conditions discovered during detailed geotechnical investigation. The approach to the engineering issues presented for retaining walls and slopes appears to be workable, based on test shafts installed this year. Other engineering changes are also being made. Right of way costs remain uncertain until acquisitions are actually accomplished.

Good news offsetting some of the cost concerns for the project emerged in the recent passage of the federal surface transportation act reauthorization, in which the project received a \$3 million earmark. This will go a long way to helping achieve the project at a cost to the state near the state's original cost expectation.

## **Other Capital Programs – Rail**

### **Geiger Spur Connection**

Update from the March 31, 2005 *Gray Notebook*. This project remains on the Watch List because WSDOT continues to be concerned that project costs will exceed the early estimate by as much as \$2 million and funding for this potential cost increase remains uncertain. In June 2005, Spokane County, in collaboration with WSDOT, selected an engineering firm to begin preliminary design and develop an updated engineer's estimate.

## **New Items Added to the “Watch List” since March 31, 2005**

### **Highway Construction Program**

#### **I-5/SR 502 Interchange**

This project will construct a new interchange that connects Interstate 5 (I-5) to SR 502. The project will reduce accident risks on I-5 and provide a direct connection to SR 502 at Battle Ground. This project was added to the Watch List due to ever rising right of way acquisition costs.

The Right of Way estimate has significantly increased from the initial allocation in the Nickel Package due to several factors, including an increased project footprint at the NE 10th Ave. intersection, impacts to private septic systems that necessitate full parcel acquisitions, and property values that have increased much more than anticipated. The latest estimate shows that right of way acquisition may require an additional \$7 million in funding.

The March 2005 *Gray Notebook* reported the advancement of \$350,000 in Preliminary Engineering (PE) funds from the 2005-07 biennium to the 2003-05 biennium. The project actually expended \$150,000 more in PE in the 03-05 biennium than was advanced. The advancement of funds was needed to meet the project schedule. WSDOT will continue to monitor the funding situation.

#### **I-5, Southbound Ramps at SR 11/Old Fairhaven Parkway**

This project will improve the I-5 and SR 11 interchange to increase safety by reducing accident risks. This project was added to the Watch List due to schedule concerns.

This project is a coordinated effort with the City of Bellingham's improvements to neighborhood streets. The City needs

# Project Delivery

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## “Watch List” Projects – Cost and Schedule Concerns

additional time to complete right of way, environmental and permitting requirements. This may cause the advertisement date to be delayed.

### **SR 9, Nooksack Rd Vicinity to Cherry Street**

This project will realign, widen, and repave State Route 9 between the Nooksack Road vicinity and Cherry Street in Sumas to improve safety and reduce closures. Right of way acquisition is proceeding slower than hoped. Depending on progress, either there will be a delay in the October 2005 advertisement date or the advertisement may be issued subject to acquisition of any outstanding parcels prior to the award of the contract.

Design and right of way acquisition costs have increased by \$600,000. The project team is reviewing the construction estimate to see if these increases can be accommodated within the existing budget. Progress of these issues will be monitored closely through the quarter and an update will be provided in the September 2005 *Gray Notebook*.

### **SR 522/I-5 to SR 405 Multimodal Project**

This project will install a traffic signal and crosswalk at NE 153rd Street, widen eastbound SR 522 at NE 153rd Street to build a new transit stop, construct a six foot wide sidewalk on both sides of SR 522, and replace the two way left turn lane with a raised median to restrict left turns and provide u-turns where needed. The joint project requires right of way acquisition of 26 parcels. Most appraisals are complete and offers to purchase are being made as appraisals come in. These acquisitions are complicated by many business owners' opposition to the project's access improvements for safety, such as median barriers to prevent free left turns across traffic. Utility relocations, especially by Seattle City Light, are also presenting issues. The utility has determined that relocation should be achieved by a utility undergrounding program with an expense of approximately \$6 million for which funding is not clear. In August, when WSDOT project plans reach the 60% stage, Seattle City Light will begin its own utility relocation engineering. The Lake City Way/Bothell Way corridor, badly burdened by traffic and an area of heavy commercialization, is proving to be a very difficult environment for expeditious delivery of the project. The current ad date is delayed indefinitely awaiting further development of the issues just described.

## Other Capital Programs – Rail

### **Vancouver Rail Project**

This project will construct capacity improvements and a road/rail grade separation that includes a by-pass of the rail/freight yard and a 39th Street grade separation. Property acquisition is underway at this time.

WSDOT has received the 30% design documents for the project from Burlington Northern Santa Fe (BNSF). The preliminary cost estimates for both the rail and roadway elements of the project far exceed the amount budgeted for the project. Both WSDOT and BNSF recognize that there will need to be modifications made to the preliminary design. WSDOT is performing an extensive engineering review of the documents to determine the causes of the increases and is identifying opportunities to reduce costs. This information will be used to work with BNSF and the City of Vancouver to immediately begin modifications to the design. A formal value engineering review will take place later in the 2005-07 biennium.

### **Cascade and Columbia River Upgrade**

This project would upgrade the light-duty tracks that serve Oroville. However, BNSF has notified the major shipper and the Cascade and Columbia River Railroad that it is considering reducing carload service to the shipper. This puts the viability of the project into question. WSDOT will continue to gather information and assess the situation.

# Financial Information

## 2003 Transportation Funding Package - Paying for the Projects

The first *Beige Pages* (June 2003) displayed the revenue assumptions underlying the 2003 Transportation Funding Package. The revenue forecast has now undergone numerous updates. Legislative action since 2003 has also impacted the underlying assumptions, primarily due to changes to the distribution of revenue from vehicle title fees. The following information incorporates the June 2005 forecast projections. Further refinements to debt service estimates have also been made.

### Revenue Forecasts

**2003 Transportation Funding Package Highlights: Deposited into the Transportation 2003 (Nickel) Account (established by the 2003 Legislature)**

- 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

### Forecast Update

The accompanying charts show the current projected revenues over the next ten years (for the 2003 Funding Package sources) as forecasted in June 2005 by the Transportation Revenue Forecast Council. This forecast is compared to the Legislature's assumed 'baseline' projections used in the budget-making process in March 2003. Both cumulative ten-year totals and individual biennial amounts are shown.

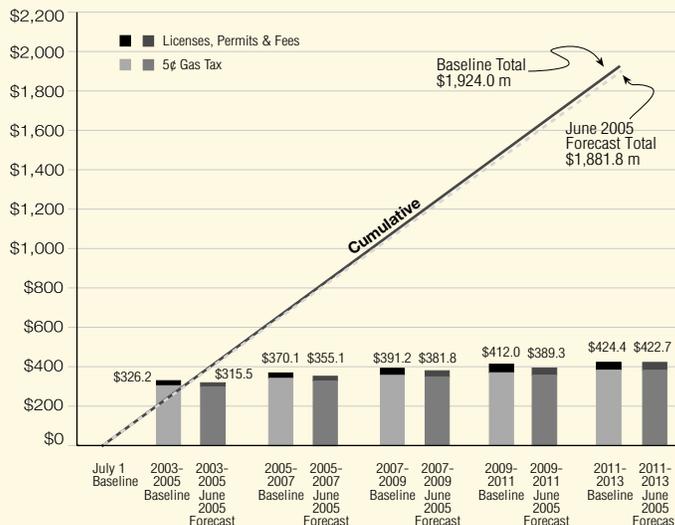
Forecast comparisons include actual revenue collection data to date as well as updated projections based on new and revised economic variables. The June 2005 forecast of the 2003 Funding Package includes 24 months worth of actual revenue receipt information for gas tax and 23 months worth of actuals for license, permit and fees.

Gas tax receipts for the Transportation 2003 (Nickel) Account, over the ten-year period, showed no change from the March 2005 forecast. The forecast for licenses, permits and fees decreased (-4.7%). Overall, these factors have caused a very slight decrease (-0.4%) in the ten-year look for the account.

In the Multimodal Account, both vehicle sales tax projections and the plate retention fee are higher than the March 2005 forecast resulting in a slight increase in the ten-year look (0.7%). Forecasted revenues are still closely aligned with the legislative baseline projection.

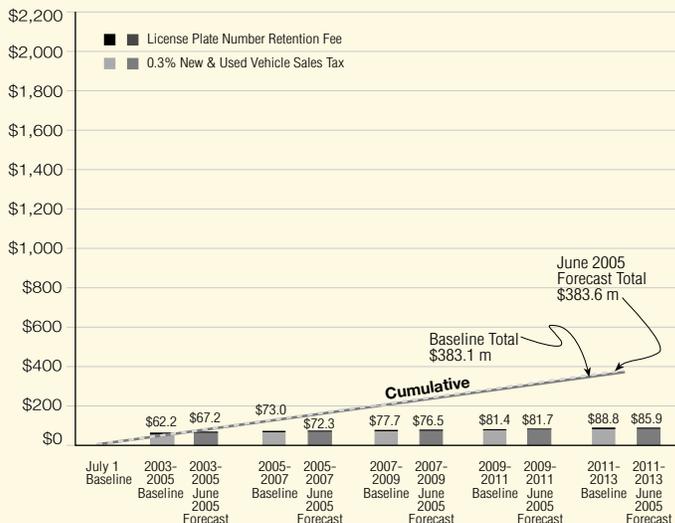
### Transportation 2003 (Nickel) Account Revenue Forecast

March 2003 Legislative Baseline Compared to June 2005 Transportation Revenue Forecast Council  
Millions of Dollars



### Multimodal Account (New Sources) Revenue Forecast

March 2003 Legislative Baseline Compared to June 2005 Transportation Revenue Forecast Council  
Millions of Dollars



# Financial Information

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

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

The proceeds from these gas tax bonds are used to fund highway projects. The debt service is paid by the revenue generated from the nickel increase in the gas tax. The proceeds from the state GO bonds are used to fund rail and ferry projects. Debt service for these bonds is paid from the Multimodal Account. Receipts from the 0.3% sales tax on new and used vehicles are deposited to the Multimodal Account and augment rental car tax receipts and other fees already directed to this account.

### 2003-2005 Biennium

The Legislature appropriated \$275 million in proceeds from the gas tax bonds and \$47.7 million from the state GO bonds. The final bond sale for the biennium took place in March 2005. Total bond sales for the 2003 Transportation (Nickel) account bonds were \$260 million and \$41.6 for the multimodal (GO) bonds. The table below has more detailed information for each bond sale during the biennium.

Due to adjustments to the cash flow requirement needs for projects funded by the Transportation 2003 (Nickel) Account, the ten-year plan has been revised. The financial plan in the next section displays the current projected expenditure plan.

Date of Sale	Assumed Interest Rate	2003 Transportation (Nickel) Account Bonds		Multimodal Bonds (GO Bonds)	
		RCW 47.10.861 Amount Sold	True Interest Cost	RCW 47.10.867 Amount Sold	True Interest Cost
August 2003	5%	\$80,000,000	4.64%	-	
February 2004	5%	\$25,000,000	4.41%	\$20,000,000	4.44%
July 2004	5%	\$70,000,000	4.67%	-	
March 2005	5%	\$85,000,000	4.47%	\$21,600,000	4.48%
<b>Total Bonds Sold to Date</b>		<b>\$260,000,000</b>		<b>\$41,600,000</b>	

# Financial Information

## Transportation 2003 (Nickel) Account

The Transportation 2003 (Nickel) account was established in the state treasury to be the repository for the revenue raised by the nickel gas tax increase and the increases in various vehicle licenses, permits and fees. Proceeds of bonds issued under the \$2.6 billion gas tax bond authorization are deposited to this account. Uses of the account include cash funding of highway and ferry projects identified by the legislature, and paying debt service and other associated costs for bonds sold to provide debt financing for highway projects. Since gas tax receipts are deposited to this account, the uses are restricted to highway purposes as required by the 18th Amendment of Washington's Constitution. The financial plan below reflects the 2005-2007 biennia budget as passed by the Legislature in April 2005 as well as the legislative projected out-year plan. The 2003-2005 biennium, as displayed, reflects the expected expenditures for the biennium at the time the budget was enacted. This plan brings together all of the projected sources (tax revenue, bond proceeds, interest earnings) and uses (expected cash flow needs, 10-year projected program expenditures including newly enacted revenues and expenditure plans from the 2005 Legislature, and debt service) for this account.

Because financial plans are forward looking documents, 2005 and beyond will not match the "Opportunities and Options" table presented on page 13, which is a look back at the 2003-05 plan.

The gas tax receipts forecast for the ten-year period decreased slightly from the March 2005 forecast (\$0.4 million) and the forecast for licenses, permits and fees also decreased (\$6.9 million) for the 10-year period. Changes to the actual sources and uses of funds have been updated to reflect the most current forecast. The updated *pro forma* predicts an ending balance of \$22.4 million by the end of the 2011-2013 biennium. The March 2005 *pro forma* predicted a negative \$5.1 million ending balance. This change is primarily due to a reassessment of debt service interest rate assumptions and the subsequent reduction in projected debt service payments.

Key economic factors, actual tax receipts, future legislative action, and interest rates will continue to change over time. Future updates to forecasts, including actual and revised assumptions pertaining to bond sales and debt service, will continue to change the projected final ending balance.

### Transportation 2003 (Nickel) Account Pro Forma Ten-Year Financial Plan

June 2005 Revenue Forecast with 2005-2007 Enacted Budget & Expenditure Plan

(Millions of Dollars)

	03-05	05-07	07-09	09-11	11-13	Ten-Year Total
<b>Balance Forward from Previous Biennium</b>	<b>\$0.0</b>	<b>\$51.4</b>	<b>\$14.8</b>	<b>\$40.1</b>	<b>\$50.5</b>	
<b>Minimum Balance</b>	<b>(\$5.0)</b>					
<b>Sources:</b>						
Gas Tax Revenues (new 5¢)	295.8	332.2	352.3	369.8	384.2	1,734.4
Licenses, Permits and Fees Revenues	19.7	22.9	29.5	36.9	38.4	147.5
Interest Earnings	4.3	5.0	3.0	3.0	3.0	18.3
Transfers from Other Accounts	0.0	0.5	0.0	0.0	0.0	0.5
Bond Proceeds	260.0	940.0	863.0	400.0	137.0	2,600.0
Federal Funds	0.0	0.0	0.0	0.0	0.0	0.0
Local Funds	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Sources of Funds</b>	<b>\$579.8</b>	<b>\$1,300.6</b>	<b>\$1,247.8</b>	<b>\$809.7</b>	<b>\$562.7</b>	<b>\$4,500.6</b>
<b>Uses:</b>						
Cost of Bond Issuance	1.0	2.4	2.2	1.0	0.3	6.9
Bond Sale Underwriters Discount	2.1	7.1	6.5	3.0	1.0	19.7
Debt Service Withholding	22.2	107.7	243.6	338.1	369.6	1,081.2
Highway Improvements	491.2	1,174.5	871.9	429.9	215.9	3,183.3
Highway Preservation	1.7	10.6	0.0	0.0	0.0	12.3
Washington State Ferry Construction	5.2	35.0	98.3	27.4	3.9	169.8
<b>Total Uses of Funds</b>	<b>\$523.4</b>	<b>\$1,337.2</b>	<b>\$1,222.4</b>	<b>\$799.3</b>	<b>\$590.8</b>	<b>\$4,473.2</b>
<b>Biennium Ending Balance</b>	<b>\$51.4</b>	<b>\$14.8</b>	<b>\$40.1</b>	<b>\$50.5</b>	<b>\$22.4</b>	<b>\$22.4</b>

# Financial Information

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## Multimodal Transportation Account

The Multimodal Transportation Account was established in 2000 as the repository for tax revenues and operating and capital expenditures not restricted by the 18th Amendment. Both the 2003 and 2005 Funding Packages direct receipts to the Multimodal Account. The 2003 Transportation Funding Package directs receipts from the additional 0.3% sales tax on new and used vehicles and the license plate number retention fee. Funds directed by the 2005 package are discussed in the following section. The most significant pre-existing tax deposited to this account is the rental car tax. The 2003 Funding Package also directs proceeds from the \$349.5 million state GO bonds authorization to this account.

Because of the mix of pre-existing funds, 2003 and 2005 funding being deposited into the Multimodal Account, a clear-cut view of the impact of the 2003 Funding package on this account is less visible.

As shown on page 17 of this section, forecasts of revenue generated by the 2003 Funding Package are closely aligned with the legislative baseline.

The 10-year financial plan for the Multimodal Account with all of its funding sources and associated expenditure plans is displayed on the following page. The Multimodal account is projected to maintain a positive cash balance in 2005-2007 and remains positive throughout the ten year period.

As with the Transportation 2003 (Nickel) Account, key economic factors, actual tax receipts, future legislative action, and interest rates will continue to change over time. Future updates to forecasts, including actual and revised assumptions pertaining to bond sales and debt service, will continue to affect the projected final ending balance.

# Financial Information

## Multimodal Transportation Account

### Multimodal Account Pro Forma Ten-Year Financial Plan

June 2005 Revenue Forecast with 2005 - 2007 Enacted Budget & Expenditure Plan

(Millions of Dollars)

	03-05	05-07	07-09	09-11	11-13	Ten-Year Total	
Balance Forward from Previous Biennium	\$14.1	\$24.2	\$20.5	\$53.0	\$69.9		
<b>Sources:</b>							
Licenses, Permits Fees Distribution	18.5	15.9	16.6	17.2	17.8	86.0	
Vehicle Weight Fees and Motor Home Fees		82.8	117.2	121.4	125.6	447.0	← Funding source from the 2005 Funding Package
Rental car tax	39.7	45.2	50.2	54.8	59.0	248.8	
Sales Tax on New & Used Car Sales	66.6	71.6	75.8	81.0	85.1	380.0	← Funding source from the 2003 Legislative Package
Miscellaneous Income	1.6	2.1	4.0	4.0	4.0	15.7	
Bond Proceeds	41.6	49.7	134.2	84.5	38.7	348.6	← Bond Authorization from the 2003 Legislative Package
Transfers from Other Accounts	0.0	21.2	21.6	21.8	21.9	86.4	
Federal Revenue	8.2	18.3	9.2	7.4	7.6	50.6	
Local Revenue	2.9	8.5	2.0	0.0	0.0	13.4	
<b>Total Sources of Funds</b>	<b>\$179.0</b>	<b>\$315.2</b>	<b>\$430.7</b>	<b>\$392.0</b>	<b>\$359.7</b>	<b>\$1,676.6</b>	
<b>Operating Uses:</b>							
Cost of Bond Issuance	0.1	0.1	0.3	0.2	0.1	0.9	
Bond Sale Underwriters Discount	0.4	0.4	1.0	0.6	0.3	2.7	
Debt service	1.4	7.7	20.3	38.7	49.5	117.6	
CTR Tax Credits	4.5	5.5	6.0	6.0	6.0	28.0	
Transfers to Other Accounts & Agencies	5.4	29.4	44.2	43.7	48.2	170.8	
WSDOT Program Support & Planning	5.9	7.0	6.8	7.0	7.2	33.9	
Aviation	0.0	1.0	1.0	1.1	1.2	4.3	
Public Transportation	49.5	56.8	55.6	58.9	61.4	282.2	
Public Transportation	0.0	28.2	45.0	46.0	47.0	166.2	← Projects Funded from the 2005 Funding Package
WSF Maintenance and Operations	5.1	3.7	3.5	4.3	4.5	21.1	
Rail Operating	33.5	36.2	37.2	38.1	40.1	185.1	
Rail Operating	0.0	0.2	5.0	5.0	5.0	15.2	←
Local Programs	0.0	0.2	0.2	0.2	0.2	0.9	
<b>Total Operating Uses of Funds</b>	<b>\$105.8</b>	<b>\$176.4</b>	<b>\$226.1</b>	<b>\$249.9</b>	<b>\$270.6</b>	<b>\$1,028.8</b>	
<b>Capital Uses:</b>							
Highway Preservation	1.7	0.0	0.0	0.0	0.0	1.7	← Projects funded primarily from bonding authority provided in the 2003 Funding Package
WSF Construction	9.8	13.2	63.0	51.2	1.8	139.1	←
Rail Capital	36.2	61.0	80.8	40.5	42.4	260.9	←
Rail Capital	0.0	27.3	21.2	26.5	35.9	110.9	← Projects Funded from the 2005 Funding Package
Local Programs	15.5	33.6	7.0	7.0	7.0	70.1	←
Local Programs	0.0	7.4	0.0	0.0	0.0	7.4	←
<b>Total Capital Uses of Funds</b>	<b>\$63.2</b>	<b>\$142.5</b>	<b>\$172.0</b>	<b>\$125.2</b>	<b>\$87.1</b>	<b>\$590.1</b>	
Total Uses of Funds	\$169.0	\$318.9	\$398.2	\$375.1	\$357.7	\$1,618.9	
<b>Biennium Ending Balance</b>	<b>\$24.2</b>	<b>\$20.5</b>	<b>\$53.0</b>	<b>\$69.9</b>	<b>\$71.8</b>	<b>\$71.8</b>	

# Financial Information

## 2005 Transportation Funding Package - Looking Forward to 2005-2007 and Beyond

The 2005 Legislative Session enacted a new funding package in April 2005. Like the 2003 Funding Package, the 2005 Package ties funding to specific projects and programs. Attaining the legislature's 16-year expectation on program delivery from the 2005 Transportation Funding Package requires that the underlying revenue and all the amounts intended to be raised through bond sales be available to meet program needs. Throughout the implementation of the 2005 Funding Package, actual revenue receipts, revenue forecasts and other financing assumptions must be continually monitored, updated, and related to actual and projected expenditures. This section begins to address these issues.

### 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)
  - Identacards, 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)

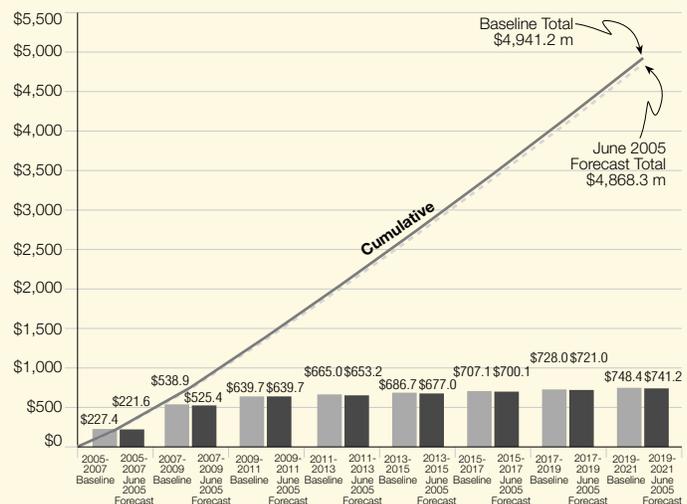
### Forecast Update

The accompanying chart shows the current projected new gas tax revenues over the next 16 years as forecasted in June 2005 by the Transportation Revenue Forecast Council, compared to the legislature's assumed 'baseline' projections used in the budget-making process in March 2005. Both cumulative 16-year totals and individual biennial amounts are shown.

Future forecast comparisons will include actual revenue collection data to date as well as updated projections based on new and revised economic variables. Actual revenue collections can change cash flow projections, both positively and negatively. If actual revenue collections are lower than anticipated, monies available in the fund are reduced; conversely, revenue collections higher than anticipated positively affect available monies for project funding. The September 2005 forecast will be the first to have the benefit of actual revenue receipt information.

### Transportation Partnership Account Gas Tax Revenue Forecast

March 2005 Legislative Baseline Compared to June 2005 Transportation Revenue Forecast Council  
Millions of Dollars



# Financial Information

## Bond Sales Plan for New Authorizations Provided by the 2005 Transportation Funding Package

The 2005 Transportation Funding Package includes a new bond authorization of \$5.1 billion.

The proceeds from these gas tax bonds are used to fund specific highway projects. The debt service is paid by the revenue generated from the programmed increase in the gas tax.

### 2005-2007 Biennium

For the 2005-2007 biennium, the Legislature appropriated \$400 million in proceeds from the gas tax bonds. The table below shows the proposed bond sales plan for the 2005-07 biennium. The interest rate assumed for planning purposes on all bond sales this biennium is 5%. The first bond sale for this new authorization was originally planned to be \$70 million. However, due to the uncertainty presented by Initiative 912 and at the direction of the State Finance Committee, WSDOT made no bond sale request for the August 2005 sale. A revised bond sale plan will be developed and presented in future editions of the *Gray Notebook*.

### 16-Year Plan

As noted above, the 2005 Transportation Funding Package included a gas tax backed bonding authorization of \$5.1 billion. The table below presents the projected 16-year plan for future bond sales. If interest rates turn out to be more favorable, monies in the fund available for cash financing will increase due to lower debt service payments; conversely, sales at a higher rate will decrease availability of monies for cash funding due to higher debt service requirements.

### Transportation Partnership Account Bond Sale Plan

(Millions of Dollars)

	2005-07	2007-09	2009-11	2011-13	2013-15	2015-17	Total
<b>Authorization: RCW 47.10</b>	\$400	\$1,128	\$1,375	\$1,306	\$820	\$71	\$5,100
<b>Amount Authorized: \$5.1 billion</b>							

# Financial Information

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## Transportation Partnership Account

The Transportation Partnership Account was established in the state treasury to be the repository for the revenue raised by the new gas tax increase. Proceeds of bonds issued under the \$5.1 billion gas tax bond authorization will be deposited to this account. Uses of the account include cash funding of highway and ferry projects identified by the Legislature, and paying debt service and other associated costs for bonds sold to provide debt financing for highway projects. Since gas tax receipts are deposited to this account, the uses are restricted to highway purposes as required by the 18th Amendment of Washington's Constitution.

Future editions of the *Gray Notebook* will include a ten-year financial plan which will show the projected *Sources* (tax revenue, bond proceeds, interest earnings) and *Uses* (2005-2007 appropriations, 10-year projected program expenditures, and debt service) for this new account. Changes to projected sources and uses of funds will be updated quarterly to reflect the most current forecasts. As changes, either positive or negative, are incorporated into the plan, the ending balances in the outer biennia are affected. Key economic variables, tax receipts, and interest rates will change over time. Future updates to forecasts as well as inclusion of actual receipts will impact the future fund balance.

## Freight Mobility Investment Account

The 2005 Legislature also created the Freight Mobility Investment Account. This account receives a statutory distribution from combined license fees and passenger vehicle weight fees. Uses of funds in this account are for specified projects relating to freight mobility.

## Multimodal Transportation Account

The Multimodal Transportation Account was established in 2000 as the repository for tax revenues and operating and capital expenditures not restricted by the 18th Amendment. The 2005 Transportation Funding Package directs receipts to this account from the new passenger vehicle weight fees, the \$75 motor home fee, and increases to various fees for drivers' license and related services. Both pre-existing revenues and the 2003 Funding Package also direct funds into this account as discussed in the *Beige Pages* section relating to the 2003 Funding Package.

Because this account is the repository for funds from all funding packages, a clear-cut view of the impact of the 2005 Funding Package on this account is less visible. New sources of funds that will be deposited to the account include vehicle weight fees, the \$75 fee for motor homes and increased fees for drivers license and related services.

Like the Transportation Partnership Account, changes to projected sources and uses of funds will be updated on a quarterly basis. The financial plan for this account is displayed on page 21.

# Program Management Information

## Right of Way Acquisition

Some WSDOT projects can be accomplished entirely within existing highway Right of Way. Often, however, on projects large and small, new Right of Way must be acquired before a project can begin construction.

Right of Way acquisition, often a surprisingly involved process, has emerged as one of WSDOT's principal challenges in on-time, on-budget project delivery.

Why is this so, and what are we doing to effectively manage the process?

### Long time lines: Cumbersome Federal Legal Requirements

Most Right of Way acquisitions must be conducted according to the *Uniform Relocation Assistance and Real Property Acquisition Policy Act*. Congress passed this law in 1970, at least partly in response to perceived abuses and overreaching by highway agencies across the country in the highway construction boom days of the 1960s. The *Uniform Act* and its regulations in Title 49, Part 24 of the CFR are very prescriptive in the protections afforded to local homeowners and renters, businesses and other property owners to assure fairness when the state acquires their property for a highway improvement. This includes rights regarding relocation as well as property acquisition. This *Gray Notebook* account focuses mostly on acquisition issues.

#### Some problems routinely encountered:

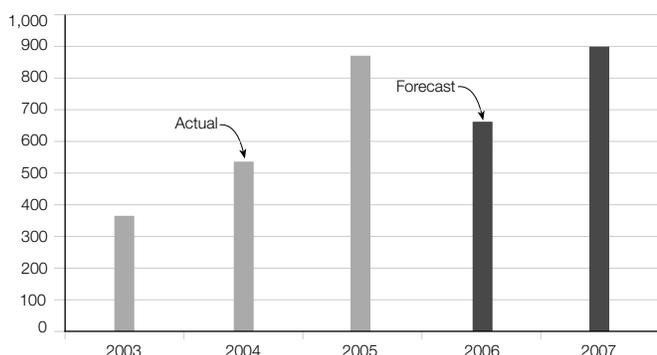
*Long Time Lines.* The *Uniform Act* carefully blocks the state from rushing or pressuring owners either in negotiations or in condemnation proceedings when acquiring Right of Way. Before a project can be advertised for bidding to contractors,

DOTs must certify that all necessary Right of Way is in hand. To avoid long specified timelines for negotiation causing serious delays, the job of identifying and pursuing Right of Way often begins while a project is still in early phases of design. This, a necessity of expeditious project delivery, virtually assures that Right of Way plans *will change and develop* in the course of project design, even as the right of way experts are establishing the Right of Way needs and beginning their acquisition approaches. Project team communication must function at the highest level in order to minimize these risks, and even then rework of Right of Way plans is often unavoidable.

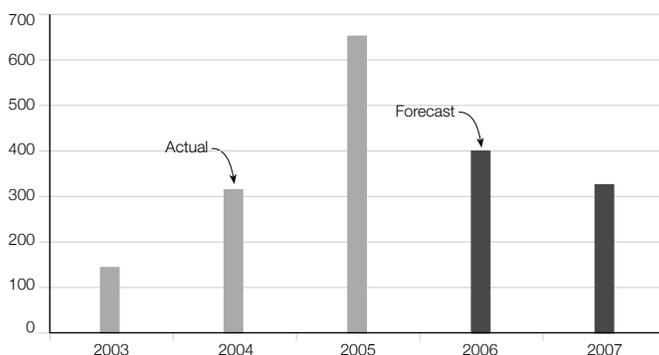
*Appraisal and valuations.* The appraisal process relies on appraisers' professional judgment and unique valuation questions are often presented by the kind of Right of Way acquisitions that are common in creating or expanding a Right of Way corridor. Disputes over valuation are frequent. Such disputes, in turn, drag many parcel acquisitions into further delays, complications and costs of condemnation proceedings filed in the courts.

During fiscal year 2005 WSDOT referred only 21 parcels (of the approximately 500 acquired) to the Attorney General's Office for acquisition. Of these 21, only two or three will likely end up in court, based on previous experience. The process to get a condemnation to court can take months and even years, so WSDOT won't know for quite some time how many of these parcels will actually go to court. The condemnation rate has fluctuated between 3% and 5% for the past several years but never gone above 5%. Effective use of administrative settlements keeps the number of parcels referred for condemnation quite low.

**WSDOT Right of Way Acquisitions**  
Fiscal Years 2003-2007



**WSDOT Right of Way Appraisal**  
Fiscal Years 2003-2007



# Program Management Information

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## Steps WSDOT is taking now include:

*Better coordination to minimize plan changes.* Right of Way plan changes can emerge from project design environmental issues, geotechnical discoveries, ownership complications, and modifications to proposed construction techniques for a project. A plan change may require new title work, new appraisals, and new negotiations with owners, all of which can seriously jeopardize schedules. WSDOT is seeking to improve communication between the design office and the right of way staff on each project to minimize both the number and the effects of these occurrences.

*Early acquisition.* One of the few flexible options for property acquisition under the *Uniform Act* is presented when an entire parcel can be acquired from a willing seller brought to negotiation without the threat of a filed condemnation procedure. Seeking out and taking advantage of these circumstances almost always allows WSDOT to save time. WSDOT is using this practice wherever it can. In the last year, early acquisition strategies have been used with about five parcels, which is about 1% of the total number of acquisitions.

*Early appraisal.* The *Uniform Act* is very specific about when offers can be made to property owners. For example, the environmental work for the project must be complete and the property must be appraised before WSDOT can make an offer to purchase. To expedite acquisitions, WSDOT and other states often conduct “early appraisals” so that the process can be moved quickly when the time arrives to make offers to property owners. The risk, however, is that rapidly escalating real estate values may render appraisals obsolete before they can be used, and then they must be made again. In the meantime, values may change, sometimes dramatically, and in recent experience no one remembers the value of a piece of property going down as time has passed.

*Appraisal waivers.* FHWA practice under the *Uniform Act* long has permitted the formal appraisal process to be waived should both parties choose to do so when the acquisition value is less than \$10,000. FHWA recently raised that maximum value for appraisal waiver to \$25,000. Today about 80% of WSDOT

acquisitions fall within the amount which permits WSDOT to proceed with the waiver of a formal appraisal (unless objected to by the owner). This is potentially a very helpful step.

*Streamlining the lien release process.* When WSDOT acquires just a portion of a property, the whole of which is encumbered by a lien, to secure a mortgage or deed of trust, the question becomes: how does WSDOT obtain a release of the lien holder’s interest in the portion acquired? Reconveyances and Mortgage Releases have become a challenge for project delivery because the lending industry is not as responsive as it once was. Sometimes obtaining these releases may take six to eight months. This trend is not specific to WSDOT or even governmental acquisitions in general, but rather a general trend in the industry. Formerly WSDOT set a threshold minimum value of \$10,000 above which it would require these actions. To reduce their number, WSDOT has recently increased that threshold to \$25,000. To improve the management of these transactions consistent with the needs of project delivery teams in the Regions, responsibilities for these transactions have also been decentralized from headquarters to the regional offices. In the twelve-month period prior to June 20, 2005, 23 such conveyances were noted.

*Expanded use of real estate consultants, including “on-call” appraisal consultants.* Traditionally, WSDOT engaged independent appraisers through project-specific RFP procurements that were time-consuming and inefficient to manage. WSDOT has now selected a number of appraisers to provide services under “on call” contract. This expedites the appraisal process.

WSDOT also has hired real estate services contractors in several areas apart from the appraisal process. With the consultant who assisted WSDOT on right of way work for the forthcoming SR 9/SR522 to *Clearview Project*, WSDOT began formal de-briefing to encourage the consultants to offer their suggestions for improving WSDOT’s Right of Way practices. The consultant’s principal concerns were with the provision of inadequate early plans for right of way needs identification and with the volume of design changes that were made concurrently with the right of way assessment program.

# Program Management Information

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*Sharing WSDOT's appraisals.* By long custom, WSDOT made offers to purchase Right of Way without sharing with owners the appraisal analysis that WSDOT had developed to support the dollar amounts of the offers. Cat-and-mouse negotiations often followed, with owners frustrated at their inability to confront the appraisal information in WSDOT's hands. WSDOT has now changed this practice. The valuation process is now transparent to owners from the very moment WSDOT makes an offer to purchase property. WSDOT believes that this will facilitate negotiation and lead to a reduction of cases in which failure to reach a negotiated agreement leads to courtroom condemnation trials.

*Delegation of administrative settlement authority.* Formerly at WSDOT all administrative settlements of condemnation cases were conducted by the headquarters office. In an effort to streamline procedures, remove bottlenecks and allow the condemnation process better to reflect local circumstances, this power has now been delegated to regional offices.

## **Projects Currently on "Watch List" with Right of Way Concerns**

### ***U.S. 395 North Spokane Corridor***

WSDOT is approximately \$12 million over the original property acquisition budget of \$43.6 million. The overrun has been caused by zoning changes, high court awards and a low estimate to acquire a wrecking yard. The court awards and zoning changes are expected to continue, thus having a continued impact on project costs. WSDOT does not have a current estimate on the additional costs, which are under the control of market forces and litigation outcomes. Costs for this projects will likely increase due to delay in the acquisition process.

### ***SR 4, Svenson's Curve - Realignment***

Potential increased costs on one major parcel may cause Right of Way expenditures for this project to increase substantially. There is a possibility that the parcel may need to be acquired through eminent domain. When that happens, the compensation decision rests with the court.

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

The affected businesses located on this project must be relocated within the immediate vicinity of the International Border. To meet the deadlines provided by the project office, WSDOT decided to provide temporary relocations for the affected businesses, which increased project costs significantly. For instance, the cost to bring in temporary utilities to serve the displacement site is estimated at \$75,000, a cost not included in the original estimate. After considering the increased costs, the project office has decided to allow the business to stay in the displacement site until their permanent replacement sites are complete, rather than relocate them again.

# Program Management Information

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## Utilities

Many buried and hanging utility lines - including water, electricity, sewer, storm drains, phones, cable, internet, and gas - can be affected by a roadway construction project. WSDOT manages roadwork projects that affect utilities through coordination, communication and cooperation.

Coordination keeps utility companies abreast of upcoming projects that may impact their facilities. It also allows utility companies to make upgrades on facilities that could be done jointly with a highway project.

WSDOT engineers communicate early with utility representatives to go over planned highway projects within highway corridors so utility companies can determine how utilities will be affected. This information helps the companies budget and plan to respond to these impacts.

These coordination and communication efforts result in better cooperation. The utilities obtain an understanding of project scheduling, and WSDOT can avoid utility lines, or reduce the amount of time and expense for relocating utility lines and facilities. Utility companies are also encouraged to make and keep commitments on project schedules.

### Some examples of these efforts are:

#### *Interstate 5 -South 48th to Pacific Avenue Project*

The City of Tacoma did not have adequate staff to perform design relocation activities of city-owned water and/or storm facilities. WSDOT used its on-call consultant to design the water and storm facilities. The City then approved the design and administered the contract. This work is taking place in advance of the road construction contract and will reduce the risk of delaying the construction contractor.

#### *SR 24, I-82 to Keys Road project*

Two telecommunications lines hanging on the Yakima River Bridge will be moved because the bridge is being replaced. One utility company chose to move off the bridge, but has to build a reroute system of its lines before it can move. The schedule to get this rerouting completed did not meet WSDOT's project schedule for demolishing the old bridge and placing the new one. To facilitate, the South Central Regional Office is meeting routinely with the telecommunications company to be sure every option is considered to keep the project on schedule. The telecommunications company now has their contractor on site and is temporarily relocating their facilities out of the

way of the contractor's work. Their work is monitored daily to be sure all efforts are being made to meet the contract schedule.

#### *I-90/Moses Lake Area - Bridge Clearance*

A redesign of the bridge created an unforeseen impact on a telecommunications line. WSDOT's designers are working with the telecommunications company to see if there is a way to avoid a costly utility relocation. A joint utility pole, which is a pole with more than one utility, also will be moved. The challenge is to be sure all of the utilities hanging on the pole move at the same time. This means coordinating all of the utility companies' resources, and encouraging them to cooperate in their construction activities.

Ten of the 13 completed nickel projects have required utilities to be moved or otherwise affected; none of these 10 projects have been delayed due to utility work.

# Program Management Information

## Consultant Utilization

The last two quarters of the 2003-2005 biennium closed with a flurry of activity on project development for the Nickel projects. From January 1 through June 30, 2005, consultant authorization increased over 20% on Nickel projects touching many different projects. The net total of new consultant authorizations during these two quarters for work not previously authorized was \$22,927,000, an increase of 40% (over \$6.5 million) from the \$16,356,000 spent in the last two quarters of 2004. The biennium total for Nickel Package reporting for consultant agreement work is now \$121.4 million. Portions of these dollar amounts may include funds committed by funding partners.

### On-Call Consultants

On-Call consultant authorizations for the period January 1, 2005 to June 30, 2005 were \$8,637,831. Forty-two separate prime consultant firms received authorizations, either as new Task Authorizations or as amendments to prior Task Authorizations. Thirty-seven separate sub-consultant firms received work authorizations representing more than \$2 million of that total.

### Project Specific Agreements

Project Specific Agreement authorizations were \$14,289,368 for the same period. These are agreements individually advertised by project. These agreements were either new or were supplements to previous authorizations. Sixteen separate prime consultant firms and 42 separate sub-consultants received authorizations from project specific agreements.

### Preparing for the Next Wave of Projects

In preparation for the large increases in consultant utilization expected from the 2005 Transportation Funding Package, the Consultant Services Office advertised requests for Statements of Qualifications from consultants, both for general statewide needs and the Urban Corridors Program. However, a number of work authorizations which would have used on-call consultants have been delayed due to the current hold on 2005 Transportation Funding Package work pending the results of Initiative 912.

Project	Consultant	Total \$	No. of Subs	Amt for Subs	Auth. Type
SR 99 Alaska Way Viaduct EIS Phase II	Parsons Brinkerhoff	\$7.2 Mil	19	\$4.8 Mil	Suppl.
I-90 Two Way Transit & HOV	HNTB Corp	\$2.4 Mil	5	\$700 K	Suppl.
I-5, SR 161 I/C & SR 18 I/C	Berger/ABAM Engineers	\$1.8 Mil	8	\$800 K	New
SR 539 I-5 Access	Davis Evans & Assoc.	\$600 K	4	\$264 K	Suppl.

Project	Consultant	Total \$	No. of Subs	Amt for Subs	Auth. Type
SR 539 Ten Mile Rd to International Boundary	Universal Field Services	\$1 Mil	-	-	New
SR 520 Design Level Mapping	David Evans & Assoc.	\$685 K	-	-	Amend
U.S. 12 to Walla Walla R.	David Evans & Assoc.	\$513 K	3	\$171 K	New .
I-5/I-205 & 134th St I/C	HDR Engineers	\$364 K	-	-	Amend
Multimodal Ferry Terminal	LMN Architects	\$500 K	7	\$242 K	New .

# Program Management Information

## Environmental Documentation, Review, Permitting, and Compliance

### Compliance With the Endangered Species Act

#### 2003-2005 Biennium Construction Season

Endangered Species Act (ESA) consultation has been completed on all but two of WSDOT's projects: *SR 509 Design and Critical Right of Way* and *SR 304/ SR 3 to Bremerton Ferry Terminal*. Local government agencies are handling the Endangered Species Act (ESA) consultation process for these two projects and the status of the consultation process is unknown.

ESA Compliance Status for 2 Projects 2003-2005 Biennium	Number of Projects
Local Project- ESA processing by local government	2

#### 2003-2005 Projects Being Processed by Local Governments:

*SR 509 Design and Critical Right of Way*  
*SR 304/ SR 3 to Bremerton Ferry Terminal*

#### 2005-2007 Biennium Construction Season

Of the 39 total projects planned for the 2005-2007 biennium, 19 have completed the ESA consultation process. WSDOT has started the consultation process on 11 of the Nickel projects. Two projects are currently under review at the Services<sup>1</sup> (*I-5/ SR 502 Interchange*, and *I-5/ Rush Road to 13th Street Vicinity*). Seven projects have not yet developed sufficient data to start the biological assessments.

ESA Compliance Status for 39 Projects 2005-2007 Biennium	Number of Projects
Endangered Species Act consultation complete	19
Biological Assessment underway	11
Projects lack sufficient information to start the consultation process	7
Local Project- ESA processing by local government	0
Projects under review at the Services <sup>1</sup>	2

#### Post 05-07 Biennium Construction Season

Work is starting on the 30 Nickel projects that are scheduled to begin construction after the end of the 05-07 biennium. Six of the projects have completed the ESA consultation. Three projects have the consultation in process. Twenty-one projects do not yet have sufficient information to start the biological assessments.

#### 2005-2007 Projects with Consultation Completed:

*SR 167, 15th St SW to 15th St NW – HOV*  
*SR 9, Nooksack Rd Vicinity to Cherry St*  
*SR 516, 208th and 209th Ave SE*  
*SR 9 Schloman Road, Vic-256th St. E Vic*  
*SR 9, 108th Street NE (Lauck Road)*  
*I-90 Moses Lake Area – Bridge Clearance*  
*SR 4 Svensen's Curve – Realignment*  
*SR 522, UWBC Campus Access*  
*I-5 Core HOV-S.48th to Pacific Ave*  
*I- 90/ Seattle to Mercer Island*  
*SR 167/NB Ramps to Ellingson Road Signal and Ramp Install*  
*I-205 Mill Plain Exit (112th Connector)*  
*SR 20/Ducken Road to Rosario Road*  
*SR 20/Fredonia to I-5 – Widening*  
*SR 270/ Pullman to Idaho State Line*  
*SR 202/Preston-Fall City Road and SR 203*  
*SR 3/SR303 I/C (Waaga Way) new ramp*  
*I-90/ Pines Road to Sullivan Road Widening*  
*I-5 Core HOV – S 48th To Pacific Ave*

#### 2007 and Beyond Projects with Biological Assessment Underway:

*U.S. 12 Attalia Vic to U.S. 730 – add lanes*  
*SR 99/S. 284th to S.272nd St – HOV*  
*I-5/SR 532 Northbound Interchange Ramps*

#### 2007 and Beyond Projects with Consultation Completed:

*I-5/SR 526 to Marine View Drive*  
*I-405/SR520 to SR 522*  
*SR 22/I-82 To McDonald Road*  
*SR 519 Intermodal Access Project*  
*SR 16 Burley Olalla Intersection*  
*SR 539/Tenmile Road to International Boundary*

#### Ferry and Rail Projects

Similar documentation for Endangered Species Act compliance is submitted for ferry and rail projects. Two ferry projects are scheduled to go to bid in the 05-07 biennium. The Anacortes Terminal Building and the Mukilteo Multimodal Ferry terminal projects are both beginning to prepare their biological assessments. The ESA consultation will be conducted by Burlington Northern Santa Fe Railroad.

<sup>1</sup> The Services are U.S. Fish and Wildlife and the National Oceanographic and Atmospheric Administration and Fisheries.

# Program Management Information

## Construction Employment Information

### How Many Construction Workers Work on Active 2003 Transportation Funding Package Projects?

WSDOT has asked construction contractors on the 2003 Transportation Funding Package projects to provide WSDOT with a “snapshot” estimate of the “average” direct jobsite employment on each Nickel job over the course of the quarter. The following table shows the prime contractors’ responses for their work and their on-site subcontractors on the projects that have gone to construction.



A roller operator working for Scarsella Brother at SR 161, 204th St. to 176th St.

#### Average Number of Workers Employed by Prime and Subcontractors For Active Nickel Projects<sup>1</sup>: Project/Contractor

	Jan - Mar 2005	Apr - Jun 2005
I-5/Salmon Creek to I-205 (Hamilton Construction and its 50 Subcontractors)	26	33
I-90/Argonne Rd. to Sullivan Rd. (Scarsella Bros. and its 26 Subcontractors)	6	43
SR 527, 132nd St. SE to 112th St. SE (KLB Construction and its 37 Subcontractors)	31	29
U.S. 395, NSC - Farwell Road Lowering (Max J. Kuney and its 16 Subcontractor)	12	18
SR 161/234th St to 204th St. E (Scarsella Bros. and its 18 Subcontractors)	7	12
SR 203, NE 124th/Novelty Rd. Vic. Roundabout (Wilder Construction and its 26 Subcontractors)	No work	1
I-5/Federal Way - S 317th St. HOV (Icon Materials and its 35 Subcontractors)	45	47
I-5, 2nd St. Bridge Replacement (Mowat Construction and its 23 Subcontractors)	18	25
SR 18, Covington Way to Maple Valley (Terra Dynamics and its 1 Subcontractor)	No work	No work
SR 18/Maple Valley to Issaquah/Hobart Rd. (Guy F. Atkinson and its 40 Subcontractors)	40	55
SR 31, Metaline Falls to International Border (M.A. Deatley Construction and its 8 Subcontractors)	8	22
SR 161, Jovita Blvd. to S 360th St. (Tri-State Construction and its 14 Subcontractors)	2	36
U.S. 12, SR 124 to McNary Pool (Steelman-Duff, Inc and its 13 Subcontractors)	31	17
I-5, NE 175th St. to NE 205th St. (Pacific Road and Bridge and its 15 Subcontractors)	1	13
SR 161, 204th St. to 176th St. (Scarsella Brothers and its 9 Subcontractor)	No work	21
SR 16, 36th St. to Olympic Drive (Woodworth & Company and its 7 Subcontractors)	No work	20
I-5, Roanoke Vicinity Noise Wall (Mowat Construction and its 4 Subcontractors)	5	No work
I-5, Roanoke Vicinity Noise Wall - Stage 2 (Wilder Construction Co. and its 9 Subcontractors) <sup>2</sup>	No data	No work
SR 16 / Union Avenue to Jackson - HOV (Tri-State Construction and its 33 Subcontractors) <sup>2</sup>	No data	50
US 395, NSC - Gerlach to Windermere (KLB Construction and its 14 Subcontractors) <sup>2</sup>	No data	14
I 5, Pierce Co. Line to Tukwila HOV - Stage 4 (Icon Materials and its 20 Subcontractors) <sup>2</sup>	No data	30
SR 240, I-182 to Columbia Center (Icon Materials and its 49 Subcontractors) <sup>2</sup>	No data	31
SR 24, I-82 to Keys Road (Max J. Kuney Company and its 13 Subcontractors)	No work	11
SR 106, Skobob Creek Fish Passage (Quigg Bros., Inc. and its 6 Subcontractors)	No work	0
SR 99, G. Washington Memorial - Aurora Ave. Bridge (Mowat Construction Co. and its 2 Subs)	No work	No work
U.S. 12, Jantz Road - Construction Frontage Rd. (Inland Asphalt Co. and its 5 Subcontractors)	No work	5

#### Nickel Projects With Completed Construction Contracts

SR 500/NE 112th St. Gher Rd. Interchange (Tapani UnderGround)  
 I- 90/Highline Canal to Elk Heights (Scarsella Bros.)  
 U.S. 395/Kennewick Variable Message Sign (Colivico)  
 I-90/Ryegrass Summit to Vantage (Superior Paving and its Subcontractors)  
 SR 528/SR529 Paving/Columbia Ave. to 55th (Wilder Construction and its 10 Subcontractors)  
 I-90, Sullivan Rd to Idaho State Line - phase two (Inland Asphalt and its 9 Subcontractors)

I-90/Cle Elum River Bridge 90/134 N (Diamaco Inc.)  
 I-182/U.S. 395 Interchange - Roadside Safety (Transtate Paving Co.)  
 U.S. 97A, Wenatchee North - Paving (Basin Paving)  
 SR 124/East Jct. U.S. 12 - Reconstruction/Curve (Transtate Paving Co.)  
 SR 9/SR 528 Intersection - Signal (Signal Electric and its 8 Subcontractors)  
 U.S. 12, SR 124 to McNary Pool - Irrigation Work (Ray Poland and Sons)  
 I-90, Geiger Rd to U.S. 2 Median Barrier (N.A. Degerstrom and its Subcontractors)  
 SR 16, 6th Ave to Jackson - HOV (Tri-state Construction, Inc.)

<sup>1,2</sup> See next page

# Program Management Information

## Construction Safety Information

This section of the *Beige Pages* tracks the job site safety record on the 2003 Transportation Funding Package projects. All recordable injuries are recorded for both WSDOT personnel and the contractors engaged by WSDOT to perform the construction work. This information is combined into a single number indicating the total number of recordable injuries per project per quarter. A recordable injury is any work related illness or injury that results in death, loss of consciousness, days away from work, days of restricted work or medical treatment beyond first aid.



Mike Tong, clipped in for safety, adds grouting to the casing of a bridge pile on SR 16 over Snake Lake.

### Number of Recordable Injuries

Project and Project Team: Contractor and WSDOT Project Engineer	Jan.-March 2004	April - June 2005
I-5/Salmon Creek to I-205 (Hamilton Construction and Donald Owings, P.E.)	0	1
I-90/Argonne Rd to Sullivan Rd. (Scarsella Bros Inc. and Darrel McCallum, P.E.)	0	0
SR 527, 132nd St. SE to 112th St. SE (KLB Construction Inc. and Marlin Lennsen, P.E.)	1	0
U.S. 395, NSC - Farwell Road Lowering (Max J. Kuney Co. and Robert Hilmes, P.E.)	0	1
SR 161/234th St. to 204th St. E (Scarsella Bros. Inc. and Howard Diep, P.E.)	1	0
SR 203, NE 124th/Novelty Rd. Vic. Roundabout (Wilder Construction Co. and Brian Dobbins, P.E.)	0	0
I-5/Federal Way-S 317th St. HOV (Icon Materials and John Chi, P.E.)	1	0
I-5, 2nd St. Bridge Replacement (Mowat Construction Co. and Dave Chrisman, P.E.)	2	0
SR 18, Covington Way to Maple Valley (Terra Dynamics Inc. and Derek Case, P.E.)	0	0
SR 18/Maple Valley to Issaquah/Hobart Rd. (Guy F. Atkinson Co. and Derek Case, P.E.)	0	1
SR 31, Metaline Falls to the International Border (M.A. Deatley Construction and Robert Hines, P.E.)	0	0
SR 161, Jovita Blvd. to S 360th St. (Tri-State Construction and Messay Shiferaw, P.E.)	1	0
U.S. 12, SR 124 to McNary Pool (Steelman-Duff, Inc. and its 13 Subcontractors)	0	1
I-5, NE 175th St. to NE 205th St. (Pacific Road and Bridge and Amir Ahmadi, P.E.)	0	1
SR 161, 204th St. to 176th St. ( Scarsella Brothers and Howard Diep, P.E.)	0	0
SR 16, 36th St. to Olympic Drive (Woodworth & Company and Dave Zeigler, P.E.)	1	0
I-5, Roanoke Vicinity Noise Wall	0	0
I-5, Roanoke Vicinity Noise Wall - Stage 2 (Wilder Construction Co. and Stanley Eng, P.E.) <sup>2</sup>	No data	0
SR 16 / Union Avenue to Jackson - HOV (Tri-State Construction and John Chi, P.E.) <sup>2</sup>	No data	0
US 395, NSC - Gerlach to Windermere (KLB Construction and Robert Hilmes, P.E.) <sup>2</sup>	No data	0
I 5, Pierce Co. Line to Tukwila HOV - Stage 4 (Icon Materials and Stanley Eng, P.E.) <sup>2</sup>	No data	0
SR 240, I-182 to Columbia Center (Icon Materials and Moe Davari, P.E.) <sup>2</sup>	No data	0
SR 24, I-82 to Keys Road (Max J. Kuney Company and Paul Gonseth, P.E.)	No work	0
SR 106, Skobob Creek Fish Passage (Quigg Bros., Inc. and John McNutt, P.E.)	No work	0
SR 99, G. Washington Memorial - Aurora Ave. Bridge (Mowat Construction Co. and John Chi, P.E.)	No work	0
U.S. 12, Jantz Road - Construction Frontage Rd. (Inland Asphalt Co. and Will Smith, P.E.)	No work	1

<sup>1</sup> The following five projects were incorrectly identified as Nickel Projects in previous editions of the *Gray Notebook*: 1. SR 21, SR 25/231 Guardrail, 2. SR 240, SR 240/Yakima River Bridge, 3. SR 900/Newport Way to I-90 - Widening, 4. SR 14, West Camas Slough Bridge 5. SR 543, I-5 to International. The first three are bucket projects, and the final two are funded through pre-existing funds. (Bucket projects are relatively small, non-labor-intensive projects funded through the Nickel funds and sometimes pre-existing funds). The projects have been removed from this edition of the *Gray Notebook*.

<sup>2</sup> These Nickel Projects were not included in previous editions of the *Gray Notebook*.

# Worker Safety: Quarterly Update

## Recordable Injuries for WSDOT Workers

### Maintenance Workers

This quarter accounted for a 9.0 injury rate - the third highest injury rate in 3.5 years. Thirty-two recordable injuries were reported. The elevated injury/accident rate is attributed to the fact that 22 of the 32 recordable injuries occurred in previous quarters in 2004 and 2005. As of the reporting cut-off period, there were a total of 467 lost workdays associated with the 32 injuries. Eighteen of the 32 injuries accounted for five or fewer lost workdays. Sprains/strains accounted for 56% of maintenance worker injuries, and cuts and lacerations for 25%. The most frequently injured part of the body was the back (25%) followed by fingers (15%).

### Highway Engineering Workers

Accounting for a 0.35 injury/accident rate, the lowest recorded rate in the past 3.5 years, there were two recordable injuries for engineering personnel: one was an occupational illness resulting in no lost work days, the other was a sprain/strain resulting in 98 lost work days.

### Ferry Vessel Workers

Twenty-nine recordable injuries were reported for ferry vessel workers this quarter with an injury/accident rate of 12.05 injury/accident. This compares closely with injury rates tabulated in the past two quarters. These injuries accounted for 668 lost workdays. Of the 29 injuries, five injuries had five or fewer lost workdays. On average there were approximately 23 lost workdays per injury. Sprains/strains accounted for 62% of injuries, and bruises/contusions for 14%. The most frequently injured parts of the body were back and shoulder (17% each) followed by knee and foot (13% each).

### Number of Injuries by Type

The graph to the right entitled "Number of Work Injuries by Type" shows injuries by type for WSDOT maintenance, highway engineer, and ferry workers:

- For all WSDOT employees including WSF, there were a total of 63 injuries. Of those 63 injuries, sprains/strains accounted for 59% of all occupational injuries.
- Maintenance workers accounted for 51% of WSDOT injuries for this quarter.
- Highway engineering workers had a total of two injuries for this quarter.
- WSDOT ferry vessel workers accounted for 46% of all WSDOT injuries for this quarter.

<sup>1</sup> "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 2000 national average benchmarks. One worker equals 2,000 hours per year.

### Highway Maintenance Workers

Recordable Injuries<sup>1</sup> per 100 Workers per Calendar Year

	2002	2003	2004	2005
Qtr 1	4.5	7.2	10.5	5.6
Qtr 2	7.5	6.5	7.4	9.0
Qtr 3	8.1	8.4	7.1	
Qtr 4	7.0	6.2	9.6	
Total	27.1	28.3	34.6	14.6
<b>Qtrly. Average</b>	<b>6.8</b>	<b>7.1</b>	<b>8.6</b>	<b>7.3</b>

Benchmark = 8.2

### Highway Engineering Workers

Recordable Injuries<sup>1</sup> per 100 Workers per Calendar Year

	2002	2003	2004	2005
Qtr 1	1.7	1.4	1.3	2.1
Qtr 2	3.5	1.3	1.4	0.4
Qtr 3	3.4	1.5	0.9	
Qtr 4	2.1	1.6	2.8	
Total	10.7	5.8	6.4	2.5
<b>Qtrly. Average</b>	<b>2.7</b>	<b>1.5</b>	<b>1.6</b>	<b>1.3</b>

Benchmark = 1.7

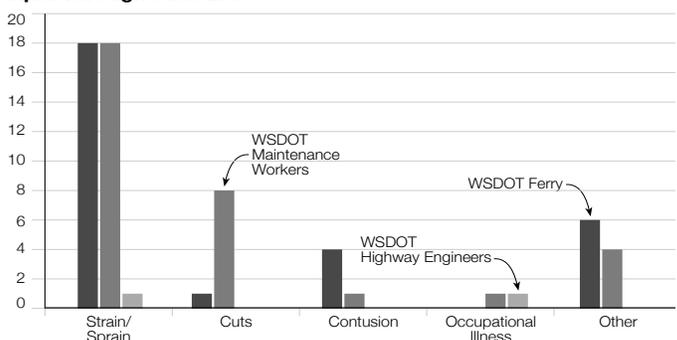
### Ferry Vessel Workers

Recordable Injuries<sup>1</sup> per 100 Workers per Calendar Year

	2002	2003	2004	2005
Qtr 1	12.0	14.2	7.9	11.7
Qtr 2	8.9	11.2	12.1	12.1
Qtr 3	8.9	9.4	16.1	
Qtr 4	6.9	9.8	12.0	
Total	36.7	44.6	48.1	23.8
<b>Qtrly. Average</b>	<b>9.2</b>	<b>11.2</b>	<b>12.0</b>	<b>11.9</b>

Benchmark = 7

### Number of Work Injuries by Type April Through June 2005



# Worker Safety: Quarterly Update

## Prevention Activities

### The Hazards of Maintaining Safe Roads

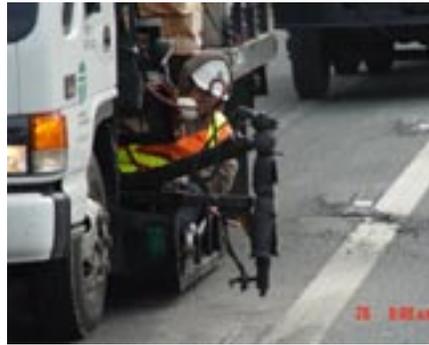
Road maintenance activities like line-striping and lane marker installation make roads safer for the traveling public. Traffic lane delineation includes line-painting/stripping, reflector and “button” installation and signing. These maintenance activities can be hazardous and require extensive use of labor and equipment. From April 2004 through March 2005 approximately 29,034 lane miles were striped. During this same time period, approximately 235,431 lane markers were installed and 48,074 removed.

As part of WSDOT’s Accident Prevention Program, WSDOT is responsible for identifying hazardous work circumstances and then working to remove, prevent, or minimize the hazards and exposures. Some of the activities, hazards/exposures, and preventive measures are presented below:

Activity	Hazard/ Exposure	Preventive Activities
Pavement and/or lane grinding	<ol style="list-style-type: none"> <li>1) silica</li> <li>2) heavy metals</li> <li>3) dusts</li> <li>4) noise</li> </ol>	<ul style="list-style-type: none"> <li>• respiratory protection</li> <li>• training</li> <li>• dust suppression</li> <li>• substitution of less hazardous materials</li> </ul>
Lane marker installation	<ol style="list-style-type: none"> <li>1) hot materials</li> <li>2) dusts</li> <li>3) elevated noise levels</li> </ol>	<ul style="list-style-type: none"> <li>• wearing proper personal protective equipment</li> <li>• dust masks</li> <li>• hearing protection</li> </ul>
Short duration or slow-moving maintenance activities and traffic control	<ol style="list-style-type: none"> <li>1) traffic</li> <li>2) impaired or inattentive drivers</li> </ol>	Provide proper hearing protection, communication devices and training



Road grinding operations



Installation of button/reflectors



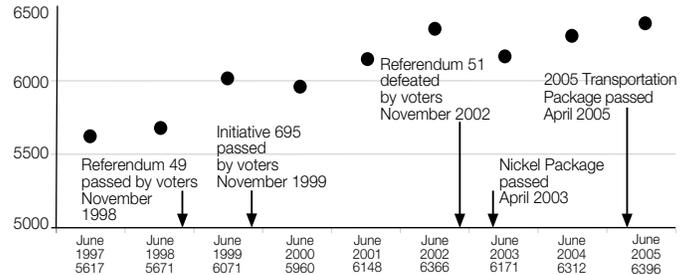
Wear and tear require that stripes must be painted every year

# Workforce and Training: Quarterly Update

## WSDOT Workforce Levels Statistics

One indicator of the agency's workforce size is the current number of permanent full-time employees on staff. The accompanying chart shows that number at various points since the end of 1997. (The number of "FTE's" [full-time equivalents] will generally exceed the number of full-time employees, since seasonal and part-time work force must also be funded from "FTE" allotments.) WSDOT's workforce size basically remained static from last quarter. From June 2003 to June 2005, there was an increase of 124 engineering workers, a decrease of 15 maintenance workers, and an increase of 116 workers in the support area.

Number of Permanent Full-Time Workers at WSDOT



Source: WSDOT Office of Human Resources

## Statutorily Required Training for Maintenance Workers: April-June 2005

WSDOT's goal is to reach 90% compliance for statutorily required maintenance employee training through delivering training during off-season periods when work crews can be provided training.

	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 Compliance	% in Compliance	% Change from Previous Quarter
<b>Safety Courses</b>									
Blood Borne Pathogens	623	538	1	85	57	244	294	47%	4%
First Aid	1477	1378	8	99	36	133	1245	84%	-3%
Hearing Conservation	1327	1275	29	52	426	119	1156	87%	51%
Personal Protective Equipment	1358	1116	315	242	0	0	1116	82%	10%
Fall Protection	760	609	42	151	0	0	609	80%	2%
Flagging & Traffic Control	1137	1111	18	26	106	83	1028	90%	-1%
<b>Maintenance Courses</b>									
Drug Free Workplace	319	266	0	53	0	0	266	83%	-2%
Forklift	1143	1014	45	129	0	0	1014	89%	-1%
Hazardous Materials Awareness	990	795	50	195	376	289	506	51%	22%
Aerial Lift	274	172	12	102	0	0	172	63%	16%
Bucket Truck	341	262	8	79	0	0	262	77%	3%
Excavation, Trenching & Shoring	407	299	26	108	0	0	299	73%	3%

## Required Training for all WSDOT Workers: April-June 2005

WSDOT's goal is to reach 90% compliance for all required training through targeted advertising, scheduling additional Security Awareness classes, and introduction of Security Awareness E-learning.

	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
<b>Training Courses</b>								
Disability Awareness	7540	1755	5785	0	83	1755	23%	0%
Ethical Standards	7540	7163	377	811	668	6352	84%	7%
Security Awareness - all employees	7540	5345	2195	0	2	5345	71%	-3%
Security Awareness - supervisors	2893	2273	620	0	0	2273	79%	8%
Sexual Harassment/Discrimination	7540	4208	3332	0	206	4208	56%	1%
Valuing Diversity	7540	2539	5001	0	39	2539	34%	-1%
Violence that Affects the Workplace	7540	5822	1718	0	0	5822	77%	1%

Source: WSDOT, Office of Human Resources, Staff Development

NOTE: OEO training was revised into three courses (Disability Awareness, Sexual Harassment/Discrimination, and Valuing Diversity) in June 2002, and only these revised courses are currently reported. Refresher interval for the revised OEO training is five years.

# Highway Construction Contracts: Annual Update

## FY2005 Awarded Contracts: Award Amount to Engineer's Estimate

WSDOT awarded 141 highway construction contracts from July 1, 2004 through June 30, 2005. For every contract awarded, WSDOT tracks the cost difference between the award amount – the lowest responsive bid submitted at the bid opening – and the engineer's estimate. The total amount of all contracts awarded during the 12-month period was \$500,099,488, which was 2.2% below the total engineer's estimate of \$511,364,300.

Seventy-seven of the 141 contracts (55%) were awarded below the engineer's estimate, and 64 (45%) were over the estimate.

The award amount on larger dollar value projects tended to be less than the engineer's estimates, leading to the total award amount being below the engineer's estimate by 2.0%. The average award amount of the individual contracts was 1.3% above the engineer's estimate.

When all bids received are more than 10 percent over the engineer's estimate, WSDOT either justifies the award or rejects all bids. (All bids on 10 proposals were rejected in 2005). WSDOT awarded the three contracts circled in the graph on the right. In these cases, re-advertisement would not have led to a reduction of the bids.

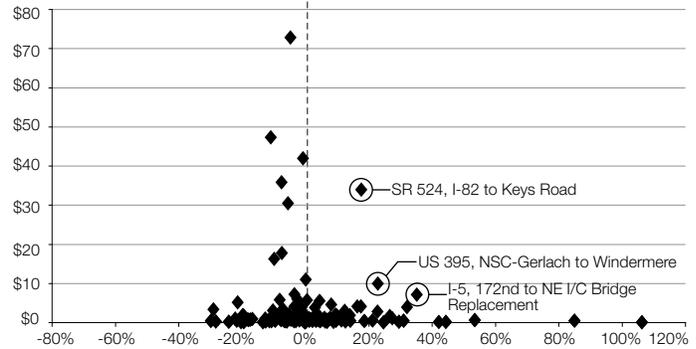
SR 24, I-82 to Keys Road increases the number of through lanes and includes new structures over I-82 and the Yakima River; awarded for \$33.9 million, 13.7% over the engineers estimate due to oil, steel and concrete price escalation between the time of engineer's estimate and contract advertisement.

U.S. 395, NSC - Gerlach to Wandermere, major grading was awarded for \$9.9 Million, 22.8% over the engineer's estimate, due to additional cost for fuel. The estimate did include inflation rates for fuel but was not adequate to cover the actual cost.

I-5, 172nd Street NE Interchange Bridge Replacement improves I-5 by replacing an existing bridge; awarded for \$7.1 million, 35.2 % over the engineer's estimate due to the contractor's use of larger equipment, a more aggressive construction schedule and steel cost escalation.

### Individual Contracts: Award to Engineer's Estimate

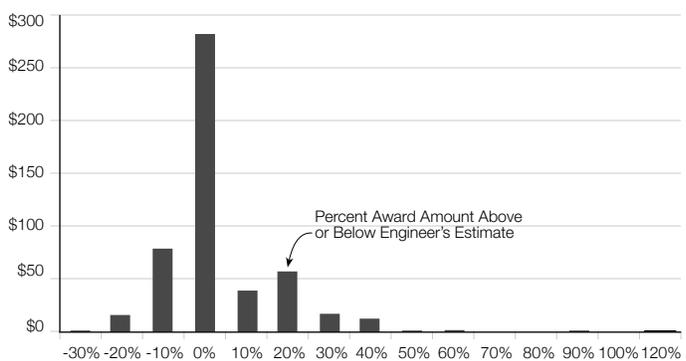
Percent Final Cost Above or Below Award, Dollars in Millions



Source: WSDOT Construction Office

### Distribution of Award Value Over/Under Engineer's Estimate

Total Value Final Cost, Dollars in Millions



Source: WSDOT Construction Office

### Awarded Contracts: Year-to-Year Comparison\*

	FY2002	FY2003	FY2004	FY2005
Number of construction contracts awarded during the fiscal year	177	176	129	141
Total award amount for highway construction contracts during the fiscal year	\$250,561,516	\$314,534,831	\$389,592,349	\$500,099,488
Total engineer's estimate for highway construction contracts during the fiscal year	\$277,091,361	\$355,420,644	\$398,923,582	\$511,364,300
Average percent that individual awards were below the engineer's estimate. Negative indicates % above the estimate.	7.5%	6.5%	1.4%	-1.3%(above)
Percent that the total award amount fell below the engineer's estimate	9.5%	11.5%	2.3%	2.2%
Percent of combined contract value awarded below the engineer's estimate	71.7%	84.0%	53.3%	74.4%
Number of contracts awarded below the engineer's estimate	129	123	85	77
Percent of contracts awarded below the engineer's estimate	72.9%	69.9%	65.9%	54.6%

\* Does not include Tacoma Narrows Bridge, the Hood Canal Bridge Contract, and Everett HOV Design Build

# Highway Construction Contracts: Annual Update

## FY 2005 Completed Contracts: Final Costs to Award Amounts

WSDOT completed 155 highway construction contracts between July 1, 2004 and June 30, 2005. WSDOT tracks the final cost of each completed contract – the total amount paid to the contractor – compared to the engineer’s estimate and the award amount. WSDOT generally expects the final cost to be no more than 10% above the award amount.

The combined final cost (excluding sales tax and construction engineering) of the contracts completed during fiscal year 2005 was \$294,988,223.26, exceeding the total award amount of \$280,396,785.30 by 5.2 %.

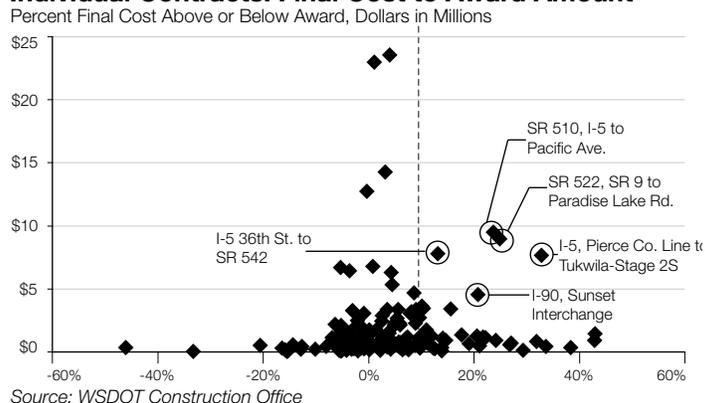
The top chart shows the final cost of each contract and its percent above or below the award amount. The final costs of 121 contracts (78%) were less than 10% above the award amount as indicated by the dotted line, and 34 of the 155 contracts were above 10%. On average, the final cost of contracts was 3.9% above the award amount.

### Selected projects, circled in top right chart, that exceeded the 10% threshold:

- SR 510, I-5 to Pacific Ave: \$1.82M (24%) cost over run for utility relocation.
- SR 522, SR 9 to Paradise Lake Rd: \$1.79M (25%) extra earthwork due to weather delay and redesign for roadway safety.
- I-5, Pierce County Line to Tukwila: \$1.89M (33%) due to structural redesign and minimizing roadway closures.
- I-90, Sunset Interchange - Stage 1 - Front St.: \$0.78M (21%) due to design changes, and compensation to the contractor for construction delay.
- I-5, 36th to SR 542: \$0.9M (13%) due to additional construction safety strategies.

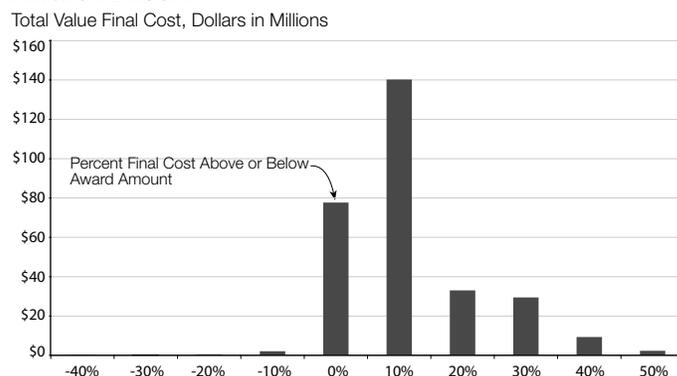
The chart at right shows final costs in percentage ranges above or below award. About \$140 million in contracts had a final cost between 0% and 10% above the award. Of the total contract final cost, 76% was within the award-plus-10% range.

### Individual Contracts: Final Cost to Award Amount



Source: WSDOT Construction Office

### Distribution of Final Cost Value Over/Under Award Amount



Source: WSDOT Construction Office

Completed Contracts: Final Cost to Award Amount	FY2002	FY2003	FY2004	FY2005
Number of highway contracts completed during the fiscal year	122	175	147	155
Total final cost for highway construction contracts completed during the fiscal year (excluding sales tax)	\$213,953,965	\$375,244,919	\$294,482,387	\$294,988,223
Total award amount for highway construction contracts completed during the fiscal year	\$196,000,000	\$351,525,709	\$274,495,656	\$280,396,785
Average percent that the final cost of contracts exceeded the award amount	1.8%	3.8%	2.9%	3.9%
Percent that the total final cost exceeded the total award amount	9.2%	6.7%	7.3%	5.2%
Percent of combined contract value with final cost less than 10% above the award amount	66.0%	65.3%	45.1%	76.3%
Number of contracts with final cost less than 10% above the award amount	98	137	115	121
Percent of contracts with final cost less than 10% above the award amount	80.3%	78.3%	78.2%	78.1%

# Highway Construction Contracts: Annual Update

## FY 2005 Completed Contracts: Final Cost to Engineer's Estimate

The combined final cost (excluding sales tax and construction engineering) of the contracts completed during the 12-month period was \$294,988,223, exceeding the total engineer's estimate of \$294,440,780 by 0.2%.

The top chart shows the final cost of each contract and the percent it fell above or below the engineer's estimate. The final costs of 118 contracts (76%) was less than 10% above the engineer's estimate, as indicated by dotted line. Thirty-seven of the 155 contracts were over 10%. On average, the final cost of contracts was 0.7% above the engineer's estimate.

### Selected projects, circled at right, that exceeded the 10% threshold:

SR 500, Thurston Way Interchange: Grade separation project with on/off ramps to eliminate the at-grade intersection; \$5.0M (28%) over estimate.

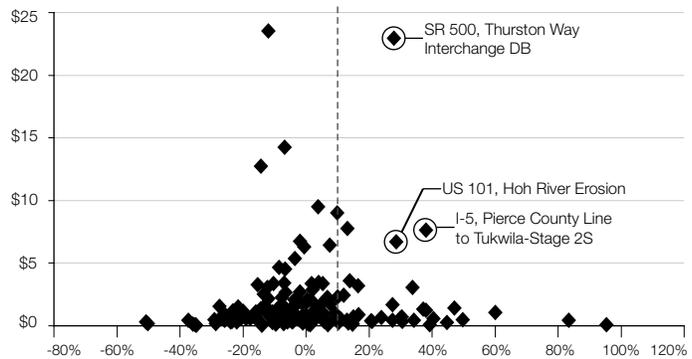
U.S. 101, Hoh River Erosion: This project is to stabilize the side slope problem to reduce the risk of roadway closures; \$1.49M (28%) over estimate.

I-5, Pierce County Line to Tukwila: Part of a comprehensive HOV system for the Puget Sound Region; \$2.11M (38%) over estimate.

The chart at right shows the distribution of final costs in percentage ranges above or below the estimate. For example, about \$49 million worth of contracts had a final cost between 0 and 10% above the estimate. Just under three-quarters (74%) of the total contract final cost fell below the estimate-plus-10% mark.

### Individual Contracts: Final to Engineer's Estimate

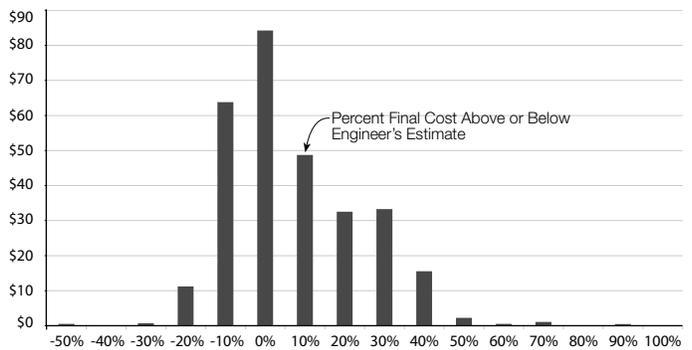
Percent Final Cost Above or Below Award, Dollars in Millions



Source: WSDOT Construction Office

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

Total Value Final Cost, Dollars in Millions



Source: WSDOT Construction Office

### Completed Contracts: Final Costs to Engineer's Estimate - Year to Year Comparison

	FY2002	FY2003	FY2004	FY2005
Total engineer's estimates for highway construction contracts completed during the fiscal year	\$215,000,000	\$393,078,777	\$277,017,902	\$294,440,780
Total final cost for highway construction contracts completed during the fiscal year (excluding sales tax)	\$213,953,975	\$375,244,919	\$294,482,387	\$294,988,233
Average percent that the final cost of contracts exceeded the engineer's estimate	-4.7%	-5.6%	-2.6%	0.7%
Percent that the total final cost exceeded the engineer's estimate	-0.5%	-4.5%	6.3%	0.2%
Percent of combined contract value with final cost less than 10% above the engineer's estimates	75.7%	87.1%	42.8%	74%
Number of contracts with final cost less than 10% above engineer's estimates	99	151	111	118

# Highway Construction Program: Quarterly Update

## Meeting WSDOT's Scheduled Advertisement Dates

### Project Advertisements - Biennium Total

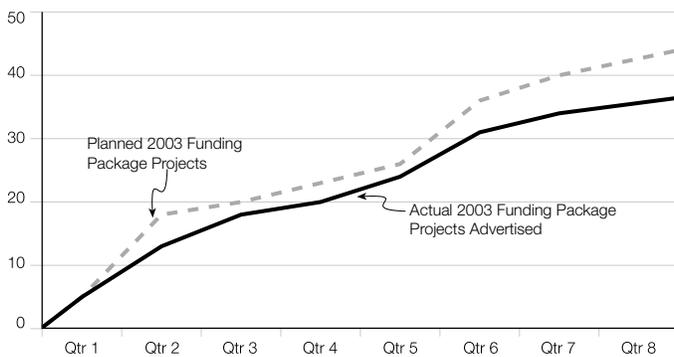
The Highway Construction Program is the largest capital program in the Transportation Budget. Planned expenditures for the 2003-2005 biennium were approximately \$2.1 billion. Overall delivery of the Highway Construction Program is tracked against schedule for advertisement dates and against projected cash flow for construction progress. Funding for the 2003-2005 Highway Construction Program included a variety of fund sources, including Pre-Existing Funds, 2003 Transportation Funding Package (Nickel) funds, and Tacoma Narrows Bridge funds. The program included a commitment to advertise 346 projects during the current biennium, of which 47 were Nickel projects and 299 were funded with Pre-Existing Funds.

### To Date: 2003 Transportation Funding Package (Nickel Funds)

The graph below shows Nickel Projects advertised during the 2003-2005 biennium. For detailed information on Nickel Projects, see page 4-21 of the *Beige Pages*.

### Highway Construction Program Advertising 2003 Transportation Funding Package (Nickel Funds)

Planned vs. Actual Number of Projects Advertised  
2003 - 2005 Biennium, Quarter 8 ending June 30, 2005  
Project Count



Note: Current plan is reduced by three projects because they were turned over to local agencies for lead responsibility.

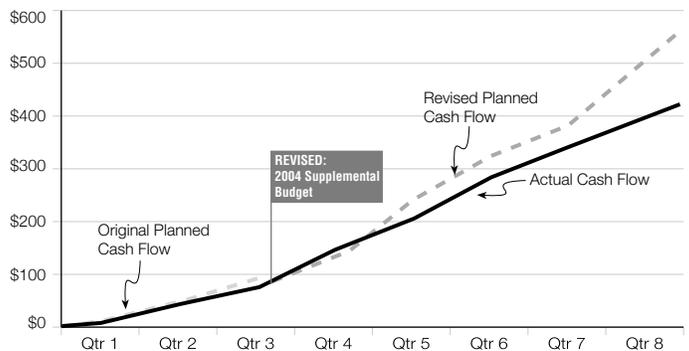
Previous *Gray Notebooks* reflected that the number of planned advertised projects for the highway construction program was modified after the adoption of the 2004 Supplemental Transportation Budget. This was an error. This quarter's chart correctly reflects the original planned advertisements from the 2003 Transportation Budget including the reduction of three planned projects turned over to local agencies.

### Cash Flow on the 2003 Transportation Funding Package (Nickel Funds)

Expenditures for highway projects through the biennium ending June 30, 2005 were \$420.5 million of the planned \$529.0 million. Expenditures using the 2003 Transportation Funding Package varied from planned biennium expenditures by 20.5%. For detailed information on Nickel Projects, see page 4-21 of the *Beige Pages*.

### Cash Flow on Highway Construction Projects 2003 Transportation Funding Package (Nickel Funds)

Planned vs. Actual Expenditures  
2003 - 2005 Biennium, Quarter 8 ending June 30, 2005  
Dollars in Millions



# Highway Construction Program: Quarterly Update

## Meeting WSDOT's Scheduled Advertisement Dates

### To Date: Pre-Existing Funds Projects

Through the quarter ending June 30, 2005, 251 of the planned 290 projects funded with Pre-Existing Funds (PEF) were advertised, or 87% of the "planned" projects for the biennium. Additionally, four emergency projects were advertised for a total of 255 Pre-Existing Fund project advertisements during the 2003-2005 biennium.

Of the 41 planned advertisements for the eighth quarter, 23 were advertised as scheduled, seven were advertised in earlier quarters, eight were deferred to later biennia, and three were deleted. Additionally, 12 projects delayed from previous quarters were advertised during the eighth quarter.

Nine projects advertised by another governmental agency were not counted and included in the chart below. An example of this type of project is when a local government receives funds from WSDOT, but a local agency designs or constructs the project. Although these projects are monitored, they are not shown in the table because their schedules were not in WSDOT's control.

The table below summarizes the delivery status of all projects advertised during the 2003-2005 biennium using Pre-Existing Funds. The summary includes the safety improvement projects discussed on page 43 and project delivery accomplishments within this quarter. The summary does not include projects

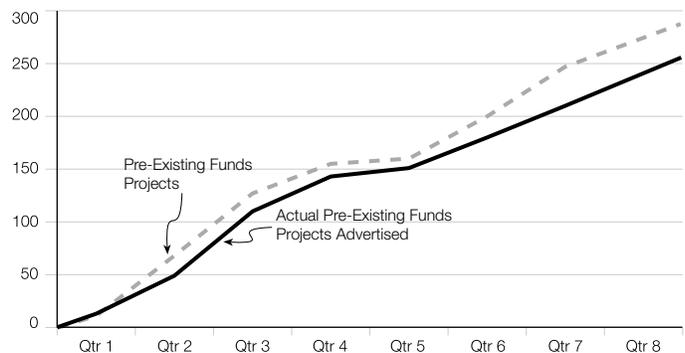
stipulated in the 2003 Transportation Funding Package (Nickel). For those projects see the previous page and special reports in the *Beige Pages*.

Previous *Gray Notebooks* reflected that the number of planned advertised projects

### Highway Construction Program Advertisements Pre-Existing Funds Projects

Planned vs. Actual Number of Projects Advertised  
2003 - 2005 Biennium, Quarter 8 ending June 30, 2005

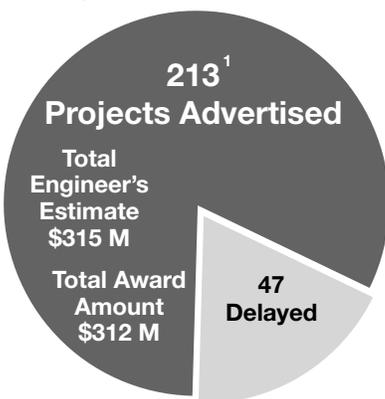
Project Count



for the highway construction program was modified after the adoption of the 2004 Supplemental Transportation Budget. This was an error. This quarter's chart correctly reflects the original planned advertisements from the 2003 Transportation Budget including the reduction of nine planned projects turned over to local agencies. Source for all graphs: WSDOT Project Control and Reporting Office

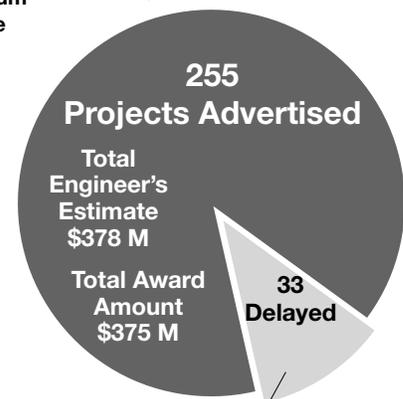
### Pre-Existing Funds Projects: A Snapshot of Quarterly Progress and Total Progress to Date

End of Last Quarter  
March 31, 2005



	Projects Through Last Quarter	This Quarter's Progress	Biennium to Date Total
<b>Projects Advertised</b>			
As Scheduled	148	23	171
Project Ads Early	18	7	25
Project Ads Late	43	12	55
Emergency Projects	4	0	4
<b>Total Advertised</b>	<b>213</b>	<b>42</b>	<b>255</b>
<b>Projects Delayed</b>			
Reclassified from last quarter	22		22
Out of the biennium (deferred)	25	8	33
<b>Total Delayed &amp; Reclassified<sup>2</sup></b>	<b>47</b>	<b>8</b>	<b>33</b>
<b>Projects Deleted</b>			
Projects Deleted	4	3	7
<b>Total Deleted</b>	<b>4</b>	<b>3</b>	<b>7</b>

End of This Quarter  
June 30, 2005



These projects have been delayed due to challenges with:

- Changes in Design
- Higher Priority Projects
- Right of Way Acquisition
- Environmental Permitting

<sup>1</sup> In the quarter ending March 31, 2005 (Quarter 7), 207 projects were reported as advertised. Since then, 6 projects were added as a roll-up to last quarter's total.

<sup>2</sup> Last quarter (7), a total of 47 projects were delayed for advertisement. Since then, 22 of those projects were reclassified (as late; within the biennium; deferred out of the biennium; one project was deleted). By quarter 8, eight projects were deferred and were added to the remaining 25 projects (47 less 22) from the previous quarter for a total of 33 projects deferred out of the biennium.

# Highway Construction Program: Quarterly Update

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## Meeting WSDOT's Scheduled Advertisement Dates

### Five Pre-Existing Funds projects scheduled for the eighth quarter advertised early in the biennium (see page 43 for Safety projects):

*SR 7/SR 512 to I-5 – Paving*  
*SR6/US 101 to Pe Ell – Paving*  
*I-205/SR 500 to I-5 – Dowel Bar Retrofit*  
*I-5/Toutle River Bridge – Structural Rehab*  
*I-90/Sprague Lake Rest Area Sewer Rehab*

### Eighteen Pre-Existing Funds projects that were scheduled and advertised during the eighth quarter:

*I-5/Steamboat Slough Bridges 5/648E&W*  
*SR92/Stevens Creek Culvert Replacement*  
*SR203/Woodinville – Duvall Road*  
*I-405/SR520 Interchange Vicinity*  
*SR 507/Roy to SR 7 – Paving*  
*I-5/I-205 to North Fork Lewis River Bridge*  
*SR105/US101 to County Line Road – Paving*  
*SR503/Ham Road to I-5 – Paving*  
*I-90/Edgewick Road Interchange – Paving*  
*I-90/Homestead Valley Road Interchange*  
*I-90/Tinkham Road Interchange – Paving*  
*I-90/Denny Creek Interchange – Paving*  
*I-90/West Cle Elum Interchange – Paving*  
*I-90/Oaks Avenue Interchange – Paving*  
*U.S. 2/Spokane River to Euclid Avenue – Paving*  
*SR 20/Tiger to Ruby Mountain – Paving*  
*SR 27/Junction US 195 to Palouse – Albion Road*  
*SR 290/Division Street to Riverpoint Boulevard*

### Six Pre-Existing Funds projects deferred out of the biennium during the eighth quarter:

***SR 900/I-405 Vicinity to Harrington Avenue NE – Paving***  
This advertisement was deferred eleven months from April 2005 to March 2006. Redesign is necessary to add an additional section of pavement repair and include American Disability Act compliant curb-ramps for easier wheel chair access.

***SR202/Patterson Creek – Culvert Replacement***  
This advertisement was deferred from March 2005 to late in the 2005-2007 biennium. Further evaluation of the replacement culvert design determined the proposed new culvert would not completely alleviate flooding in the area and adequately address fish passage issues during flooding conditions. The culvert replacement is still necessary, however, to better address flooding in the area. The project design needs to be revised to address the capacity of the creek channel and surrounding culverts to allow safe passage of stormwater runoff under SR 202.

### ***I-90/East Easton Interchange – Paving*** ***I-90/Bullfrog Interchange – Paving***

The advertisement for these following two Pre-Existing Funds projects was deferred 22 months from April 2005 to February 2007. These two interchange paving projects were delayed to allow acceleration of paving the Stampede Pass and Cabin Creek I-90 interchange ramps scheduled for paving later next biennium. The Stampede Pass and Cabin Creek interchange pavements are deteriorating faster than anticipated and deferring the two projects listed below will allow WSDOT to pave the Stampede pass and Bullfrog interchanges during the 2005 construction season.

*SR900/Boeing Access Road Vicinity – Unstable Slope*  
*I-90/Olallie Creek Vicinity – Unstable Slope*

These two Pre-Existing Funds unstable slope projects scheduled for advertisement were re-prioritized and deferred to the 2007-09 biennium in order to balance the statewide unstable slope program to available funding.

### One Pre-Existing Funds project was deleted from the program during the eighth quarter:

#### ***SR518/42nd Avenue South to 51st Avenue South – Drainage Modifications***

Based upon further analysis of field data collected over the past six years, drainage conditions did not warrant replacement of any of the drainage structures. WSDOT will continue to monitor this location in the future to ensure drainage continues to remain adequate.

### Eight Pre-Existing Funds projects were delayed from a previous quarter, and advertised in the eighth quarter:

*I-90/Gold Creek to Easton Hill – Paving*  
*SR 530/Skaglund Hill Vicinity to Hazel Vicinity*  
*SR 20/Northgate Drive to Banta Road*  
*US 2/Houston Avenue to Center Road – Paving*  
*SR 164/SE 436th Street to High Point Street*  
*SR 203/NE Big Rock Road to Slough Bridge Vicinity*  
*SR 524/Floral Hills Cemetery to North Creek Bridge*  
*SR 524/I-5 to Floral Hills Cemetery Vicinity*

# Highway Construction Program: Quarterly Update

## Improvement and Preservation Programs

### Cash Flow on Pre-Existing Funds Projects

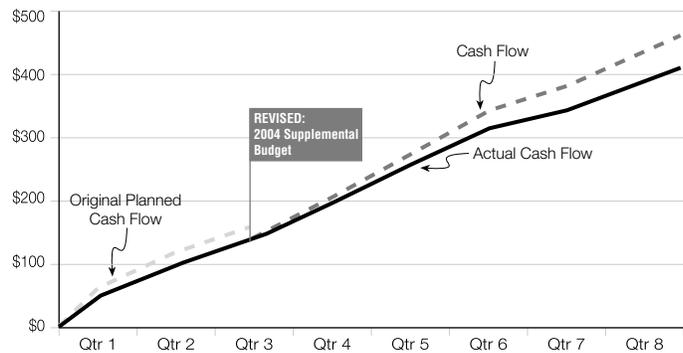
WSDOT submitted an expenditure plan to the Legislature for the eight quarters of the biennium totaling approximately \$1,101 million. As of June 30, 2005, actual expenditures totaled \$978.9 million, leaving a variance of approximately \$122 million or 11% from the biennium plan. While the 2003-2005 biennium ended on June 30, 2005, the total biennium expenditures will not be known until August 2005 after final payments are processed during the month of July. The chart shows a revision of the planned expenditures as a result of the adoption of the 2004 Supplemental Transportation Budget.

The 11% variance as of the end of the eighth quarter for the Highway Construction Program was divided between the Improvement and Preservation programs. The Preservation program was under plan by \$75.1 million, or approximately 7%. The under-spending in the Preservation program was principally due to the lag in planned expenditure for the Hood Canal Bridge. This lag was brought about by archeological discoveries at the Port Angeles construction site that first slowed and then eventually stopped development of the facility in December 2004. (See the December 31, 2004 *Gray Notebook* for more information.) The Improvement program was under plan by approximately \$47.0 million or approximately 4%. The under-spending in the Improvement program was primarily due to the lag in planned expenditures for the following ten projects:

- SR 202/SR 520 to Sahalee Way – Widening*
- SR 539/Horton Road to Tenmile Road – Widen to Five Lanes)*
- SR 3/SR 303 I/C (Waaga Way) – New Ramp*
- I-5/SR 16 I/C / 38th St Interchange – Core HOV*
- SR 167/North Sumner New Interchange*
- SR 410/214th Ave. E. to 234th – Widening*
- I-90/Hyak to Easton – Widening*
- I-82 to SR 397 Intertie*
- NSC-North Spokane Corridor Design, Right of Way, and Access Control*
- I-90/Division Street East bound On-Ramp Revision*

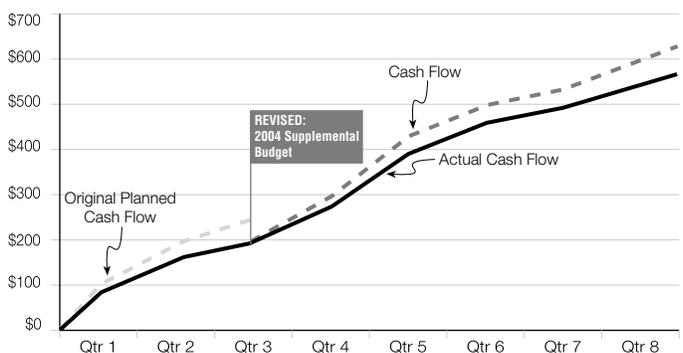
### Improvement Program Cash Flow Pre-Existing Funds

Planned vs. Actual Expenditures  
2003 - 2005 Biennium through June 30, 2005  
Dollars in Millions



### Preservation Program Cash Flow Pre-Existing Funds

Planned vs. Actual Expenditures  
2003 - 2005 Biennium through June 30, 2005  
Dollars in Millions



# Highway Construction Program: Quarterly Update

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## Improvement and Preservation Programs

### Pre-Existing Funds for Safety Improvement Program Projects: Quarterly Update

While elements that improve safety are a part of almost every highway construction project, a special program with a sub-category established by the Legislature covers projects designed to address specific issues in “high accident corridors” (HAC) and “high accident locations” (HAL). WSDOT tracks the award of these projects in order to provide a picture of program delivery on issues that are of great importance.

Of the 11 safety projects scheduled for advertisement in the eighth quarter, two were advertised earlier in the biennium, five were advertised on time, two were deferred to the 2005-2007 biennium, and two were deleted. There were also four safety projects delayed from a previous quarter advertised during the eighth quarter. These safety projects are presented below:

#### Two safety projects scheduled for the eighth quarter and advertised earlier in the biennium:

*I-205/SR 500 to I-5 – Safety Improvements*

*SR 500/ Ward Road to 162nd Avenue – Stage 2*

#### Five safety projects advertised as planned in the eighth quarter:

*I-5/Southbound Off Ramp to SR 526 – Safety*

*I-5/I-205 to North Fork Lewis River Bridge*

*SR 501 Ramp Signals*

*I-90 Interstate Ramp Safety*

*SR 206/SR 206 and Bruce Rd I/S Roundabout*

#### Two safety projects were combined and deferred from the eighth quarter to the 2005- 2007 biennium:

*SR 162/SR 165 Intersection Improvement*

*SR 165/ SR 162 to 128th Street*

Following a review of the design for the SR162/SR165 Intersection Improvement, WSDOT determined the proposed design required extensive purchase of right of way from public and private owners. A design revision was developed that reduced the right of way acquisition purchase requirements to only Pierce County and reduced the cost by 70%. The right of way purchase will take approximately eight months, requiring the

deferral of the project advertisement date for SR 162/SR 165 Intersection Improvement project to Fall of 2005. Considering this delay, WSDOT decided to also delay the SR164/196th Avenue Vicinity to 244th Avenue SE paving project to realize cost savings from combining these two projects through reduced construction engineering costs. Combining the projects will also avoid disrupting the traveling public at the same location twice within a year.

#### Two Pre-Existing Funds projects were deleted from the program that were scheduled for advertising during the eighth quarter:

##### *SR 507/Old Military Road – Safety*

After re-evaluating traffic safety/accident data, WSDOT deleted this lower priority safety work in order to better utilize available safety program funding by addressing higher priority safety needs.

##### *SR 6/ Bridge 6/8 Rail Retrofit*

This bridge rail retrofit project was deleted because the entire bridge structure is scheduled for replacement in the 2007-2009 biennium.

#### Four safety projects delayed from a previous quarter, and advertised in the eighth quarter:

*SR 164/196th Avenue Vicinity to 244th Avenue SE*

*SR164/388th and SR164/392nd Intersections*

*SR 531/33rd Avenue Vicinity to 43rd Avenue NE*

*SR 7/SR 507 to SR 512 – Safety*



# Tacoma Narrows Bridge Update

## Bridge Construction

As of June 30, design-builder Tacoma Narrows Constructors (TNC) completed 70.6% of the construction work on the SR 16 Tacoma Narrows Bridge (TNB) project. During the second quarter of 2005, TNC readied the bridge's towers and anchorages for spinning the main suspension cables, scheduled to be complete by year's end. Spinning consists of running 19,000 miles of wire the thickness of a pencil back and forth from each anchorage and over the tower legs to make the 21-inch diameter main cable.

**Milestone:** Crews completed all concrete work on the Gig Harbor Tower (West), including reaching the final height of 505 feet (See photo at right). Crews also completed the three struts on each tower leg. The struts join the tower legs together for support (see tower graph). On the Tacoma Tower (East), crews completed all concrete work on the tower legs also reaching the final height of 505 feet, and are now completing the top strut. The east tower upper strut will be completed in July.

Preparations for spinning the main suspension cables, which include mobilization and installation of spinning equipment, are under way. Work to install the anchor rods deep into the anchorages, which will support the main suspension cables, is almost complete. Crews placed six of the eight saddles on the bridge – four on the east and west anchorages and two on the Gig Harbor tower. The 74,000-pound saddles will support the main suspension cables where they cross over each tower leg. As traffic, wind, and temperature changes affect the movement of the cables, the saddles will absorb the load and shift it to the towers. Overseas, several bridge deck sections are now complete and fabrication continues. Deck fabrication has not met TNC's original production schedule, and TNC is implementing a recovery plan to expedite production. WSDOT expects delivery of the deck sections to remain on schedule.

## Roadway Construction

East of the bridge, crews opened a newly-aligned Jackson Street on-ramp to westbound SR 16. They are also building a median wall barrier between eastbound and westbound lanes, and a new Living War Memorial Park. Initial work on the park includes relocating utilities, paving sidewalks, and pouring foundations for park monuments. West of the bridge, mainline SR 16 signing is being installed, and construction on Pierce County roads, Stone and Lucille Streets, is wrapping up. The area around the west anchorage is now backfilled, bringing the mainline highway up to subgrade elevations.

## Progress to Date

Percent Complete

Design	99.9%
Construction	68.4%
<b>Total<sup>1</sup></b>	<b>70.6%</b>

<sup>1</sup>Weighted 7% design progress and 93% construction progress. Source: WSDOT Engineering and Regional Operations Division.

## Toll Facilities Construction

Toll facilities are being installed at a rapid pace. Crews have installed the toll canopy, the two gantry sign bridges that will span the future eastbound electronic toll lanes, the toll plaza islands and six manual tollbooths. They have also finished site work at the toll operations building, including paving and striping the parking area. The toll operation building is nearly ready so the toll contractor, TransCore, can begin installing the electronic hardware and software for the toll system.

For additional information, including financial information, project schedule, traffic information, photo library, live construction cameras and more, please visit: [www.tacomannarrowsbridge.com](http://www.tacomannarrowsbridge.com)



Toll plaza booths installed for manual toll collection



Photo from existing bridge tower of crews celebrating atop the completed leg of the Gig Harbor Tower (West)



Crews have completed all concrete work on both towers reaching a final height of 505 feet



# Hood Canal Bridge Update



West end view of proposed bridge span

When finished the Hood Canal Bridge will have a new wider east-half floating section, new approach sections and transition trusses on the east and west ends. In addition, the west half will be widened to allow for continuous eight-foot shoulders across the entire length of the bridge matching the new east half.

Work at the Hood Canal Bridge site continues in three main areas: anchor cable replacement, west half road deck widening, and replacing bridge approach spans at each bridge end.

## Anchor Cable Replacement

General Construction began replacing 17 east-half anchor cables in May. The anchor cables were intended for replacement during the float-in of the new east-half pontoons. Delays in constructing pontoons would mean that the aging cables would have to serve until at least 2009. Then, last summer WSDOT maintenance crews discovered one of the anchor cables had broken. WSDOT engineers conducted a thorough inspection of the remaining cables and determined that cable replacement could not be delayed.

The \$3.38 million installation will continue through the summer. While no traffic delays are associated with the cable replacement, drivers can see a large barge loaded with rolls of cable next to the bridge.

## West-Half Widening

Last year the contractor worked on lane widening along the south side. This summer, crews will finish widening the north half. Crews are presently widening the bridge's west half to match the new east half. Kiewit-General of Poulsbo is making progress in cutting away the existing deck and setting new girders on crossbeams that were extended last year. Soon, crews will form deck sections, begin pouring concrete for the new deck, widen the concrete road deck, and completing the west half steel draw span.

Work used to cause regular nighttime lane closures on the Hood Canal Bridge when construction caused major congestion and delays. An extra effort by the project inspection team and the contractor to work closely with a paving project on SR 3 (near the bridge's east end) is intended to improve travel times through the two construction zones.

## August Bridge Closures Offset by Additional Ferry Service

The Hood Canal Bridge project reaches a milestone this summer when the contractor completes the replacement of both bridge approach spans by rolling away the existing bridge sections and rolling new sections of roadway into place. The Hood Canal Bridge will be temporarily closed during this operation which is expected to take place during two periods in August, each lasting three days.

The tentative closure dates are as follows: 1st Closure - 8 p.m. Thursday, Aug. 11 through 5 a.m. Monday, Aug. 15; 2nd Closure - 8 p.m. Sunday, Aug. 21 through 5 a.m. Thursday, Aug. 25

To compensate for these closures, the ferry system is providing additional service to the Port Townsend / Keystone route. Service will begin at 4:45 a.m. from Port Townsend and last until 12:30 a.m. from Keystone during the dates and times of the bridge closures. A second large vessel on the Seattle-Bremerton route will be placed into service to add capacity while the bridge is closed. A detailed three-day closure guide for bridge users that includes a full explanation of the approach span work, detour routes, and answers to frequently asked questions is available at [www.hoodcanalbridge.com](http://www.hoodcanalbridge.com) or by calling 1-877-595-HCB2. For ferry service information during the closure call 1-888-808-7977 or [www.wsdot.wa.gov/ferries](http://www.wsdot.wa.gov/ferries).



The new east approach span road deck starts to take shape



Clamping "Jewelry", or big metal beads, protect the new anchor cable. These beads keep the cable from rubbing on the concrete anchor and wearing down

# Asset Management: Capital Facilities

## Program Overview

WSDOT owns nearly 800 buildings and related sites, with a replacement value of almost one-half billion dollars. These buildings house staff, equipment, and materials. Along with administrative, engineering and special maintenance hubs, there are also over 130 maintenance facilities and 40 mountain-top radio communications sites across the state. Total building space owned by the agency is over 2.5 million square feet, on 8,857 acres.

For the biennium ending June 30, 2005, WSDOT's budget for new building construction, property acquisition, and additions to existing facilities was \$17.2 million. The budget for operating and maintaining WSDOT's facilities during the 2003-2005 biennium is \$30.6 million.



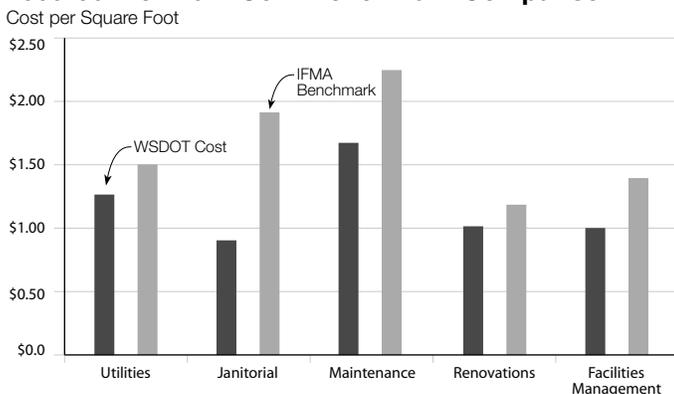
Toledo Maintenance Facility is one of over 130 WSDOT maintenance facilities across Washington State

### Benchmarking Shows Conservation Pays Off

Comparing WSDOT's costs to operate and maintain facilities to similar organizations helps the agency gauge how it is doing. WSDOT uses cost comparisons from the International Facilities Management Association's (IFMA) "U.S. and Canadian Government Facilities Benchmarks" as a basis for benchmarking facility operating and maintenance costs.

As shown in the chart below, WSDOT spends 16% less for utilities than average government facilities. The cost for janitorial services is about 51% of the benchmark. Lower expenditures provide needed funding to begin addressing the large deficiency backlog (see next page for more details.)

### 2003-05 Biennium O&M Benchmark Comparison



### Better Efficiency, Sustainability, and Less Pollution

WSDOT uses many approaches to increase the efficiency of its buildings. One is locating multiple WSDOT facilities close together (see page 48 for the example of the Wenatchee Consolidated Shops.) Another is to locate WSDOT staff together with other public agencies. This approach improves productivity of staff and equipment, while reducing costs. Maintaining facilities in good working condition is another way WSDOT ensures a high level of efficiency. Specific efforts to conserve energy and water are highlighted below.

#### Sustainability in Building Design, Construction and Operation

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a national standard for developing high-performance, sustainable buildings. WSDOT's new buildings will be designed and constructed with LEED's cost-effective energy and high-performance green features. Renovations of existing buildings involve retrofitting with resource-saving features.

#### Energy and Water Conservation Efforts

In support of a 2001 Governor's directive, WSDOT has instituted a number of conservation measures. Increasing employee awareness, instituting conservation measures, and providing tracking and reporting have resulted in an average reduction of 16% in electricity usage, and 20% in natural gas usage per year against the year 2000 baseline.

#### Energy Performance Contracting

WSDOT has worked with the Department of General Administration to install energy-efficient systems in many of its buildings. The first step is a building audit by an Energy Services Contractor (ESCO) to identify and develop a list of energy efficient measures that will pay back through utility savings; install the upgrades; and guarantees that cost savings on utility bills will pay for them. Upgrades may include low-wattage light fixtures, heating and ventilation controls and low-flow plumbing features.

After ESCO is paid back, additional savings are recovered by the agency. Several major energy projects have been implemented recently, which have resulted in a total reduction of 808,743 kWh per year and 30,823 therms per year.

These upgrades also reduce the amount of a number of pollutants being released into the environment: carbon dioxide, silicon dioxide, nitrogen oxides, carbon monoxide, hydro carbons, and particulate matter.

#### Web-Based Building Controls

As part of its effort to reduce energy consumption, WSDOT has begun installing a web-based heating, ventilation and air conditioning controls system that will allow regional facilities managers to monitor and adjust indoor climates at even the most remote maintenance facilities. The software interfaces with standard thermostats at low cost. Changes are made from a central location.

# Asset Management: Capital Facilities

## Facility Conditions

### Facilities Condition Assessment Ratings and Deficiency Backlog

WSDOT's buildings and facility structures are grouped into 236 complexes. The condition of the complexes is assessed annually and the adequacy of facility components is ranked.

Based on the assessment for the year ending June 30, 2004, WSDOT's facility rating summary is as follows:

Rating	Number of Complexes	Percent of Complexes	Definition
Good	19	8%	with minimal deficiencies
Fair-High	38	16%	with need for some minor renovation.
Fair-Mid	72	31%	needing system renovation
Fair-Low	64	27%	requiring system replacement
Poor	43	18%	with multiple deficiencies requiring major renovation or replacement

Deficiencies are identified and the cost to correct them is estimated. Each complex is then rated. The agency's goal is to have no more than 10% of its complexes rated "poor".

A list of corrective actions and associated values comes from the assessment. When not addressed, the deficiencies become a backlog. Over the last three fiscal years, the value of this backlog has grown from approximately \$101.1 million in 2002 to \$112.9 million in 2003, to \$134.3 million in 2004.

The chief factor driving up the backlog is the 70-year age of many of WSDOT's facilities. These facilities have old heating, plumbing, electrical and other systems whose replacement is expensive and often impractical. See the chart in the next column for an example of life cycle savings over 50 years when an older facility is replaced with a new one.



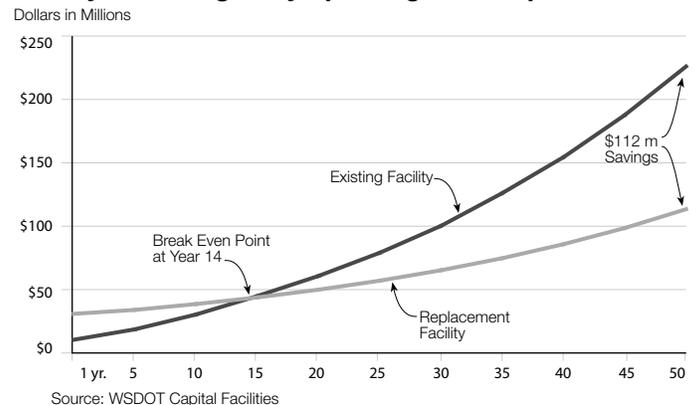
The Spokane Street Maintenance Facility in Seattle (see page 48 for details)

### Life Cycle Analysis

Continuing to operate in existing 70-year old facilities does not make good economic sense, as illustrated by the following life-cycle chart. It shows that after the break-even point of 14 years for replacement of the old Olympic Region HQ Complex, a \$112 million in savings can be realized over 50 years. (See next page for a project description.)

Savings accrue from avoiding future lease costs and eliminating the facility renovation backlog for the buildings involved.

### Life Cycle Savings: Olympic Region Complex



### A New Approach to Preventive Maintenance

During the 03-05 biennium, WSDOT implemented a preventive maintenance program based on computer assisted identification of critical equipment to be maintained. The program established a schedule for maintenance and tracked its accomplishment. In the 05-07 biennium, this program will allow the agency to better plan and track preventive maintenance. To maintain this system, record-keeping duties will increase, but links with other agency systems will reduce duplication and improve the data used to manage and track building maintenance.

In the past six years, WSDOT and the legislature have worked at renovating and replacing regional headquarters complexes. These complexes house the largest population of WSDOT employees.

The Capital Plant Construction program provides facilities that reduce costs and increase efficiencies. Priorities are driven by life-safety, code compliance, and supporting the agency mission. Opportunities increase to consolidate geographically, move closer to operational centers and collocate with

# Asset Management: Capital Facilities

## Capital Facilities Construction Projects

other agencies. Long-term decisions consider the total life cycle of the facility, including ongoing operations and maintenance costs over 50 years.

The following examples illustrate recent facility projects and others that are planned during the coming years.

### Capital Investment Program 2003-05

#### *Wenatchee Consolidated Shops*

This is the third phase of a four-phase relocation of North Central region functions to a new site adjacent to the Washington State Patrol just north of Wenatchee. This project replaced seven separate buildings at the old 1930s North Wenatchee Avenue complex with a single structure at the new site. The building was opened in spring 2005. The final phase will relocate the administrative functions. The old site will be surplus for private development.



1930s facility on North Wenatchee Avenue, which is being replaced



A portion of the new North Central Region complex in Wenatchee

#### *Pomeroy Maintenance Facility Replacement*

The former 1940s facility was located on Pataha Creek, a salmon-bearing tributary of the Snake River. Due to the small size of the site, its dangerous access, and the environmental risks of its location, the facility was replaced at an upland location. The building opened in summer 2005.

### Capital Investment Program 2005-07

#### *Olympic Region Headquarters Replacement*

This project intends to replace the 1930s Tumwater complex and several leased satellite offices with a complex in northern Thurston County, saving taxpayers \$2.24 million annually. The existing facilities are obsolete, undersized and inefficient. The cost of leasing additional space for project offices throughout Thurston County will also be eliminated. The new buildings are expected to be completed in summer 2008.

#### *Spokane Street Maintenance Facility Replacement*

A new facility will be constructed in Seattle adjacent to WSDOT's existing Corson Avenue site. The new facility will accommodate the urban Seattle maintenance crews and their equipment. The crews maintain SR 509, SR 599 and parts of I-5, I-90, SR 99 and SR 520. They are currently housed in 1930s facilities at Spokane Street that are small and inefficient. The Spokane Street facility is 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 for a base of operations for materials testing staff, and for staging materials and equipment. The new building is expected to be completed in fall 2008.

#### *Ephrata Area Maintenance Facility Replacement*

A rebuild of the old 1950s Ephrata facility on its existing site will accomplish much-needed improvement of work space for the maintenance crew and equipment mechanics. The Ephrata facility supports maintenance of parts of I-90 and several state routes in the Moses Lake, George and Othello vicinities. The project is expected to be completed in fall 2008.

#### *Statewide Reroofing*

This project consolidated reroofing of multiple facilities statewide. This is the third biennium that WSDOT's statewide roofing projects have been packaged into a single contract, resulting in design and construction cost savings.

# Highway Maintenance

## Winter Field Test Results for Anti-Icers

### 2002 - 2005 Winter Field Test Results

Field testing different materials and methods is one way WSDOT learns how to make highways safer for winter driving. Here are two examples of field research aimed at improving winter roadway safety while safeguarding vehicles and the environment.

#### WSDOT Continues Anti-Icer Evaluation

Maintenance crews use a variety of liquid and solid anti-icers (ice-melting compounds). For the past three years, WSDOT has been evaluating different anti-icers on test sections of highway, measuring differences in operational costs, performance, corrosion, and environmental impacts. The information gained from these tests is helping WSDOT find the best balance of factors in selecting anti-icers. (see map below)

#### Comparing salt to corrosion-inhibited anti-icers

During the first two years of testing, results using salt were compared to results using corrosion-inhibited anti-icers. Although the unit cost of salt products is considerably less than the unit cost of corrosion-inhibiting anti-icers, overall costs at the end of a winter season are similar. This is because more salt has to be used, and applied more often, to achieve roadway condition results similar to the corrosion-inhibiting anti-icers.

The performance of salt was similar to that of corrosion-inhibiting anti-icers in keeping roads bare and wet during snowy or icy winter conditions. The corrosion-inhibiting anti-icers proved to be consistently less corrosive to steel on motor vehicles than salt, but corrosion to sheet and cast aluminum

on vehicles was mixed. In some cases, salt was more corrosive to aluminum. In others, salt was less corrosive to aluminum.

Environmental impacts from the use of salt were similar to impacts from the use of corrosion-inhibiting anti-icers. In both cases, chlorides detected in roadside soils and water were far below levels of concern for the protection of the environment and public health. At the end of two years, field-testing data indicated that WSDOT's emphasis on corrosion-inhibiting anti-icers appears to be preferable when compared to an emphasis on using salt.

#### Mixing and matching approaches to testing

During the third year of testing, mixing and matching of different anti-icers was evaluated to find the most cost-effective combinations. One approach was to spray corrosion-inhibiting anti-icers on salt as it is applied to the roadway. This practice is known as pre-wetting rock salt.

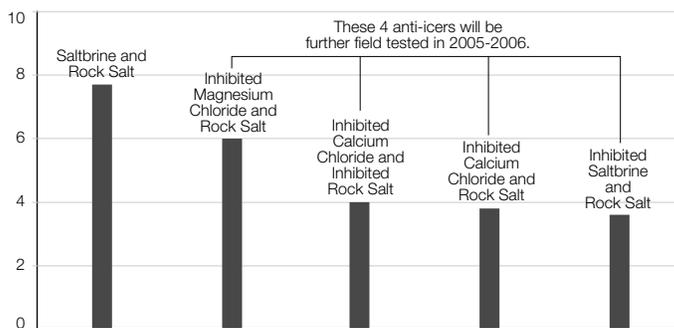
With the pre-wet rock salt, WSDOT achieved results similar to the previous standard practice, but with cost savings of approximately \$50 per ton. Because WSDOT uses thousands of tons of solid anti-icers statewide each winter, this appears to be a possible approach to achieve significant cost savings.

Based on these field tests, WSDOT will continue using corrosion-inhibiting anti-icers (rather than regular salt products) for highway snow and ice control. However, the testing of pre-wetting rock salt as described above will be repeated and monitored next winter to assure that WSDOT can further stretch taxpayer dollars without sacrificing safety, corrosion costs, or environmental impacts.



### Corrosion of Steel Caused by Anti-Icers

#### Weight Loss in Steel on Maintenance Trucks



# Highway Maintenance

## Winter Field Test Results for Pavement Markings

### 2002-2005 Winter Maintenance Field Test Results

WSDOT has gradually been increasing the use of anti-icers and relying less on sand for snow and ice control. This means less wear on pavement markings. But it's still a rough and destructive winter if you're a pavement stripe on Snoqualmie Pass.

#### Test of Pavement Marking Materials on I-90 Yields Promising Results

On I-90 over Snoqualmie Pass, pavement stripes wear out in a very short time, leaving the roadway without reflective lane markings. Pavement markings are affected by tires (especially studded tires or chains) and sand that wear away the reflective surface. Rainwater covers the marking and limits visibility and reflectivity. And in the winter, snowplows scrape off the reflective surface. The stripes are repainted twice a year.

Over the years, drivers have asked for more durable and visible markings on the pass. WSDOT has tried a number of approaches; none have solved the problem. Even materials that routinely survive cold snowy winters in the Midwest have been unable to withstand winter conditions on Washington's most-traveled mountain pass.

Last winter, however a test of a new pavement marking materials showed that at least one type of reflective striping came through the winter at the summit with excellent results. Although the 2004-2005 winter was not as harsh as previous winters have been, this is promising news.

#### *Pavement markings help make roadways safer.*

Since the 1940s, pavement markings have included a "retro-reflective" aspect. This means that in the dark, these markings reflect light back to the driver and show the lane edges clearly.

#### *Finding markings that can survive the winter*

To conduct the pavement marking test, five 3,000-foot test sections were selected on I-90, from North Bend (milepost 32) to Easton (milepost 72), including a test area near Snoqualmie Summit. These five locations approximate almost all climate conditions found in Washington State, and allow WSDOT to evaluate the pavement marking materials in distinct types of winter conditions. Before winter weather set in during September and October, 2004, seven vendors or manufacturers placed 75 test marking stripes.

To protect the striping materials from being scraped off by snowplows, in some test areas WSDOT ground 0.10-inch to 0.30-inch inlay grooves into the pavement (dependent on test material application thickness.) The spray-on or tape pavement markings were placed in the inlay grooves.

At the evaluation in April 2005, WSDOT found 57 test markings out of the 75 total test markings (75%) had withstood the winter and retained enough reflectivity to meet acceptable levels.<sup>1</sup> The pavement markings, which vary widely in cost, also varied in durability depending upon the conditions. At least one of the products maintained adequate retro-reflectivity in the harshest conditions, near the summit of Snoqualmie Pass.



This test section, photographed in April 2005, 6 months after being placed, retains its retro-reflectivity, while the normal paint striping (on the right) was no longer retro-reflective



A close look at the product that proved most durable and retro-reflective, a methyl methacrylate textured marking, after the 6 month winter field test

WSDOT will develop a pavement marking plan for I-90 to provide an economical year-round stripe, based on the test. Final recommendations will be built into WSDOT's 07-09 budget proposal. The information gained from the Snoqualmie Pass field evaluation will also be valuable in the future for selecting the most successful and cost-effective marking materials for construction projects, mountain passes and problem pavement marking in other areas of the state.

<sup>1</sup> The United States Department of Transportation and Related Agencies Appropriations Act of 1993, [safety.fhwa.dot.gov/roadway\\_dept/retro/gen/cong\\_mandate.htm](http://safety.fhwa.dot.gov/roadway_dept/retro/gen/cong_mandate.htm) called for standards to be set, governing minimum maintained retro-reflectivity for highway signs and pavement markings. For signs, those standards are nearly finalized. Standards for pavement markings have been proposed, and may be finalized within two years. At this time, draft standards for pavement markings are being considered.

# Highway Safety

## Fatal and Disabling Accident Rates

Safety is a major issue for highway system users. Although Washington has seen a 56% reduction in fatal and disabling crash rates in recent years and has a fatality rate that is steadily dropping, efforts to improve safety do not end. (See Safety Benchmark information on page 70). Safety is a fundamental part of WSDOT's vision and purpose - a part of all activities from planning to operation and maintenance of a roadway.

Washington State has one of the lowest fatal accident rates per hundred million vehicle miles traveled among all 50 states. WSDOT evaluates past accident history to determine strategies to further reduce fatal and disabling crashes. This approach is incorporated into the state's long range plan (Washington Transportation Plan) and used to direct future capital investments.

In the most recent update of the Washington Transportation Plan, a review of accident history indicated that the highest fatal and disabling rates were on rural two-lane highways. Further analysis revealed a wide variation in this rate between counties (see map below).

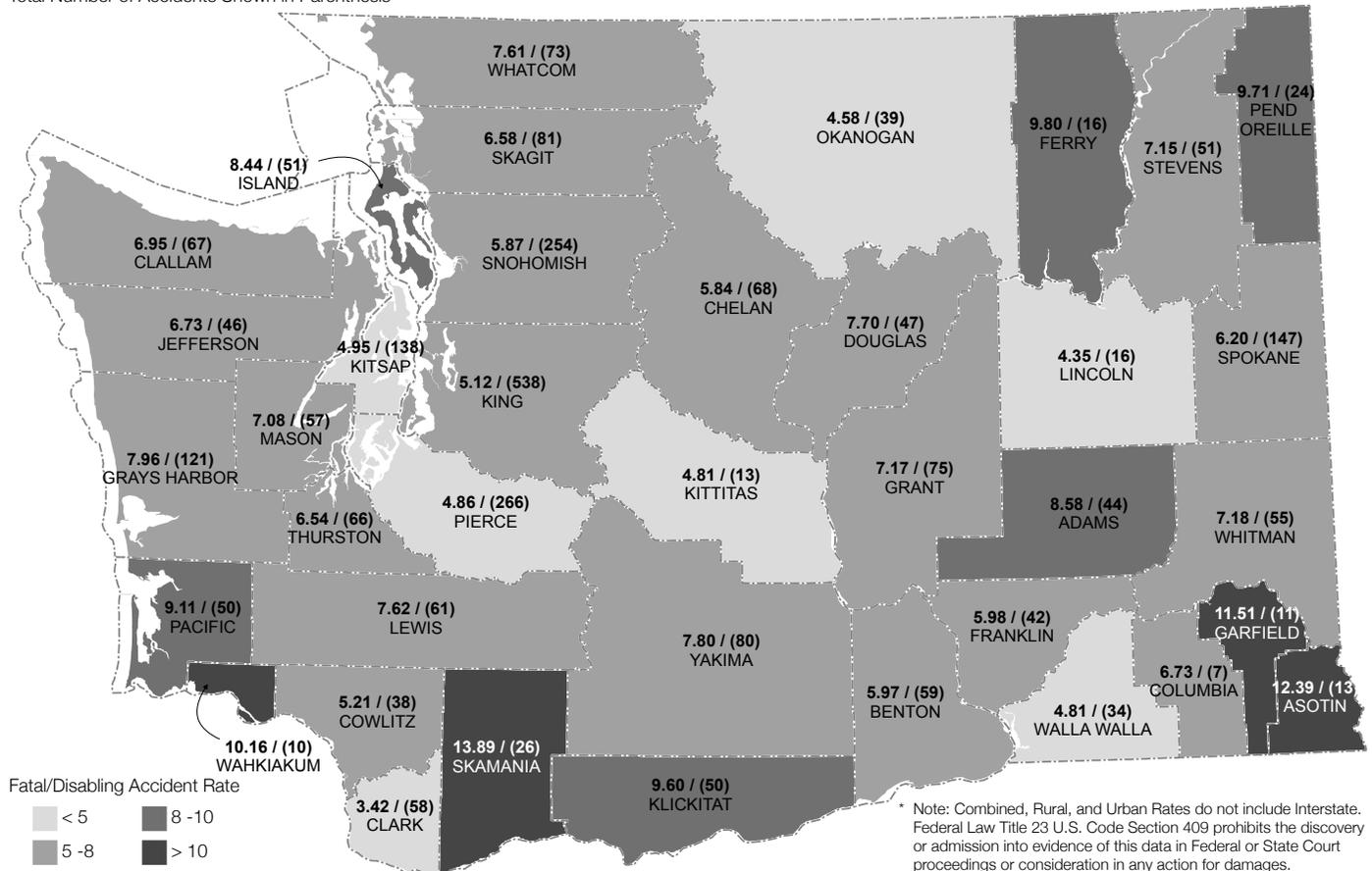
Washington has excellent information about accident history, which WSDOT, the Washington State Patrol and local law enforcement agencies have been collecting and storing in the state accident database. WSDOT is using this data to gain important insights into factors contributing to where and why accidents occur. The numbers of fatal and disabling accidents are considered along with rates, locations and many other details. This use of data allows for strategic investments, creative solutions, and continued improvement in Washington's highway safety record.

The following page updates before and after results for two types of safety improvements WSDOT has been implementing over recent years: roundabouts and rumble strips.

Future *Gray Notebooks* will contain update results for cable median barriers and guardrails, and an update of the Corridor Safety Program, a partnership between local communities, WSDOT and the Traffic Safety Commission, using low-cost engineering, enforcement, education, and emergency services agencies to address collisions.

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

Rate per 100 Million Vehicle Miles Traveled 2001 to 2003 Average Rate  
Total Number of Accidents Shown in Parenthesis



# Highway Safety

## Current Highway Safety Techniques

### Roundabouts

Single-lane roundabouts are among the most valuable traffic control devices to reduce collisions at intersections. This is a result of lower speeds in and around the intersection and the elimination of angle collisions (the most serious type of collision at an intersection).

Relying on drivers to regulate their driving at the entrance of a roundabout is an important safety feature of roundabouts. Running stop signs and red lights causes many injuries and fatalities nationally. Roundabout design reduces this behavior and the associated danger in intersections.

Crash reduction results from four single lane roundabouts on the state highway system reveal similar results as an earlier study done nationally by the Insurance Institute for Highway Safety. In that national study of 24 locations where roundabouts replaced stop-sign intersections, overall collisions were reduced by 39% and injury related collisions were reduced by 76%.

The single lane roundabouts in the study (see chart below), located in Port Orchard, Colville, Bellevue and Gig Harbor, showed a 50% reduction in overall collisions and an 81% decrease in injury related crashes. At least two years of before data was analyzed, and at least 18 months of data in the after period. The data was normalized (12 month average) to make a valid comparison.

### Collisions in Four Single Lane Roundabouts

Collisions per year

	All Types per Year	Injury Collisions per Year
Before Totals	6.7	2.7
After Totals	3.4	0.5
Percent Reduction	50%	81%

Source: WSDOT Transportation Data Office

There are over 50 single lane roundabouts in Washington State at intersections involving state highways, county roads, and city streets, all built since 1997.

### Multi-lane roundabouts

Roundabouts with more than one circulating lane are referred to as “Multi-lane roundabouts”. There is a trend of selecting multi-lane roundabouts to replace more complex intersections, and in some cases, to replace two intersections that are close together. Other multi-lane roundabouts have been built

in new roadway networks where no intersection existed before the roundabout was built. Safety data on multi-lane roundabout safety is still preliminary. A future *Gray Notebook* will include reporting on this topic.

### Rumble Strips

Centerline crossovers account for about 20% of all fatal collisions, and the rumble strip is a cost effective countermeasure for reducing these collisions. The June 31, 2004 *Gray Notebook* presented data on the performance of centerline rumble strips in reducing crossover collisions on a section of U.S. 12 between the Tri-cities and Walla Walla. As a follow-up, WSDOT recently reviewed the performance of 98 miles of centerline rumble strips on undivided highways. That evaluation found a 38% reduction in the frequency of all centerline crossover collisions and an 18% reduction in all injury accidents. Considering the societal cost savings of fewer crossover collisions, rumble strips often yield savings of 100:1.

Washington highways currently have 110 miles of centerline rumble strips in place, and the 2005 Transportation Funding Package provides for hundreds of additional miles.

### WSDOT Wins 2005 AASHTO Safety Award

WSDOT was recently recognized for its proactive approach to safety by the American Association of State Highway and Transportation Organizations (AASHTO). In May 2005, AASHTO presented WSDOT with its Safety Leadership Award. WSDOT’s approach is based upon a “local, corridor and system-wide perspective. Working with other safety agencies, WSDOT adopted a strategic safety plan, called Target Zero. As an outcome, the state has had a 56% decrease in fatal and disabling crash rates since 1990 even though vehicle miles traveled over that period have increased by 35%.”

The AASHTO Safety Leadership Award is new in 2005. It was presented to three state DOTs. In addition to WSDOT’s award, Michigan DOT was recognized for lowering the state traffic fatality rate from 1.8 deaths per hundred million miles traveled in 1995 to 1.16 by 2004, compared to the national average of 1.48. The Iowa DOT was recognized for creating a Safety Management System that involves key stakeholders, and for implementing a state comprehensive highway safety plan.

# Environmental Program: Annual Update

## Improving Environmental Review and Tracking

### Evaluating Completed Environmental Assessments

When a project's expected environmental impacts are not large enough to require preparation of a full environmental impact statement (EIS), WSDOT often satisfies the requirements of the National Environmental Policy Act (NEPA) by preparing environmental assessments (EAs). Currently, WSDOT is processing 12 environmental impact statements for projects across the state and 25 environmental assessments (EAs).

#### Results

WSDOT recently evaluated processing times for EAs from 1998 to 2002. Based upon fourteen completed assessments, the total processing time dropped 134%, from 1846 days in the 1998 experience to 788 days in the 2001-2002 cluster of projects.

The biggest improvement came in the final step in completing an EA, the issuance of a Finding of No Significant Impact (FONSI). The processing time for this step was reduced from 261 days in 1998 to 75 days in 2001-2002. The improved process-

### Reader Friendly Documents: Plain English

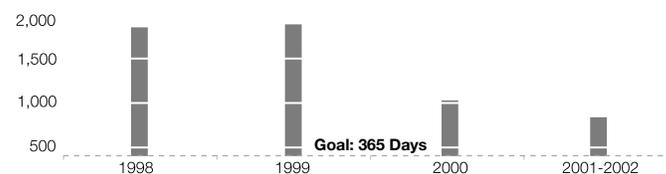
As reported in the March 31, 2004 *Gray Notebook*, WSDOT has improved the format of its environmental documents to be "reader friendly". This includes some basic principles: tell a story, engage the reader, make it visual, and make it brief.

WSDOT's initiative also supports the Governor's Government Management Accountability and Performance (GMAP) Executive Order that calls for agencies to communicate results clearly to the public and affirms the Governor's Plain Talk Executive Order, promoting easy-to-understand communications (see the *Gray Notebook* the quarter ending March 31, 2005 for more information.)

WSDOT is applying basic reader-friendly concepts to all EAs and EISs. For more information see [www.wsdot.wa.gov/environment/compliance/ReaderFriendly.htm](http://www.wsdot.wa.gov/environment/compliance/ReaderFriendly.htm)

### Environmental Assessments 1998-2002

Number of Days to Process



Source: WSDOT Environmental Services

ing time is a result of WSDOT staff preparing documents that were successful in avoiding iterative redrafting with the Federal Highway Administration (FHWA).

### Agencies Approve WSDOT Projects

WSDOT and seven other state and federal agencies meet at key points in EIS preparation through a formal agreement known as the Signatory Agency Committee (SAC) agreement. WSDOT is tracking several performance measures to evaluate how well the agreement is working. One performance measure tracks whether regulatory agencies are approving WSDOT projects at certain critical concurrence points. Receiving approval for a concurrence point means that federal and state resource agencies view the information, the project decisions and the design EIS as adequate.

Resource agencies approved 13 of the 19 (69%) concurrence requests that were made from October 2003 to September 2004 under the SAC agreement. Resource agencies determined non-concurrence with six of the 19 requests or 31%. All non-concurrence decisions were associated with one project, *SR 167 Puyallup to Fife*, due to the location of the project in a sensitive rural environment and a proposed innovative stormwater treatment technology. WSDOT and FHWA successfully resolved the reasons for non-concurrence in May 2005 utilizing the defined SAC Issue Resolution process.

### Number of Concurrence Decisions (10/1/03 – 9/30/04)

Concurrence	7 (37.0%)
Concurrence with advisory*	6 (31.5%)
Non-Concurrence	6 (31.5%)
Waive	0
Total	19

\* Comments are provided for informational purposes and WSDOT must respond within 45 days.

# Environmental Program: Annual Update

## Wildlife Crossings

Washington State contains dozens of diverse habitats supporting over 650 different species of fish and wildlife. For many of these species, loss of habitat is a significant threat. Roads and highways can impact wildlife in our state by disrupting the connections between their habitats. Highways create several dangers for wildlife: the direct loss of habitat resulting from road construction; fragmentation and isolation of existing habitats; obstacles to movement limiting migration and dispersal which can lead to smaller, more inbred populations; and animal-vehicle collisions resulting in wildlife mortality. Animal-vehicle collisions are also a serious safety concern for the traveling public. WSDOT records show an average of 2800 deer carcasses removed from state roadways annually.

For many years, WSDOT has been identifying and removing road culverts that act as fish passage barriers in streams. (See the *Gray Notebook* for the quarter ending March 31, 2005 for more information on fish passage barriers). Similarly, WSDOT would like to identify and correct places where highways affect the connectivity of terrestrial animals habitats.



Long bridge spans, like this one on SR 504 near Kidd Valley, stretch across streams and adjacent uplands. They are readily used as road underpasses by wildlife.

## Transportation Projects Can Improve Habitat Connectivity

WSDOT considers underpass and overpass structures to be opportunities to improve the ability of wildlife to successfully get across highways and provide connections between wildlife habitats. In Washington and other places, both existing transportation structures and specially-built animal crossing structures have been effective in helping animals to cross roads safely. Long term monitoring of animal crossings on the Trans Canada Highway in Banff National Park indicates that many species of wildlife use the crossings, including deer, elk, moose, cougars, bears, wolves and coyotes. Five years of monitoring data from Banff show 37,379 animal crossings using the existing 22 crossing structures. Smaller mammals like chipmunks, squirrels, and raccoons, as well as amphibians and reptiles, are also known to use crossings.

### Culverts and Wildlife Underpasses

Ordinary structures that currently exist under highways, such as pipe culverts, box culverts and tunnels, are used as passages by many species. A study on the animal use of existing underpass structures on I-90 found 15 mammal species using them to cross under the highway. In Washington, underpasses built specifically for animal crossings exist on SR 12 near the Tri-Cities and I-90 near North Bend.



A specially-built wildlife underpass on I-90 in North Bend. Fences guide the wildlife away from the highway to the safety of the underpass.

# Environmental Program: Annual Update

## Wildlife Crossings

### Wildlife Overpasses

Specialized wildlife crossing bridges built at popular wildlife-crossing spots encourage habitat connectivity. No specially designed overpass structures currently exist in Washington State, though some are being considered (see gray box). Overpass structures would be planted with thick natural vegetation to encourage use. Wildlife crossing structures can be expensive (estimates are between \$1,000,000 for a simple bridge widening to about \$10,000,000 for an over-the-highway structure). Careful planning and design also must go in to the crossing to ensure success.



Computer-generated image of an overpass structure currently being considered for the I-90 project between Hyak and Easton. See gray box.

### Structures Provide Habitat Connectivity as well as Driver Safety

WSDOT is using existing wildlife and habitat information, as well as data on animal-vehicle collisions, in conjunction with the transportation planning process to identify the best opportunities for making improvements. Crossing structures allow free movement to animals, which alleviates the problems created by the barrier effect of the highway. The structures also enhance safety for motorists, as they remove wildlife from the roadways.

For more information on wildlife highway crossings in Washington and other states, visit [www.fhwa.dot.gov/environment/wildlifecrossings/main.htm](http://www.fhwa.dot.gov/environment/wildlifecrossings/main.htm).

### Wildlife Crossings on Snoqualmie Pass

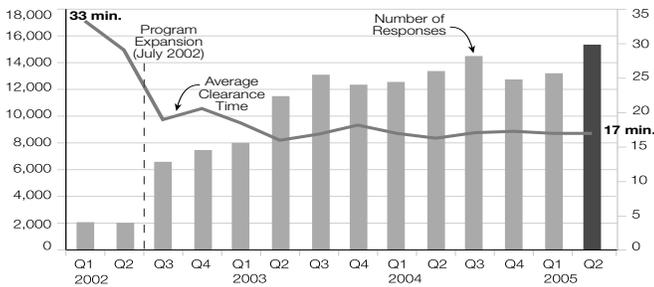
WSDOT is planning to build 14 wildlife crossings on I-90 using funds from the 2005 Transportation Funding Package. These structures will be used to control wildlife crossings on a 15-mile stretch of road from Hyak to Easton. Overpasses and underpasses will be placed in areas that are heavily used wildlife crossing spots, connecting wildlife habitats on either side of the highway and in a large median area between the eastbound and westbound lanes. Ideas being considered for monitoring techniques include “track pits” (freshly-turned earth that is checked periodically for animal tracks) and hidden videocameras. WSDOT is currently examining structures in Arizona, Montana, and Canada to discover best practices in developing the structures and monitoring their usage. Construction could begin in 2011. For more information, visit [www.wsdot.wa.gov/Projects/I90/HyaktoKeechelusDam/](http://www.wsdot.wa.gov/Projects/I90/HyaktoKeechelusDam/)

# Incident Response: Quarterly Update

## Incident Response Program Trends

In the second quarter of 2005, the total number of responses to incidents was a record high since the beginning of the Incident Response program—15,354 total responses (16.2% more responses than the previous quarter). The increase was likely due to seasonal incident increases, as no significant changes were made in program size or schedule during this period. Despite the large number of responses, the overall average clearance time remained at 17 minutes.

### Number of Responses and Overall Average Clearance Time January 2002 - June 2005



Source: WSDOT Incident Tracking System  
 Note: Program-wide data is available since January 2002. Prior to Q3 of 2003, number of responses by IRT are shown. From Q3-2003, responses by Registered Tow Truck Operators and WSP Cadets have been reported in the total.

## Types of Incidents and Clearance Times

Incidents of all types increased proportionately—with a slight increase in blocking debris expected during the summer months. Since the program expansion in July 2002, average clearance times improved marginally for most incident types. Injury and non-injury collisions average clearance times continue to improve. In the second quarter of 2005, clearance time averaged 67 minutes compared to 71 minutes in the first quarter.

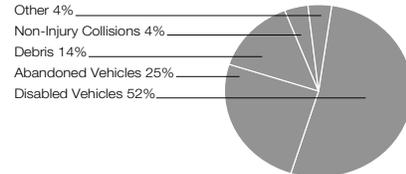
WSDOT, WSP, and the Washington State Association of Fire Chiefs (WSAFC) have a joint goal to safely clear highway incidents within 90 minutes. See page 59 for an example of an incident that lasted longer than 90 minutes.

## Roving vs. Called-Out Responses

While the Incident Response program responds to incidents in core coverage areas during scheduled roving hours, responders are also called out to major incidents anywhere at any time. In Quarter 2, there was no change in the main response mode—99% were responded while roving and less than 1% were responses from being called out. The majority of the responses were due to roving activities. Called-out responses were fewer and due to major incidents.

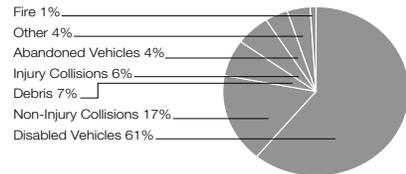
Roving responses are a significant advantage to motorists involved in incidents, as well as to traffic. The time it takes to get to an incident is generally longer when called-out than for a nearby roving unit sent by a Dispatch Center. When incidents are found during roving (before a dispatcher receives any information), response time is reduced to almost zero.

### Incidents Lasting Less Than 15 Minutes (9,603)



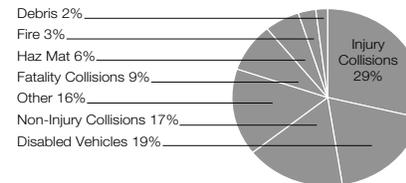
Fire, Injury Collisions, and Hazardous Material Incidents were less than 1% and are not shown in the above pie chart.

### Incidents Lasting 15 to 90 Minutes (5,656)



Hazardous Material was less than 1% and is not shown in the above pie chart.

### Incidents Lasting 90 Minutes and Longer (251)



Note: The total of the individual response types are larger than the program total because some of the responses fell into more than one category.

## Incident Response Types - April to June 2005

Total Incident Responses = 15,354  
 • 1,822 Collisions (12%) • 13,532 Non-Collisions (88%)<sup>1</sup>

	April	May	June
Fatality Collisions	6	11	6
Injury Collisions	129	143	123
Non-injury Collisions	482	469	453
Disabled Vehicles	2,662	2,916	2,915
Abandoned Vehicles	873	851	955
Debris	534	616	558
Fire	9	15	12
Hazardous Materials	205	233	259
Other	23	26	26

<sup>1</sup>Some non-collisions fall into more than one of the above categories.

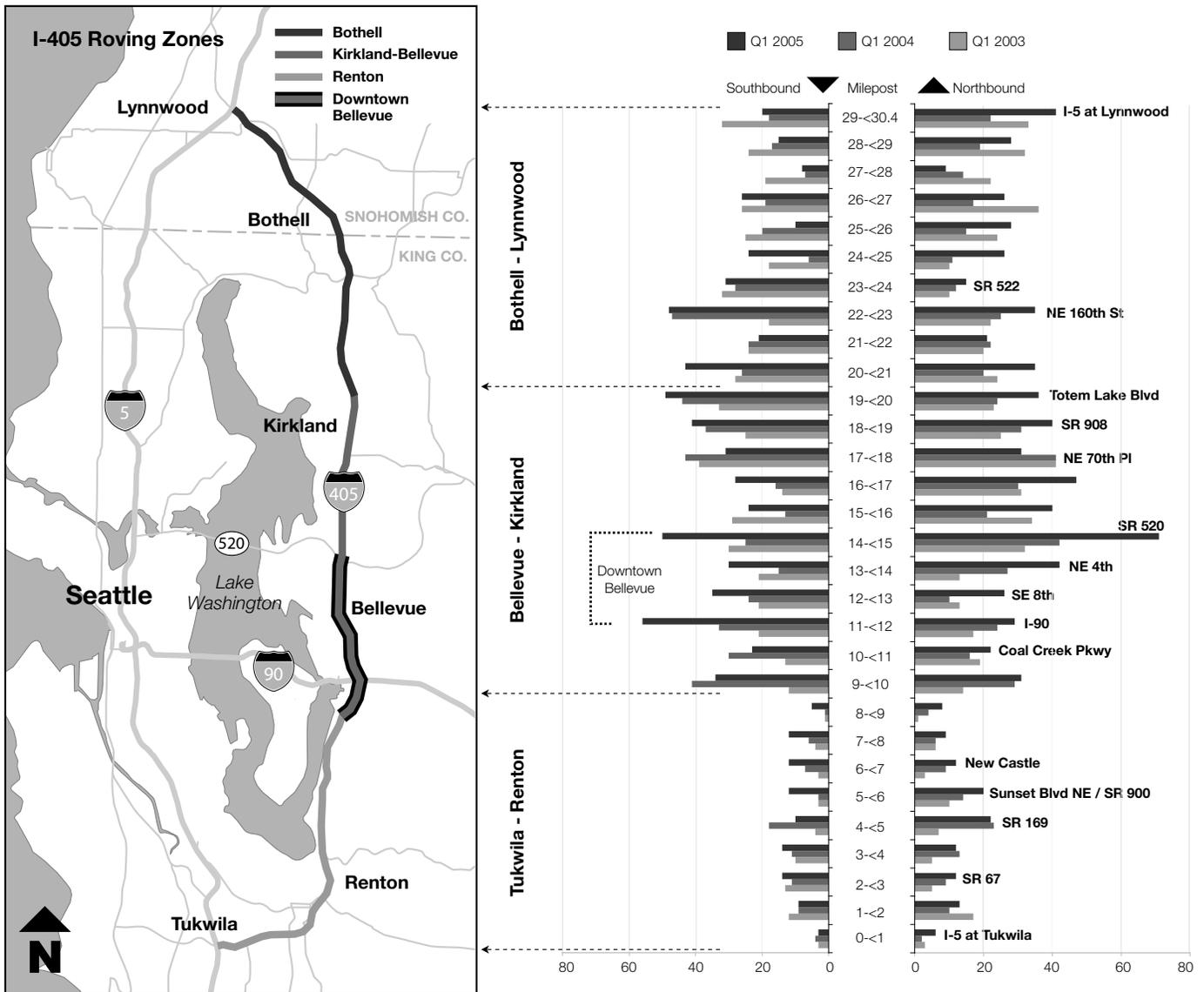
## Service Actions Taken for Non-Collision Responses<sup>2</sup>

April to June 2005

	April	May	June
Traffic Control	634	637	764
Provided Fuel	372	352	356
Changed Flat Tire	290	317	317
Minor Repair	191	204	227
Pushed Vehicle	187	196	181
Towed Vehicle	80	78	55
Cleared Debris	432	485	449

<sup>2</sup>Most common service actions only – excludes various miscellaneous actions taken. Multiple actions may be taken for each response.

**Number of Responses to Incidents by Milepost and Direction of Travel on I-405**  
 Three Quarter Trend: January - March 2003, 2004, and 2005



**Roving Coverage on I-405**

The Incident Response Roving program covers the entire I-405 corridor. The heavily traveled corridor runs parallel to I-5 on the east side of Lake Washington, through major urban areas such as Renton, Bellevue, Kirkland/Redmond, and Bothell. I-405 is connected to Seattle by I-90 and SR 520 across Lake Washington. Bellevue City Center is located west of I-405 between I-90 and SR 520. Primary coverage by the Incident Response program is Monday through Friday from approximately 5:30 a.m. to 8:00 p.m., with additional unit coverage during mid-day. The portion of I-405 with the most roving coverage is downtown Bellevue, as indicated with a thicker line on the map above to depict additional response units and hours, including weekend coverage.

**Tracking Three Years of Response Activities**

During the first quarter of 2005, the chart above shows the number of responses was similar northbound (N/B) and southbound (S/B) on I-405. When comparing the first quarter of 2005 with the same quarter of 2004 and 2003, the total number of responses on the entire I-405 corridor increased (for example, by 31% from 2004). The spikes in 2005, showing

significant increase in responses, are at the interchanges to major routes—interchanges SR 520 on both N/B (69% increase) and S/B (100% increase), and at the I-90 interchange S/B (70%). The majority of these increases were attributed to disabled vehicles.

**Number of Responses**

In a corridor analysis like the one shown above, the number of responses at each location provides useful information for managing the Incident Response Program. However, site-specific information may not be directly comparable because the numbers are influenced by specific characteristics of each location, such as traffic volumes, roadway geometry, and roving coverage in each area.

An illustration of this can be seen in the number of responses in Tukwila-Renton (Milepost 0-<10), which are much fewer than in the other I-405 segments.

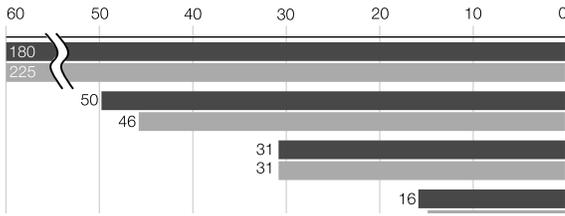
More vehicles travel through Bellevue-Kirkland than Tukwila-Renton. The roadway is different too: the segment from Bellevue-Kirkland to the south of Bothell has three

**Average Clearance Time in Minutes**  
April 2004-March 2005

**Number of Responses**  
April 2004 - March 2005

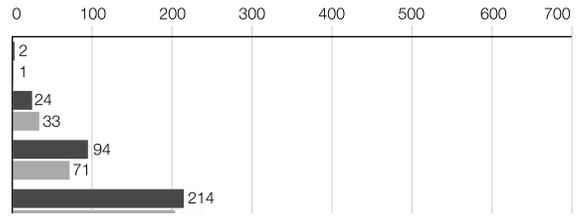
■ Northbound  
■ Southbound

**I-405 Tukwila to Renton (Coal Creek Pkwy)**  
**MP 0-<10**

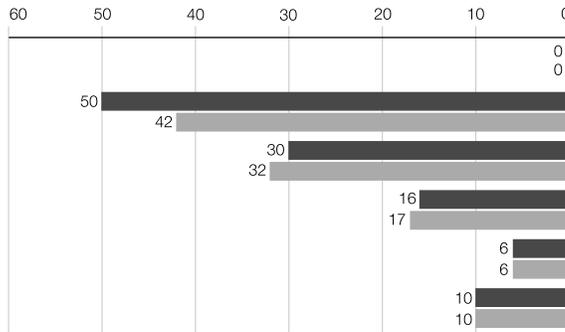


**Incident Type**

Fatality Collisions  
Injury Collisions  
Non-Injury Collisions  
Disabled Vehicles

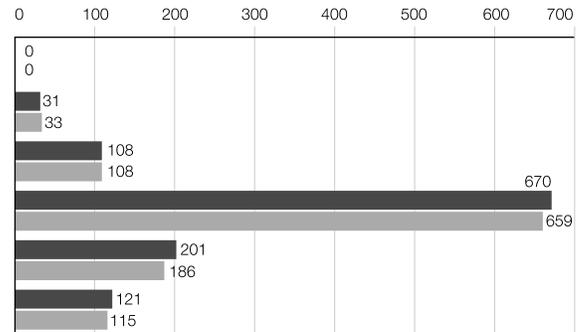


**I-405 Bellevue to Kirkland (I-90 to Totem Lake Blvd)**  
**MP 10-<20**

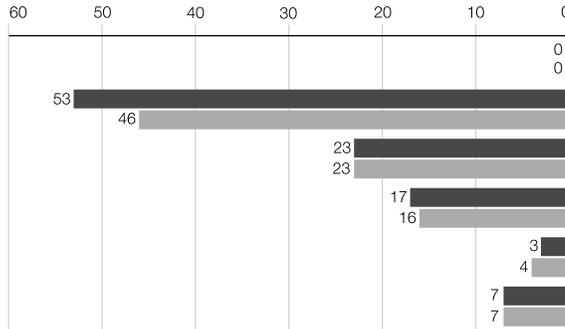


**Incident Type**

Fatality Collisions  
Injury Collisions  
Non-Injury Collisions  
Disabled Vehicles  
Abandoned Vehicles  
Debris Blocking Traffic

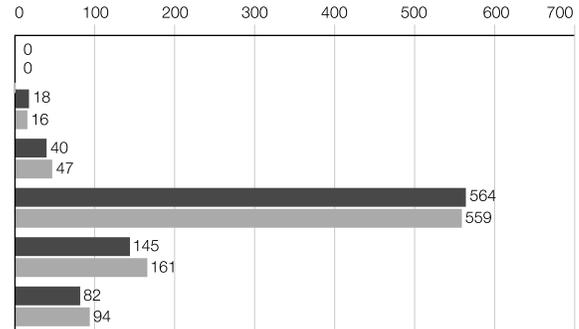


**I-405 Bothell to I-5 Lynnwood**  
**MP 20-<30.3**



**Incident Type**

Fatality Collisions  
Injury Collisions  
Non-Injury Collisions  
Disabled Vehicles  
Abandoned Vehicles  
Debris Blocking Traffic



or four General Purpose (GP) lanes with an HOV lane. The Tukwila-Renton segment is narrower with only two GP lanes and an HOV lane, allowing less vehicle throughput. Due to the higher Average Daily Traffic Volume (ADTV) and higher roadway capacity in Bellevue-Kirkland, more IR units are deployed there than in other areas. IR units are also deployed there during weekends. Because the narrow roadway in the Tukwila-Renton area is prone to congestion, heavy traffic slows down roving operations, making it difficult to rove and respond to incidents upon detection, resulting in fewer responses overall.

The units covering Tukwila-Renton are also responsible for other areas—from I-5 to SR 18, to SR 167, and occasionally to SR 518/SR 516. On the other hand, the Bellevue-Kirkland operations focus solely on the key area (SR 520 – I-90 - I-405) even on weekends.

**Incident Types**

The three bar graphs stacked above compare, for both northbound and southbound, the average clearance times for each incident type with the corresponding number of incidents for each 10 mile long segment.

The majority of incidents responded were disabled/abandoned vehicles. In the Tukwila-Renton segment, the response total was the smallest; however, collisions were high proportionately and in frequency (24%, 225 responses) as compared to Bellevue-Kirkland (12%, 280 responses) and Bothell-Lynnwood zones (7%, 121 responses).

Injury collisions were cleared much faster in all three segments (under 54 minutes) than the statewide program average of 71 minutes. Average time to clear non-injury collisions, disabled vehicles, abandoned vehicles, and debris were similar to the program-wide averages (34 min., 15 min., 7 min., and 12 min., respectively). In Bothell-Lynnwood, non-injury collision clearance average was faster in both directions (23 minutes) than the program-wide average of 34 minutes).

# Incident Response

## Working Together to Clear Incidents

### Anatomy of an Incident Lasting Over 90-Minutes

On Wednesday morning, April 12, 2005, at approximately 10:57 a.m., a semi-tractor trailer with double tanks overturned while attempting to brake for traffic. The truck was carrying a full load of hot tar when it rolled over and spilled its cargo onto northbound I-5, just south of the Mercer on-ramp in Seattle. Several hundred gallons spilled out of the ruptured tanks and covered all northbound lanes. Washington State Patrol (WSP) was notified immediately, as well as WSDOT. WSDOT Incident Responders (IR) arrived in eight minutes.

All northbound lanes of I-5 traffic came to a standstill as WSP and WSDOT closed the road to traffic. Seattle Fire Department's Haz-Mat teams cooled the tar with streams of cold water. This action also stiffened the tar and kept it from flowing into Seattle's drainage system and avoided environmental damage.

After an hour the Seattle Fire Department determined that the tar had cooled enough to be handled. A team of WSDOT maintenance personnel brought equipment and scooped it off the highway and into dump trucks. A state-contracted tow company set the semi-tractor truck upright. WSDOT parked a large Truck Mounted Attenuator (TMA) on the shoulder to block a hole in the guardrail and bridge (the TMA is a shield mounted on a truck that prevents errant vehicles from entering a work zone). The TMA allowed the team to safely make needed repairs on the guardrail and bridge making an earlier opening of the freeway possible.

All lanes were re-opened at approximately a quarter of the amount of time it would have taken in past years. At 2:12 p.m., just a little over three hours after the incident began, traffic flow was restored.

Swift action and cooperation among multiple responders can be attributed to the cooperative spirit of the new Joint Operations Policy (JOPS) agreement (see the *Gray Notebook* for the quarter ending March 31, 2005, page 51) and other current multi-agency response efforts and trainings that now take place.



### Timeline of the April 12, 2005 Tar Truck Incident

Time	Action
10:57 AM	Tanker truck overturns
10:58	Steaming hot tar is spilled across all northbound lanes of I-5
11:02	Reports come in to WSP dispatch and sent on to other agencies. Traffic alert messages are sent to HAR's, VM signs, Traveler Information 511 and CARS. Ramp meters actuated: "ACCIDENT AT MERCER ALL LANES BLOCKED EXPECT LONG DELAYS" (message sign)
11:05	WSP and WSDOT arrive
11:08	All northbound lanes are closed to traffic. Message signs changed to "USE ALTERNATE ROUTES"
11:10	Message signs changed to "I-5 NORTH CLOSED"
11:13	Multiple representatives from various agencies arrive: WSDOT Incident Response, Maintenance WSP-Cadets and Patrol WA State Department of Ecology Seattle Police Department Seattle Fire Depart and Haz-Mat Team Seattle Public Utilities
	Command Post Set up Seattle Fire and Haz-Mat Team perform preliminary assessment
11:47	Traffic stuck in the back-up turned around to Mercer off-ramp. Express lanes are opened, and signal timing is changed to expedite freeway traffic alternatives
12:00 PM	Tar is cooled with water by Seattle Fire
1:00	Seattle Fire and Haz Mat Team re-assess situation. WSDOT allowed to begin recovery and clean-up. Tow truck rights truck and moves away. Dump trucks clear tar from the roadway. TMA placed on shoulder to secure work zone.
2:12	All lanes re-opened

# Travel Information: Annual Update



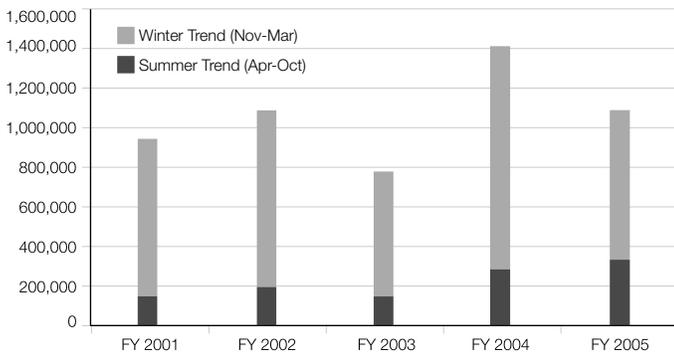
The 511 telephone call up system provides a variety of travel related information such as current traffic condition, incidents and construction activities, ferry, mountain pass, transits, airlines, railroad, and weather information. In January 2005, the existing 1-800-695-ROAD and 206-DOT-HIWY numbers were directly routed to the 511 System, expediting information retrieval. This enhancement made 511 more efficient and consistent by streamlining information sources into one system.

## Overall Trend and Total Call Volume

Call volumes tend to increase in the winter months, when the demand for mountain pass information is greatest. The dips in the total and winter segments in FY 2003 and 2005 reflect mild winter weather in those years. In particular, summer time call volumes (mostly for traffic and roadway incidents) increased during the past five year period. Compared to call volume levels of FY 2001, summertime call volumes almost doubled (92% increase) by FY 2004. During the past 12-month period from FY 2004 to FY 2005, call volumes rose dramatically by 125%.

## Total Calls to Travel Information (1-800-695-ROAD and 511)

Fiscal Years 2001-2005 (July 2000 - June 2005)  
5-Year Trend: Overall, Summer and Winter

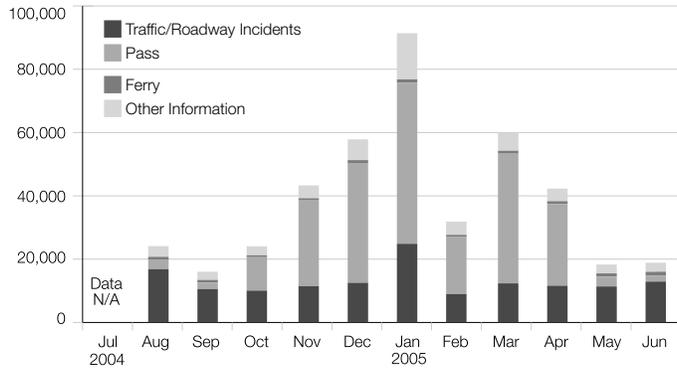


## Types of Calls

By far the most requested topic is mountain pass condition information. During the past 11 months approximately 50% of all information requested by 511 callers were for mountain passes—mostly during inclement winter. Traffic and incident information was requested throughout the year—slightly higher during the summer as well as during severe winter weather. The requests for ferry information were received consistently year round. The chart in upper right depicts the types of information requested.

## Types of Information Requested to 511 Travel Information\*

August 2004 - June 2005



Source: 511 CDR Summary Report; July 2004 data is not available.

\* Total number of information types will not add up to the total number of calls to 511 because more than one type of information may be requested in one call.

## On the Web

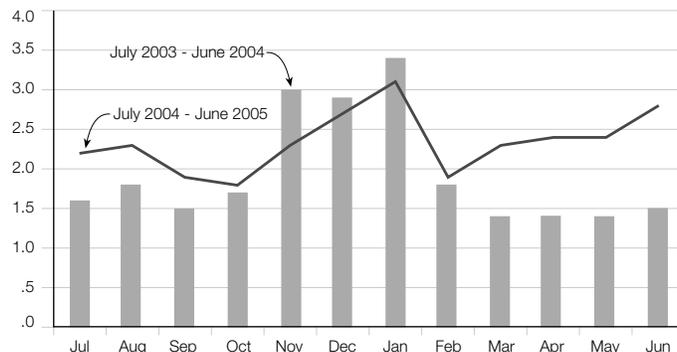
WSDOT's traveler information website continues to provide valuable, real-time road and weather information to the traveling public. Some of the types of on-line information that the public can access include roadway incidents, construction event updates, mountain pass information, and weather information.

## Website Usage

Web use of traveler information continues to increase. For the months of March-June the number of page views is up an average of 42% over the same period last year. Even with the mild winter (snowfall tends to increase website use statistics), there still was an increase in page views. The increasing usage illustrates the value of the return on investment for traveler information as more and more people rely on the web to get up-to-date information.

## Website Usage Average Daily Page Views

In Millions

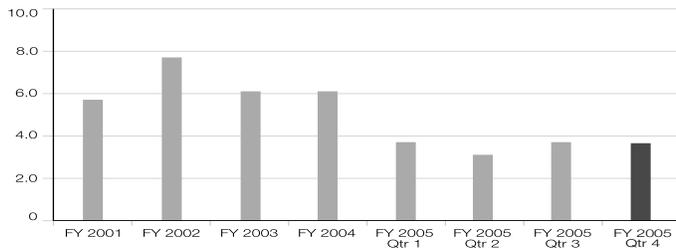


# Washington State Ferries: Quarterly Update

## Customer Feedback

The WSDOT Ferry System delivered approximately 42,000 trips and carried 6.1 million riders this quarter and received 220 complaints. The Ferry System reports complaints per 100,000 customers carried. This quarter experienced 3.6 complaints per 100,000 customers compared with 3.7 last quarter.

**Total Number of Complaints Per 100,000 Customers**

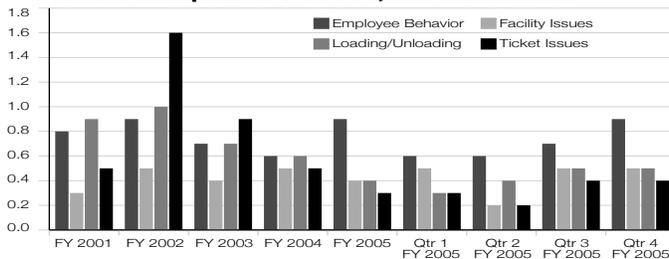


Source: WSDOT Ferry System

Employee behavior complaints were up 33% over the preceding quarter and 102% as compared to the same period last year. A total of 57 complaints were received in this category. The majority of the customer complaints involved ticket sellers at the four busiest terminals: Seattle, Fauntleroy, Edmonds, and Mukilteo. Washington State Ferries Operations Management follows up on every employee behavior complaint with the employee through their supervisor to determine what happened and how the incident could have been handled differently. This information is then forwarded back to Operations Management to decide what further action, if any, is necessary based on the employee's and the supervisor's response.

Complaints about facilities were the second highest category this quarter with a total of 29 complaints. Complaints about vessel loading and unloading, while down slightly by 2% over the preceding quarter, were 31% higher when compared to the same period last year. A total of nine complaints or roughly 32% of all complaints in this category were on the Fauntleroy – Vashon – Southworth triangular route (approximately 10,000 trips were made on this busy route this quarter, which accounts for one quarter of all sailings). During this time WSF was also engaged in a second round of its ferry fare outreach effort.

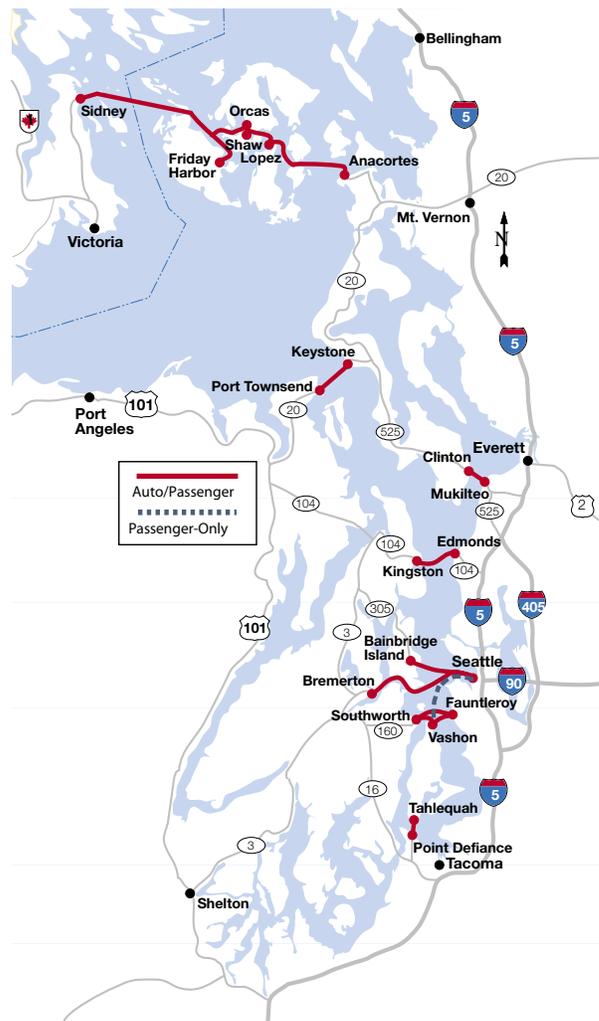
**Common Complaints Per 100,000 Customers**



Source: WSDOT Ferry System



Isaquah class ferry on the Edmonds-Kingston route.



# Washington State Ferries: Quarterly Update

## Trip Reliability

The WSDOT Ferry System scheduled 42,062 trips during the fourth quarter of fiscal year 2005. Of these trips, 168 were cancelled and 22 make-up trips were made. Total completed trips were 41,916. The chart at the right shows a system-wide average reliability index. Using this index, 1.4 ferry trips may be cancelled during the course of a year for a commuter making 400 trips to work 200 days per year. This suggests an average of 3.47 trips cancelled per thousand. This measure represents a 5% decline in performance from the preceding quarter, and a 15% decline from the preceding year's fourth quarter. On the whole, trip reliability for fiscal year 2005 improved 29% over fiscal year 2004. Timely and effective safety, maintenance, and operating practices on vessels and terminals are contributing factors to this level of performance.

## On-Time Performance

The table below compares on-time performance across the system for the fourth quarters of fiscal year 2004 and 2005. Comparing this quarter with the previous year, the average delay time increased by 11%, from 2.7 minutes to 3.0 minutes of average delay. Additionally, the number of trips sailing on-time (within 10 minutes of scheduled departure) decreased to 92% as compared to 93% during the same period last year. Performance this quarter matched the preceding quarter in terms of average delay (3.0 minutes) but was lower in terms of the percentage of trips sailing on time, i.e., within 10 minutes of the published sailing schedule (92% vs 94% in the 3rd quarter).

## On-time Performance

Ferries	4th Quarter FY 2004			4th Quarter FY 2005		
	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	6,237	84.4%	2.2 Minutes	6,011	83.9%	4.1 Minutes
International Route	205	84.9%	4.5 Minutes	218	73.4%	7.9 Minutes
Edmonds - Kingston	4,479	95.3%	3.2 Minutes	4,493	96.4%	3.0 Minutes
Pass-Only Seattle-Vashon	984	99.4%	1.5 Minutes	988	98.7%	1.7 Minutes
Fauntleroy-Vashon-Southworth	9,553	90.9%	3.3 Minutes	9,526	93.8%	3.2 Minutes
Keystone-Port Townsend	2,252	91.0%	3.7 Minutes	1,720	89.2%	3.9 Minutes
Mukilteo-Clinton	6,430	97.9%	2.0 Minutes	6,421	98.6%	1.9 Minutes
Pt. Defiance-Tahlequah	2,779	97.7%	2.4 Minutes	3,040	96.8%	2.7 Minutes
Seattle-Bainbridge Island	3,909	96.1%	3.0 Minutes	4,046	96.3%	3.2 Minutes
<b>Seattle-Bremerton</b>	<b>2,300</b>	<b>98.6%</b>	<b>2.4 Minutes</b>	<b>2,475</b>	<b>98.1%</b>	<b>2.4 Minutes</b>
<b>Total</b>	<b>38,128</b>	<b>93.2%</b>	<b>2.7 Minutes</b>	<b>38,938</b>	<b>94.1%</b>	<b>3.0 Minutes</b>

Source: WSDOT Ferry System

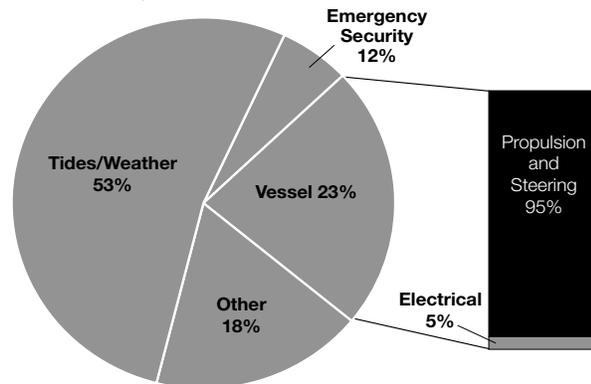
## Average Missed Trip per Commuter

<b>FY 2001</b>	1.6
<b>FY 2002</b>	2.3
<b>FY 2003</b>	1.7
<b>FY 2004</b>	2.2
<b>FY 2005 Qtr 1</b>	1.6
<b>FY 2005 Qtr 2</b>	1.9
<b>FY 2005 Qtr 3</b>	1.3
<b>FY 2005 Qtr 4<sup>1</sup></b>	<b>0.7</b>
<b>FY 2005 Avg.</b>	<b>1.5</b>

A total of 82 trips were cancelled on the Port Townsend – Keystone route due to weather/tides. Excluding trips lost to tidal conditions at Keystone, 99.82% of all trips were completed, and a reliability index of 0.7 was attained. WSF is continuing to study alternative, in-harbor options at Keystone.

<sup>1</sup> without Keystone-Pt. Townsend

## Most Common Trip Cancellations Fourth Quarter, Fiscal Year 2005



# Washington State Ferries: Quarterly Update

## Life Cycle Preservation Performance

The WSDOT Ferry System's terminals and vessels consist of several thousand district service elements, each labeled as a "system." Each of these systems should be refurbished or replaced at the end of its life cycle. This assures that the ferry system has the infrastructure needed to provide responsible and reliable service.

The original plan was to replace or refurbish 133 Category One systems and 54 Category Two systems during the 2003-2005 biennium (see graphs for Category One and Two Systems). Those targets have been revised to 120 Category One systems and 43 Category Two systems. Through the eighth quarter of the biennium 115 Category One systems and 43 Category Two systems have been replaced or refurbished.

The work plan addresses the backlog of systems that are past due. It measures the impact of investments by life cycle ratings. Based on the authorized level of investment originally approved by the 2003 legislature, the life cycle rating for Category One terminal and vessel systems is projected to increase from 77% at the beginning of the biennium to 81% at the end of the biennium. The life cycle rating for Category Two system is projected to decline from 58% to 54%.

### 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 systems 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.

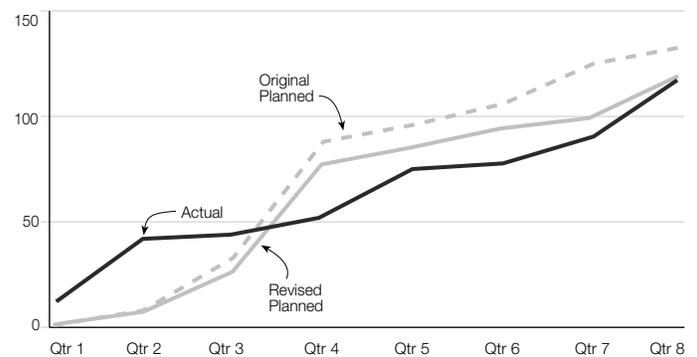
In January 2001, the Legislature's Joint Task Force on Ferries recommended that WSDOT work toward the objective of achieving a life cycle rating for Category One systems of between 90% and 100% and for Category Two systems of between 60% and 80%. The Task Force set FY 2011 as the target year for achieving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

**Category One** systems are those designated by regulatory agencies as "vital" to the protection of people, the environment and infrastructure. Included are those 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

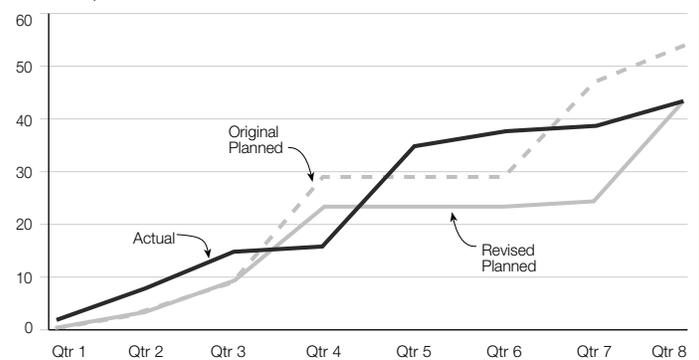
Cumulative Original and Current Plan Projects vs. Actual Systems/Structures Preserved  
Change in Life Cycle Cost Rating  
8th Quarter, 2003-2005 Biennium



Source: WSDOT Ferry System

## Category Two Terminal and Vessel Performance Measures

Cumulative Original and Current Plan Projects vs. Actual Systems/Structures Preserved  
Change in Life Cycle Cost Rating  
8th Quarter, 2003-2005 Biennium



Source: WSDOT Ferry System

# Washington State Ferries: Quarterly Update

## Capital Expenditure Performance

WSDOT makes capital investments in the ferry system through the Washington State Ferries (WSF) Construction Program. The program preserves existing and builds new ferry terminals and vessels. This infrastructure gives the Ferry System the physical capability to deliver responsible and reliable marine transportation services to customers.

At the end of June 2005 (8th quarter) of the 2003-2005 Biennium the program spent \$171.9 million compared to its biennium-to-date spending plan of \$197.6 million. Expenditures are currently \$25.7 million under plan. Due to project slippage throughout the 2003-2005 biennium, the construction program has moved several projects to the next biennium. The Legislature has reappropriated \$20 million of the program's 2003-2005 biennium funding to the 2005-2007 biennium to match the time period in which the work will be completed. However, the money from the reappropriation is still reflected in the 2003-2005 budget, resulting in the apparent underexpenditure.

The locations where the underspending occurred are detailed in this section under the three spending activity categories of the construction program. These three spending categories are terminal construction, vessel construction and emergency repairs of terminals and vessels.

**Terminal Construction:** Biennium-to-date activities are underspending the plan by \$13.5 million. Variances in excess of \$750,000 include: Anacortes (\$5.1 million under plan due to schedule slippage and delayed billings); System-wide Point of Sale Replacement / Regional Fare (\$3.0 million under plan because delays in the Smart Card & Electronic Fare System projects moved many of the payment milestones to the next biennium); Friday Harbor (\$2.3 million under plan because the project is behind schedule); Mukilteo (\$2.0 million under plan due to late start of the project - the Environmental Assessment work has been accelerated in response to the under-run); and Edmonds (\$1.5 million under plan due to preservation design work moved to next biennium).

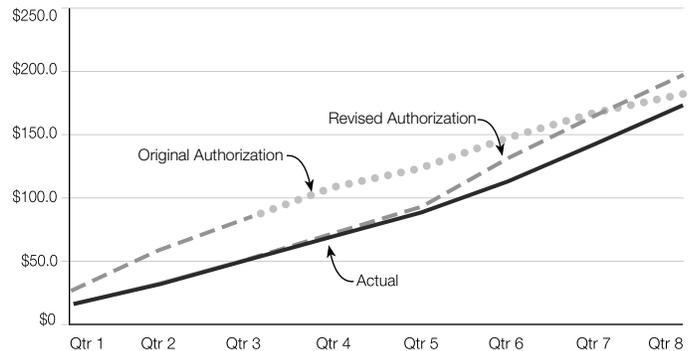
**Vessel Construction:** Biennium-to-date activities are underspending the plan by \$9.1 million. Variances from plan by location in excess of \$750,000 are: The MV Walla Walla (\$5.7 million under plan due to delays in delivery of equipment and late delivery of the vessel to the shipyard); System-wide Vessel Security Infrastructure (\$4.3 million under plan due to delays in shipyard schedules and some lower than anticipated costs);

The MV Chelan (1.3 million over plan due to emerging requirements for post-award change orders for installation of new kitchen); installation of security system; Local Area Network; additional steel replacement; and changes to multiple systems necessary to satisfy the regulations of the U.S Coast Guard and the International Maritime Organization i.e. emergency bilge system; mist fire suppression system; structural fire protection insulation); and The MV Spokane (\$1.1 million over plan due to late re-delivery from the shipyard and contract growth).

**Emergency Repairs:** under-spending the biennium to-date plan by \$3.1 million.

## WSF Construction Program Expenditures

8th Quarter, 2003-2005 Biennium  
Cumulative Dollars in Millions  
Authorized vs. Actual



Source: WSDOT Ferry System

Note: While the 2003-2005 biennium ended on June 30, 2005, the total biennium expenditures will not be known until August 2005.

# Washington State Ferries: Quarterly Update

## Ridership and Revenues

Ridership on Washington State Ferries for fiscal year 2005 is lower than planned by 196,000 one-way trips (-0.8%). The greater than anticipated decline in ridership is a result of many economic factors including competition from private passenger-only service providers. Ridership is also lower when compared to the fiscal year-to-date last year by 543,000 one-way trips (-2.2%). For comparison purposes, the decline in ridership experienced in fiscal year 2004 relative to fiscal year 2003 following a similar fare increase was 108,000 one-way trips (-0.4%).

Interestingly, total fiscal year 2005 passenger ridership is 470,000 (3.5%) lower than fiscal year 2004 while vehicular traffic is only down 57,000 one-way trips (0.5%). Passenger ridership is down on most routes with the exception of Fautleroy – Vashon – Southworth (+5.3%), Mukilteo – Clinton (+0.6%) and Point Defiance Tahlequah (+0.3%). Vehicular traffic is off slightly on all routes with the exception of Seattle – Bremerton (+0.5%).

As a result of higher than planned vehicular traffic, which pays higher fares at the approximate rate of 3.5 times passenger fares, tariff revenues are actually \$2.9 million (+2.3%) greater than projected in the plan and \$5.1 million (+4.0%) higher than the same period last year. Customers paying full fare and oversized vehicle traffic including commercial and recreational vehicles posted a slight increase over the same period in fiscal year 2004 and contributed to the higher than anticipated vehicle tariff revenues. For comparison purposes, WSF realized a \$7.1 million (5.9%) increase in revenues in fiscal year 2004 relative to fiscal year 2003, following a similar fare increase.

## Transportation Commission Decides on 2005-07 Ferry Fares

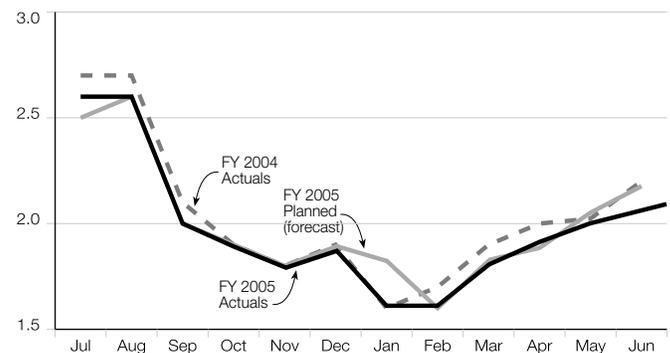
WSDOT has implemented 5% fare increases each May over the last two years and sought Commission approval for 5% increases for 2005 and 2006. The Tariff Policy Committee recommended that the Commission grant a May 2005 fare increase of 5%. On February 8, 2005, the Ferry System embarked on a public outreach program for the 2005-2007 ferry fare proposal. Based on comments from customers, WSDOT and the Tariff Policy Committee presented a revised ferry fare proposal on March 23, 2005, to the Washington State Transportation Commission.

As a result of keeping the existing fare discount policies (tickets purchased in ticket books of ten tickets), lost revenues would have to be made up. On April 26, 2005 the Commission adopted a 6% fare increase to take effect on June 1, 2005. WSDOT expects to generate roughly \$4.8 million per year from this increase. Even with this increase, WSDOT is expected to remain below the 80% farebox recovery rate set by the Legislature.

The revenues generated by this tariff increase will help WSDOT offset increasing operating costs primarily associated with higher fuel prices for the next two years. The Department's long-range plan for the ferry system depends on increased operating revenues, either from tariff increases or dedicated taxes. These revenues are needed to sustain existing service levels and make the required operating transfers to capitalize the ferry system's aging infrastructure over the next six to ten years.

## Ridership by Month

In Millions



Source: WSDOT Ferry System

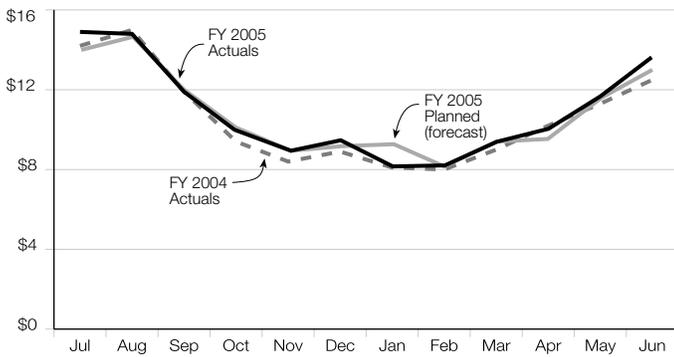
# Washington State Ferries: Quarterly Update

## Farebox Revenues

Fares are outperforming projections by 2.0% or \$2.5 million and WSF is 3.7% or \$4.74 million ahead of actuals for the same period last year.

### Farebox Revenues by Month

Dollars in Millions



Source: WSDOT Ferry System

## Ferry Special Service

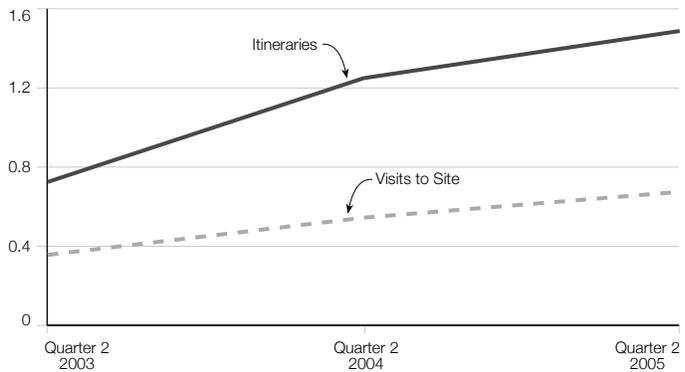
The WSDOT Ferry System is providing additional ferry service during the Hood Canal Bridge closures in August. WSDOT plans to close the Hood Canal Bridge twice this summer in August as the contractor completes the replacement of both bridge approach spans. See the “Hood Canal Bridge Update” article in this issue of the *GNB* for closure dates and plans for additional ferry service during the closures.

## Regional Trip Planner

Metro Transit launched the first online Trip Planner in December 2001. The Trip Planner became a regional tool in early 2003, expanding service by adding transit information for the three-county metropolitan area. In 2004 there were 2.4 million visits to the website, nearly double the number of trips planned. The addition of the Ferry System in February has contributed to the Regional Trip Planner’s steady growth as shown in Metro’s second-quarter figures.

## Number of Visits and Itineraries in Quarter 2

In Millions



Source: WSDOT Ferry System

# Rail Quarterly Update: State-Supported Amtrak *Cascades*

## Ridership

Ridership on state-supported Amtrak *Cascades* trains was 108,989 in the second quarter of 2005. This represents a 2% increase over the same quarter in 2004. Ridership in the month of June was 36,210, an increase of 8.7% when compared to the previous year and the highest June ridership total in program history. Also of note were the ridership gains of the midday Seattle - Portland trains 506 and 507, which carried over 3,200 more riders in the second quarter of 2005 than they did last year. The train that saw the largest ridership decline for the quarter was the evening southbound train 517 from Vancouver, B.C., which carried 832 fewer riders in the second quarter 2005 than in the second quarter of 2004.

WSDOT attributes this ridership decline to recurring delays caused by freight rail congestion in the cross-border region that can increase the total trip time between Vancouver and Seattle to over four hours. The Washington State Legislature and the federal government have provided WSDOT with \$6 million to reduce rail line delays near the border over the next two biennia. WSDOT and Amtrak have also been working with Canadian and U.S. official to increase train speeds in Canada and have all passengers pre-screened before departing Vancouver. These efforts are intended to reduce travel times, improve schedule reliability, and increase ridership.

## On-time Performance

On-time performance of state-supported Amtrak *Cascades* trains averaged 55.6 percent in the second quarter of 2005. This is eight points lower than in the second quarter of 2004 and far below the 80 percent or better goal established by Amtrak and WSDOT. Delays were caused by freight traffic congestion and track maintenance work on the rail line that forced all passenger and freight trains to operate at slower speeds while traveling through the work zones.

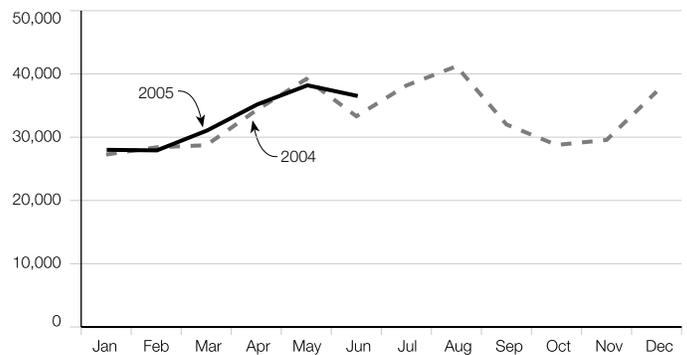
Late train arrivals may be contributing to slower than desired ridership growth. WSDOT's capital improvement program for Amtrak *Cascades* includes a number of capacity and schedule reliability projects that have been funded by the Washington State Legislature. WSDOT expects that completion of these projects will help improve on-time performance and ultimately lead to greater ridership.



On May 24, 1995, WSDOT and Amtrak re-established rail service between Seattle and Vancouver, B.C., after a 14-year hiatus. May 2005 marked the 10-year anniversary of this milestone event.

## State-Supported Amtrak *Cascades* Monthly Ridership

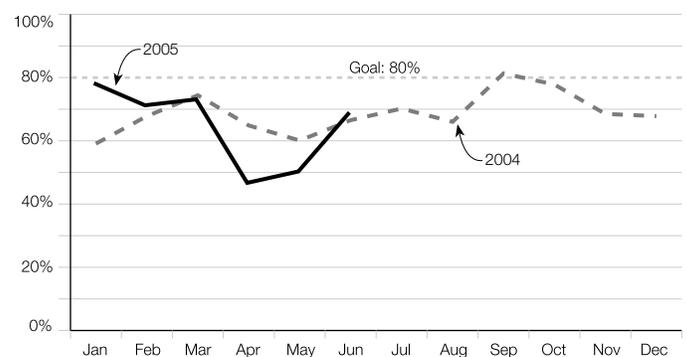
Number of Passengers



Source: Amtrak and WSDOT Rail Office.

## State-Supported Amtrak *Cascades* On-time Performance

2005 vs. 2004 Percent On-Time



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.  
Source: Amtrak and WSDOT Rail Office.

# Rail Quarterly Update: State-Supported Amtrak *Cascades*

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## **New crossovers and additional service**

Since 1994, WSDOT and Amtrak have been taking a step-by-step approach toward Amtrak *Cascades* service development. Before additional trains can be added to the daily schedule, construction projects that enhance mainline capacity must be funded and completed so that the Burlington Northern Santa Fe (BNSF) Railway Company can accommodate increased passenger train frequency on its rail system.

Under the BNSF/WSDOT construction agreement, an additional daily round trip can be added to the Amtrak *Cascades* schedule when two new crossovers are completed on the double track mainline near Tacoma. Both of these projects were completed in June 2005. The 2005 Washington Legislature also provided \$2.75 million to support the operation of one additional daily round trip between Seattle and Portland in the second year of the 2005-07 biennium. WSDOT and Amtrak intend to introduce this new daily service in mid-2006.

## **Schools on Trains**

The Washington Schools on Trains program completed its seventh year in June 2005. The program is designed to promote Amtrak *Cascades* ridership while exposing students between the ages of 5 and 18 to train travel. In the 2004-2005 school year, 6,654 students, teachers, and chaperones from 140 schools traveled to destinations between Portland and Bellingham. This compares to 7,619 participants in the 2003-2004 school year. While participation dropped by 12.7 percent, revenues declined only 1.2 percent, as fares were raised from \$6 to \$7 per student in the 2004-2005 school year.

WSDOT's award-winning Schools on Trains Program is transferring the coordination and processing of reservations to Amtrak's Group Reservations desk in August 2005. WSDOT will continue to market the program, which will now be known as Amtrak *Cascades* Schools on Trains. Program data gathered by Amtrak will be shared with WSDOT so that the effectiveness of this change can be measured at the end of the 2005-2006 school year.

## **Amtrak Funding Update**

In February 2005, the Bush Administration announced its 2006 budget proposal, which included elimination of funding for Amtrak as early as October 2005. Since the announcement, Congress has been examining the proposal and deliberating over the role of Amtrak and the appropriate level of funding for 2006.

In June, the U.S. House of Representatives agreed to a \$1.176 billion budget for Amtrak in 2006. The U.S. Senate Appropriations Committee followed with an approval for \$1.45 billion. The two houses of Congress will negotiate the differences between their proposals, but both provide a clear indication that Congress supports Amtrak for at least another year. President Bush could veto the Amtrak portion of the budget Congress will pass later this summer, but nationwide popular and political support for Amtrak makes a veto unlikely.

# Rail Quarterly Update: Washington's Grain Train

## 2005 Results Flatline

The Washington Grain Train carried 631 carloads in the first six months of 2005, showing no appreciable growth over the same period in 2004.

## Grain Train Provides Scarce Cars During Peak Season

During peak shipping season from August to March, Washington's grain coop managers scour the country for scarce, specialized grain hopper cars. Coops are the supply chain's middlemen, buying individual lots of wheat from Washington farmers and collecting it in grain elevators until there's enough to fill shuttle trains. They use the Grain Train's 89 railcars to help make up shuttles either bound for barge facilities on the Snake/Columbia River system, or directly to grain marketing companies at Washington ports. The marketing companies buy the grain and store it until enough arrives to fill a ship for export.

Washington farmers grew 155 million bushels of wheat and barley in 2003; about 46 percent of that shipped by rail, or by a combination of rail and barge services. Washington's Grain Train carried three to six rail carloads per day in 2004, representing five to eight percent of that total.

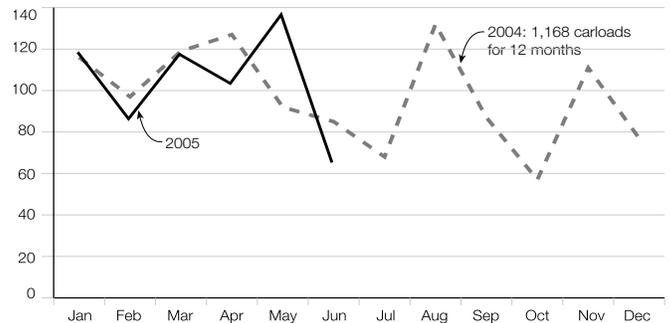
The Grain Train exists to help Washington growers overcome their competitive disadvantage due to scarcity of hopper cars. Their biggest competitor for cars is the U.S. corn harvest, which is centered in the Midwest and averages over 10 billion bushels with a one billion bushel variance. A good corn harvest pulls thousands of rail cars to the Midwest. Corn ships longer distances by rail than Washington wheat and longer trips are more profitable for rail companies. As a result, corn shippers are likely to have better access to available cars.

## Why Isn't Washington's Grain Train At Capacity Year-round?

1. A Grain Train operator charges the published tariff rate for cars year-round. During peak season when rail car prices go up, Grain Train cars are priced below market and should sell out. For example, in August 2005, grain coops are paying up to \$350 per car above the published rate to get cars from Class I rail companies, but there's no additional charge for Grain Train cars. During the off-season, when the rail secondary market may trade cars \$200 below the published rate, Grain

## Washington Grain Train Carloads

Carloads per month 2005 vs. 2004



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

Source: WSDOT Rail Office.

Train cars still trade at tariff rate, above market. This pricing strategy tends to underutilize Grain Train cars during the off-season.

2. The U.S. corn harvest peaks in October and pulls cars to the Midwest. There's a natural dip, as Washington coops can't get enough cars from any source to build many trains.

3. At times, truck/barge freight rates are less than rail rates. For example, in August 2005, the truck/barge rate for grain from Coulee City is running \$0.49 to \$0.51 per bushel, while the rail rate is at \$0.57.

4. Once Grain Train cars get on the mainline rail system, they average one turn to the coast every month. Improving the 30-day turn time offers the greatest opportunity to improve asset utilization.

## Washington's Grain Train: Long Term

1. A federal policy called The Conservation Reserve Program (CRP) has taken up to 25% of land out of production in each grain-producing county in Washington. This resulted in a thinning out of grain production in the state. This in turn has reduced shipment volumes, and the potential for market growth for short line railroads.

2. Class I carriers are setting prices to spur the use of 110-car shuttle train service for grain. They are also consolidating shipping stations. Such strategies on the part of mainline rail companies are reducing the viability of low-volume short line railroads.

# Transportation Benchmarks Annual Update

On August 20, 2003, the Washington State Transportation Commission adopted a set of benchmarks for measuring 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.

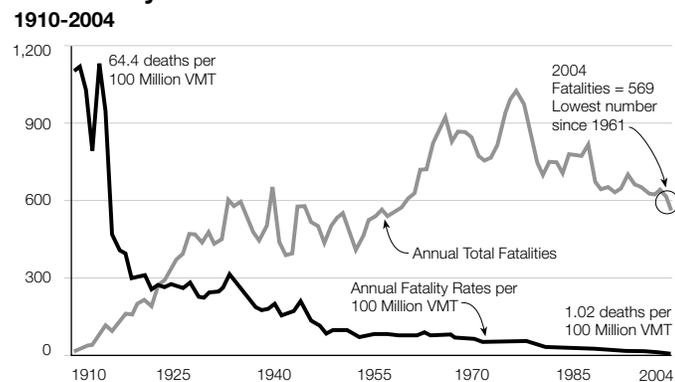
This update includes the latest results for the transportation benchmarks first introduced two years ago. For more background and information about the development of each benchmark, including issues related to data quality and availability, measure effectiveness, and benchmark intent, see the Transportation Benchmarks Implementation Report (August 2003), which is available on-line at [www.wsdot.wa.gov/accountability/benchmarks/](http://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 usual 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. The 2004 fatality rate was 1.02 deaths per 100 million vehicle miles traveled (VMT) on all Washington

## Washington Motor Vehicle Total Fatalities and Fatality Rates 1910-2004



roadways, while the total fatality count shows 567 people killed in motor vehicle collisions and two people killed in pedalcyclist/pedestrian fatalities where a moving motor vehicle was not involved.

The fatality count has generally been trending downward in recent years. Some of the reasons include enforcement, highway engineering, driver education, and better vehicle design. There also have been significant air bag and vehicle crash improvements. Washington has focused on DUI reduction, safety improvement projects, and seatbelt usage.

In 2003 (the most recent year for which state-by-state data is available) Washington ranked as the 6th lowest state in the nation for road fatalities, averaging 1.09 deaths per 100 million VMT. By comparison, the national average was 1.48 fatalities per 100 million VMT. In 2004, the national average dropped slightly to 1.46. For 2004, the Washington State statistic used for state-by-state comparison was 1.01 fatalities per 100 million VMT. The number reported by WSDOT in the *Gray Notebook* is 1.02 fatalities, owing to slight differences in reporting (see the gray box below.)

## 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 the 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. FARS does not count fatalities that are not confirmed by death certificates or that do not meet other FARS reporting criteria by a deadline of May 14th of the next year. Also, to qualify as a FARS case, there must be a motorized vehicle involved in the crash, per the nationally recognized definition. WSDOT, in following the direction given by the Blue Ribbon Commission on Transportation, considers non-auto-related fatalities on the highways. As of the reporting deadline for 2004, FARS counted 563 deaths in Washington State, for a fatality rate of 1.01 deaths per 100 million VMT. WSDOT's data included six more fatalities: four fatalities for which FARS data is still awaiting death certificates or location confirmation, one bicycle accident in which a pedestrian was killed, and one solo bicycle accident fatality. This puts the total highway fatalities tabulated by WSDOT to 569, and the fatality rate to 1.02 per 100 million VMT, compared to the 1.01 reported by FARS.

# Transportation Benchmarks

## Annual Update

### Pavement Condition Goal

This report covers calendar years 2003 and 2004. The benchmark law enacted in 2002 established a goal that no interstate highways, state routes, and local arterials 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.

### State Highway Pavement

WSDOT has been rating pavement condition since 1969. The graph on the next page shows pavement trends from 1973 to 2004. WSDOT uses Lowest Life Cycle Cost (LLCC) analysis to manage two types of pavements for preservation, chip seal and Hot Mix Asphalt. (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 pavements is zero miles in “poor” condition, marginally good pavements may deteriorate into “poor” condition during the lag time between assessment and actual rehabilitation. A small percentage of marginally good pavements may move into “poor” condition for any given year.

WSDOT’s policy goal for the 03-05 biennium was to maintain 90% of all pavement types in “fair” or better condition. WSDOT measures pavement according to pavement structural condition (PSC), rutting, and ride. PSC is based on distresses such as cracking and patching that decrease the pavement’s ability to carry loads. A PSC of 40 or above is rated “fair” or better, and below 40 is considered “poor.” For rutting, a pavement with more than 12 millimeters of rutting is considered in “poor” condition. For pavement ride, WSDOT considers pavements with a ride performance measures greater than 220 inches per mile to be in

“poor” condition. For example, new asphalt overlays typically have ride values below 75 inches per mile, which is very smooth. See the table below for more information.

In 2003, the percent of all state highway pavements 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 pavements 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 pavements not getting fixed immediately. For 2003, the increase in “poor” condition of hot-mix asphalt (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 hot-mix asphalt (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 is hoping to have an explanation for this sudden deterioration by the end of 2005.

### Pavement Structural Condition (PSC) Ranges and Descriptions

Very Good (80 – 100) Little or no distress.	Example: Flexible pavement with 5% of wheel track length having “hairline” severity alligator cracking <sup>1</sup> will have a PSC of 80
Good (60 - 80) Early stage deterioration	Example: Flexible pavement with 15% of wheel track length having “hairline” alligator cracking will have a PSC of 70.
Fair (40 – 60)	This is the threshold value for rehabilitation. Example: flexible pavement with 25% of wheel track length having “hairline” alligator cracking will have a PSC of 50.
Poor (20 – 40) Structural deterioration.	Example: flexible pavement with 25% of wheel track length having “medium (spalled)” severity alligator cracking will have a PSC of 30.
Very Poor (0 - 20) Advanced structural deterioration.	Example: flexible pavement with 40% of wheel track length having “medium (spalled)” severity alligator cracking will have a PSC of 10. May require extensive repair and thicker overlays.

Source: WSDOT

<sup>1</sup> Alligator cracking is associated with loads and is usually limited to areas of repeated traffic loading. Most load-related cracking of this type begins as a single longitudinal, discontinuous crack within the wheel path that progresses with time and loads to a more branched pattern that begins to interconnect. Eventually the cracks interconnect sufficiently to form many pieces, resembling the pattern of alligator hide, thereby labeled alligator cracking

# Transportation Benchmarks Annual Update

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. There are approximately 69 lane miles under construction. Special use and ramp/collector lane miles make up 1,688.02 of the 20,002.88 lane miles.

## 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

Source: WSDOT Materials Lab

## Local Arterial Road Pavement

For the 2003-2005 biennium, Washington State's cities and towns are required to provide data on at least 70% of the total arterial road network in the state. In 2004, 27 cities provided WSDOT data on the condition of 1,598.61 centerline miles<sup>1</sup> of arterial roads. These miles represent 80% of the city and town arterial network. This is the first time that this data has been available to report in the *Gray Notebook*.

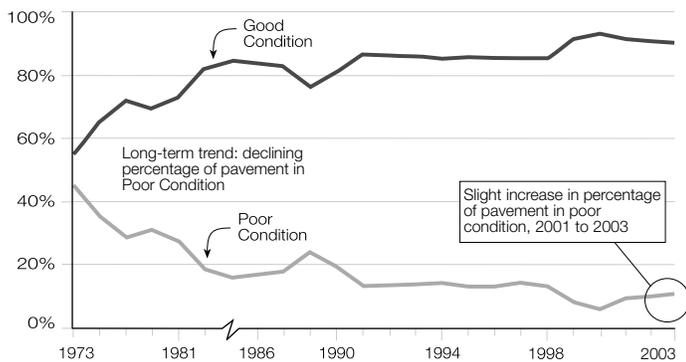
The cities calculated their pavement condition using Pavement Condition Index (PCI) (see gray box below) that encompasses such distresses as cracking, patching, rutting, waves, sags and humps. In 2004, 1,336 centerline miles, or 83.6% of arterial roads included in the Arterials Condition Report, were found to be in "fair" or better condition. 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/PavementTechnology](http://www.wsdot.wa.gov/TA/T2Center/Mgt.Systems/PavementTechnology).

The arterial network carries a significant amount of commuters as well as freight distribution within the state, and having current and accurate condition data on the city arterials of the network allows for realistic planning and budgeting to maintain and improve the system. This has direct benefit to the traveling public and the state's economy.

<sup>1</sup>One centerline mile is one mile of pavement measured along the center line of the road.

Pavement Condition Index (PCI), primarily used by local agencies in Washington, and Pavement Structural Condition (PSC), primarily used by WSDOT and some local agencies, are very similar in concept. Both measure cracking and patching, and PCI includes environmental and ride quality measures. The major difference between the two ratings is in the values that are assigned to the different types of pavement distresses and the additional surface defects included in PCI. WSDOT's PSC is based on pavement distress characteristic of state highways, which see heavier traffic than city arterials and are maintained at a higher condition level. The PCI is not as strict as the PSC rating, and cities will generally allow more distress to occur on their pavement before rehabilitating it.

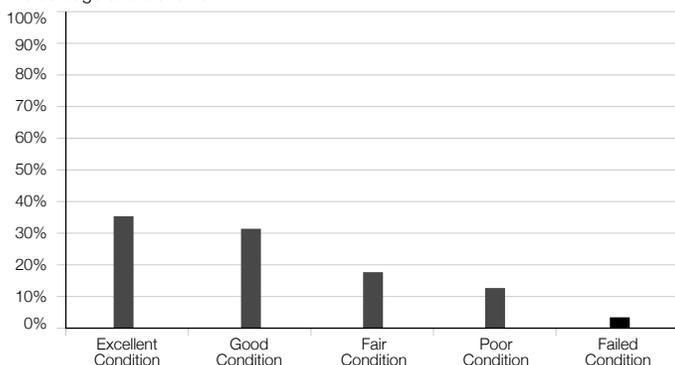
## State Highway Pavement Trends, 1973 - 2004



Source: WSDOT

## 2004 Local Arterial Pavement Conditions

Percentage and Condition



Source: WSDOT

# Transportation Benchmarks: Annual Update

## Bridge Condition Goal

The benchmark law established a goal for no bridges to be structurally deficient, and for safety retrofits to be performed on those state bridges at the highest seismic risk levels. WSDOT tracks bridge condition but does not use the “zero deficient bridge” goal, for the reasons outlined below.

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’s (BMS’s) 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 simply more important and expensive than others. BMS considers the cost-effectiveness of several feasible corrective actions for any given bridge deficiency and provides cost-effective indices for each potential action in various time periods.

## Bridge Condition Results

This report provides data for fiscal years 2004 and 2005<sup>1</sup>. 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. Since 2000, there has been a slow but steady increase of bridges into the “good” category. In 2004, 3% of bridges showed a condition rating of “poor,” and in 2005, only 2% were rated as “poor”. WSDOT credits this improvement to preventative measures such as structural or scour repair, painting, or bridge deck overlays that are keeping some of the “fair” bridges from crossing over into the “poor” category, and the building of new bridges that fall in the “good” category.

No bridge currently rated as “poor” is unsafe for public travel. Bridges rated as “poor” may have structural deficiencies that restrict the weight and type of truck traffic allowed. Any bridge

<sup>1</sup> Fiscal years are July 1 through June 30.

## Bridge Structural Condition Ratings

	Category	Description	2000	2001	2002	2003	2004	2005
The condition rating data shown at right is based on the structural sufficiency standards established in the FHWA “Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation’s Bridges.” This structural rating relates to the evaluation of bridge superstructure, deck, substructure, structural adequacy and waterway adequacy.	Good	A range from no problems to some minor deterioration of structural elements	84%	85%	87%	86%	87%	89%
	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%
	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%

determined to be unsafe is simply closed to traffic. In 2004 and 2005, 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. Therefore some bridges have been partially but not completely retrofitted to withstand earthquake forces.

In 1991 a total of 937 bridges were classified as needing retrofitting and included in the Seismic Retrofit Program.<sup>2</sup> Retrofit priorities are based on seismic risk of a site, structural detail deficiencies, and route importance. From 1991 to the end of June 2005, WSDOT has fully or partially retrofitted 368 bridges: 191 are completely retrofitted, 162 are partially retrofitted, and 15 are under contract to be retrofitted.

As of June 30, 2005, there remain 569 bridges needing complete retrofits, in addition to the 162 that have been partially completed. These two groups combine for a total of 731 bridges left to be retrofitted for earthquake safety.

For the 2005-07 biennium, seismic work is planned for 28 bridges over seven retrofit projects. The 2005 Transportation Funding Package includes funding for the retrofit of 172 bridges that are located on major routes in the Puget Sound area. These projects are scheduled to begin in the 2007-09 biennium and will continue through the 2013-15 biennium, subject to potential withdrawal of funding based on the outcome of Initiative 912.

<sup>2</sup> The benchmark report in the *Gray Notebook* for the quarter ending June 2004 erroneously used the year 1980 as the start date for the Seismic Retrofit Program. The program actually began in 1991. Between 1978 and 1991, 24 bridges were retrofitted as part of other bridge projects.

# Transportation Benchmarks: Annual Update

## Bridges in the Seismic Retrofit Program (1991-2005)

Completely retrofitted	191
Partially retrofitted	162
No work done to date	569
Under contract for work	15
<b>Total</b>	<b>937</b>
Planned 2005-2007 Biennium <sup>1</sup>	172

<sup>1</sup> These are planned under the 2005 Transportation Funding Package

Source: WSDOT Bridge Office

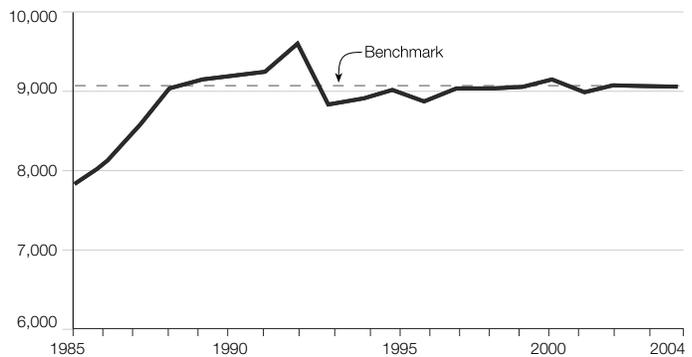
## Traffic Congestion and Driver Delay

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.

## 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 2004, Washington State's citizens traveled 9,026 vehicle miles per person on all roadways, up slightly from 9,021 in 2003 but 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. VMT is influenced by a range of trends in population, economy, land use, and employment, as well as investment in the transportation system. (The drop from 1992 to 1993 is due to a change in the way VMT is calculated).

## Annual Vehicle Miles Traveled per Capita 1985 to 2004\*



\*The method for calculating VMT changed in 1993 as more complete data became available. This accounts for the apparent decrease from 1992 to 1993.

## Calculating Annual Vehicle Miles of Travel for State Highways and Roadways

State highway Annual Vehicle Miles of Travel (AVMT) is the number of miles traveled by all vehicles on Washington's highway system in the given year. Non-State highway AVMT is the number of miles traveled by all vehicles on Washington's city and county roadways, and any other public roads such as National and State Parks in the given year.

State highway AVMT is generated by software that utilizes available roadway and traffic count data to attribute an Annual Average Daily Traffic (AADT) figure to every section of highway. The AVMT for each section is calculated by multiplying the section's length in miles by its AADT, and then multiplying the product by 365. The AVMTs from all sections are then summed in order to arrive at the total state highway AVMT.

Non-State highway AVMT is generated by federal software that utilizes available traffic count data to calculate Daily Vehicle Miles Traveled (DVMT) for all Rural/Urban and Federal Functionally Classified systems. The AVMT for each system is calculated by multiplying the DVMT by 365. The numbers are then added together to get a statewide number for vehicle miles traveled.

# Transportation Benchmarks: Annual Update

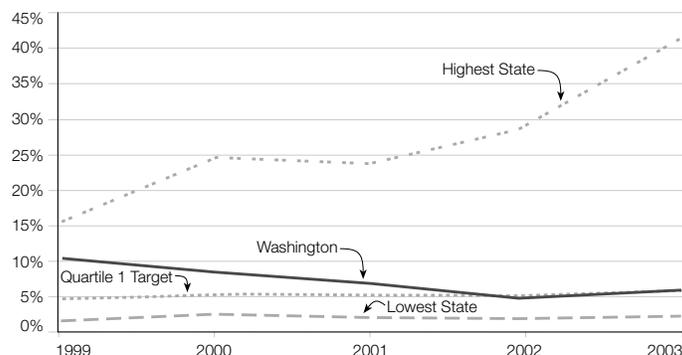
## Administrative Efficiency Goal

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 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 be published the next fall. Therefore, the most recent information for which data is available is fiscal year 2003.

In 2003, Washington's administrative cost was 5.9%, putting it at 12th lowest nationally and just inside the first quartile. This is a slight increase from the 5.1% figure in 2002, but represents a decrease from 2000 and 2001. Major drivers of cost increase include: an increase of \$2.8 million during the ferry system reorganization; a systems development cost increase of \$900,081; IT Operations increase of \$998,915; and Program Management Development and Support increase of \$523,025. The lowest state, Louisiana, was at 2.5%, and the highest state, Delaware, was at 41.2%. A number of variables affect administrative cost reporting from year to year. Increases or decreases in the size of the WSDOT construction program will affect the percentage of administrative costs compared to total expense. Costs for other mandatory services outside of WSDOT's control, such as personnel and labor relations, continue to increase, and the administrative costs of some other Washington transportation agencies are included in item A.4.a.

## Washington Administrative Cost Target Percent of Capital Outlay, Maintenance, and Operations Expenditures, 1999-2003



## 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 driving alone.

The commute patterns for the state are calculated using data collected annually by the U.S. Census Bureau's American Community Survey (ACS). This benchmark was first calculated in 2003 using data from the decennial census, which is not directly comparable to data from the annual ACS. This benchmark is moving over to the ACS data from 2000 in order to make a direct comparison to data from the same sources.

Slight changes from year to year in the commute trip distribution do not constitute a trend, because these changes generally are not statistically significant unless indicated. Washington's 2003 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. The drive alone share of commuting in 2003 was not significantly different than the share in 2000.

## Washington State Commuting Patterns - Workers 16 and Over, 2000 - 2003

	2000 Percentages	2001 Percentages	2002 Percentages	2003 Percentages	Change from 2000-2003	Statistically Significant?
Total Workers 16 yrs & Older	2,753,377	2,729,113	2,760,912	2,793,978	1.5%	
Drive Alone	73.78%	74.37%	74.71%	73.79%	0.01%	no
Carpool	11.52%	11.48%	11.40%	11.28%	-0.24%	no
Public Transportation	5.14%	5.53%	4.64%	5.00%	-0.14%	no
Walked	2.38%	3.12%	3.03%	3.16%	0.78%	yes
Other means	2.38%	1.71%	1.75%	2.15%	-0.23%	no
worked at home	4.81%	3.79%	4.47%	4.61%	-0.20%	no

# 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), who proposed four measures to address cost efficiency, cost effectiveness, and service effectiveness. This report, prepared by WSTA, updates these four measures with 2003 data. The transit summary data for 2004 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 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/](http://www.wsdot.wa.gov/Transit/). The National Transit Database was used to calculate the passenger mile measure. Also, see the Transportation Benchmarks Implementation Report for more background on benchmark limitations, measure development, recent trends, and comparing services and system types.

### Operating Cost per Total Hour

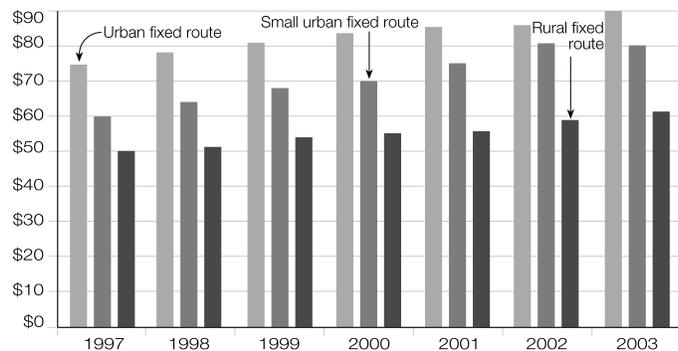
Costs are directly related to the size of the transit system and the nature of the area served. Larger transit systems are more complex and incur costs for fixed facilities (transit centers, park-and-ride lots, etc.), security, and in other areas that are not cost items for smaller systems. They also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

In 2003, the urban fixed route cost per hour was \$90.18, the small urban fixed route cost per hour was \$80.90, and the rural fixed route cost per hour was \$61.99.

The urban categories have experienced cost increases of approximately 22%, or 3% per year, from 1997 to 2003, in line with inflation over this period. Rural systems have seen a 29%

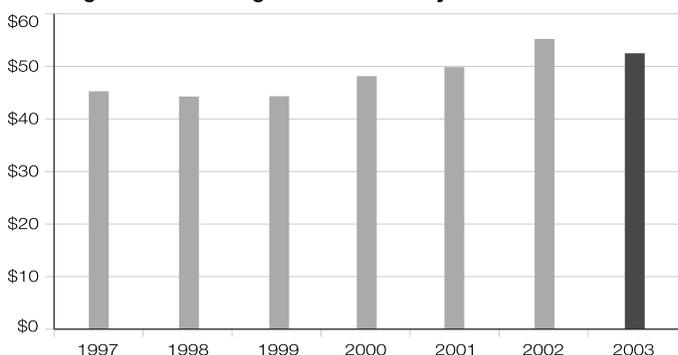
increase, while the small urban systems experienced a higher rate of cost increase over this period (40%). This appears to be due to significant service reductions by small urban systems in 2000 and 2001 after the loss of the Motor Vehicle Excise Tax (MVET) funding, resulting in fixed costs being spread over fewer service hours. By 2003, most small urban systems had either completed service reductions or passed measures to increase the sales tax and thereby the service hours. For these reasons an otherwise upward trend leveled out from 2002 to 2003.

**Fixed Route Service: Average Cost per Total Hour**  
Washington State Average by Transit System Size, 1997-2003



In 2003, the average demand response transit cost per hours for all systems was \$52.36. The average cost for demand response is significantly lower than the fixed-route average cost. This is primarily due to the contracting out of this service to private agencies that provide lower wage rates to demand response drivers.

**Demand Response Service: Average Cost per Total Hour**  
Washington State Average for All Transit Systems 1997-2003



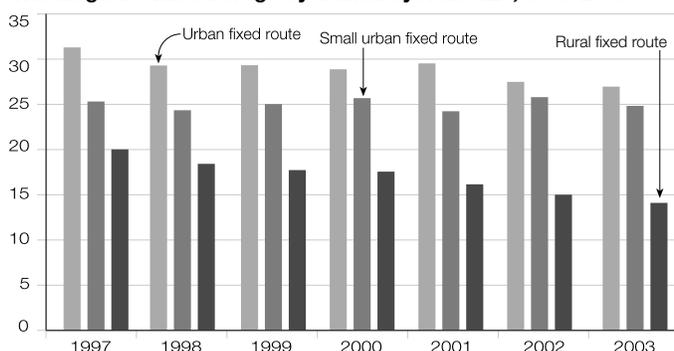
# Transportation Benchmarks: Annual Update

## Boardings per Revenue Hour

This measure also illustrates the importance of the characteristics of the area served on a transit system's performance. Boardings<sup>1</sup> per revenue hour generally depend on density and service type – local, urban service performs better than express service. Performance on this measure has been relatively constant for the urban and small urban systems but has dropped among rural systems. This and other measures illustrate the extreme difficulties facing many of the rural transit systems. The loss of both sales tax equalization and MVET funding and the general economic downturn in rural Washington have forced systems to reduce service levels and increase fares.

### Fixed Route Service: Average Boardings per Revenue Hour

Washington State Average by Transit System Size, 1997-2003



In 2003, the average urban fixed route boardings per hour were 26.8, the average small urban fixed route boardings per hour were 24.9, and the average rural fixed route boardings per hour were 14.4. Although both urban and small urban boardings having increased, the actual boardings per revenue hour decreased because the number of hours of service increased as well. It is generally expected that productivity will increase slightly as new service is added. However, the new service cannot be expected to immediately have boarding levels equal to established service. The market for new service tends to be riders who own autos, but who choose to take the bus, rather than those who do not own autos and are already using the service.

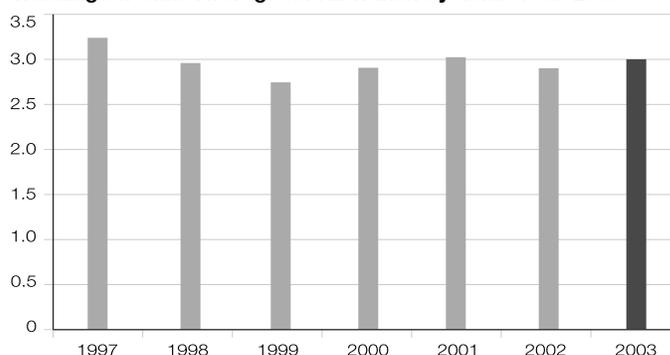
<sup>1</sup>“Boardings” are the total number of times a person boards a bus. For example, a person taking one bus and transferring to another bus to reach his destination would represent two boardings.

The decline shown in the graph below in urban boardings per revenue hour is primarily driven by King County Metro, which showed a decrease from 2001 to 2002 and was stable from 2002 to 2003.

The rural numbers are strongly affected by Skagit Transit and by LINK in Chelan and Douglas counties. LINK and Skagit Transit are two rural systems especially affected by the loss of MVET funding. Neither of these systems has been able to increase local sales tax to make up for the loss of this funding. Instead they have made significant service reductions: LINK by over 45% (91,000 hours of service in 1999 to 49,000 hours in 2003) and Skagit Transit with an over 65% reduction (70,800 hours in 1998 to 24,800 today). Both of these systems were also fare-free systems, which now charge fares. This also affected ridership negatively. These are two of the larger rural systems and changes with these systems affect the entire category.

## Demand Response Service: Average Boardings per Revenue Hour

Washington State Average for All Transit Systems 1997-2003



Boardings per revenue hour for demand response service have remained near 3.0 for the past six years. In 2003 it was exactly 3.0 boardings per hour. The nature of the service makes it difficult to significantly improve this measure. The slight increases in this measure since 1999 are related to the reduction in service areas and the elimination of least productive service routes by some transit agencies. As these least productive fixed-route services, usually serving low-density suburban or rural areas, are eliminated, the complementary demand response service is also discontinued. Demand response trips in these areas tend to have long trip lengths and are difficult to group with other rides.

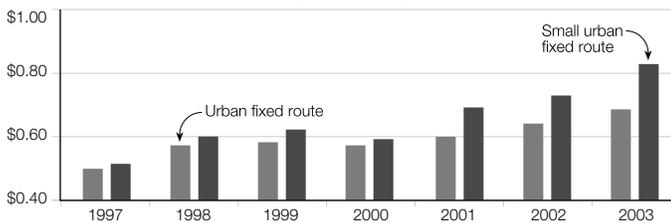
# Transportation Benchmarks: Annual Update

## 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 during 2000 by several systems in this category. Passenger-mile data is not collected by rural transit systems.

### Fixed Route Service: Average Cost per Passenger Mile

Washington State Average by Transit System Size, 1997-2003

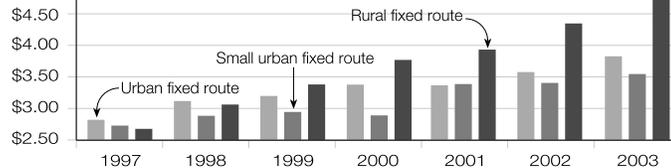


## Cost per Boarding

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 too and were hit particularly hard by increased health care and other employee costs.

### Fixed Route Service: Average Cost per Boarding

Washington State Average by Transit System Size, 1997-2003



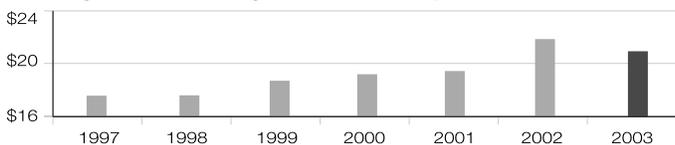
Costs have increased due to inflation and increased employee costs since 1999. For 2003, the average urban fixed route cost per boarding was \$3.82, the average small urban fixed route cost per boarding was \$3.53, and the average rural fixed route cost per boarding was \$4.76. The average cost for demand response service was \$21.51 per boarding, approximately six times the cost per boarding for fixed-route service. This difference is related to the ability of fixed route service to get

an economy of scale that demand response service cannot. In addition, the growth and aging of the suburban population of Washington is driving increased demands and costs for demand response service.

Community Transit in Snohomish County showed an increase in hours and a decrease in boardings in 2003 as compared to 2002, driving up urban fixed route costs. The increase for small urban systems is below the level of inflation. The rural system cost per boarding increase is driven primarily by Skagit in 2002 and 2003 and by LINK in 2003. The numbers in this category are small enough that a change in a single system can affect the entire category. The loss of over 700,000 boardings by Skagit between 2001 and 2003 and of 215,000 riders by LINK from 2002 to 2003 represents almost 20% of the total rural ridership.

### Demand Response Service: Average Cost per Boarding

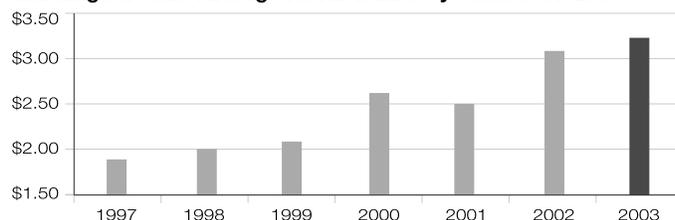
Washington State Average for All Transit Systems 1997-2003



The average cost per boarding in 2003 for the Vanpool system was \$3.24. 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.

### Vanpool Service: Average Cost per Boarding

Washington State Average for All Transit Systems 1997-2003



# Highlights of Program Activities

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## Project Starts, Completions, or Updates

### *Wetland Banking*

The U.S. Army Corps of Engineers and WSDOT signed documents certifying the largest mitigation bank ever federally authorized in Washington. The 230-acre North Fork Newaukum mitigation bank project is located adjacent to the North and Middle Forks of the Newaukum River, east of the city of Chehalis in Lewis County. It will address impacts to wetlands and other aquatic resources resulting from WSDOT's planned I-5 widening projects within the Upper Chehalis River Watershed in portions of Lewis and Thurston counties. The banking method allows WSDOT to begin designing and constructing the wetland 5-10 years before the related construction project begins. This way, the new wetland is fully functional by the time the existing wetlands are impacted by construction.

### *North Spokane Freeway*

Earthwork, from U.S. 2 to U.S. 395 at Wandermere, and from Hawthorne Road to Fairview Road, began this spring for the North Spokane Freeway. This project creates the basic freeway layout from the vicinity of Gerlach Road to Wandermere. The roadway surfacing, bridges and interchanges will be constructed in upcoming contracts. During this phase of work, crews will be removing approximately two million cubic yards of material from a section between the Newport Highway and Wandermere, and hauling it south to where it will be used as fill for a raised portion between Gerlach Road and Fairview Road. The job is expected to take two construction seasons, wrapping up in Fall 2006.



Work on the North Spokane Freeway will involve roadway surfacing, bridges and interchanges

### *SR 531, Smokey Point Bridge*

Demolition of the east half of the old Smokey Point Bridge (SR 531/ 172nd Street) over I-5 went like clockwork in April, and freeway lanes reopened on time. The project replaces the old two-lane bridge with a new six-lane structure, complete with bike and pedestrian walkways. WSDOT is also building two left-turn lanes from westbound 172nd Street to southbound I-5 and one left-turn lane from 172nd to northbound I-5. The entire \$9.14 million project is scheduled to be complete in June 2006.

### *SR 14 Rock fall protection*

Crews started work on project to install rock fall protection on State Route (SR) 14 just east of Cape Horn in Skamania County. This project will stabilize slopes in three locations between the Cape Horn Bridge and Salmon Falls Road.

### *SR14 and 32nd Street Safety*

A safety project at the intersection of SR 14 and 32<sup>nd</sup> Street in Washougal got underway in May. Traffic islands are being installed at the intersection to restrict left turns from 32<sup>nd</sup> Street onto SR 14, and prevent through traffic on 32<sup>nd</sup> Street from crossing SR 14. Seventy-five percent of the injury-causing collisions at this intersection are the result of motorists turning left from 32<sup>nd</sup> Street onto SR 14 or driving across the highway on 32<sup>nd</sup> Street.

### *I-205 Concrete Repairs*

Construction began in April to improve the roadway conditions on I-205 in Vancouver from SR 500 to the I-5 merge. Work includes repairing and replacing over 200 concrete panels; grinding smooth tire ruts; replacing pavement markings; and upgrading guardrail. Construction is scheduled for completion in August.

### *SR 6 and SR 105 Paving*

In May, crews began resurfacing over 50 miles on SR 6 and SR 105 in Pacific County. This project includes nearly 28 miles of SR 6 between the city of Raymond and the city of Pe Ell in Lewis County; and nearly 26 miles of SR 105 between the city of Raymond and the Grays Harbor County line.

### *U.S. 101 Traffic Safety Project*

In the first of several low-cost engineering improvements, WSDOT improved the turn lanes at the intersection of U.S. 101 and Shore Road, approximately 6 1/2 miles west of Sequim. The intersection is at the end of a high-accident corridor. The highway was re-stripped to create a left-turn lane onto Shore Road from U.S. 101, reducing the risk of rear-end collisions.

# Highlights of Program Activities

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The stop at Shore Road was revised by adding an island and a free right-turn lane, providing motorists a more efficient merge onto westbound U.S. 101. In June WSDOT began installing rumble strips along approximately half of the 32 miles within the U.S. 101 Traffic Safety Project corridor. The safety corridor stretches from the Clallam and Jefferson county line to where U.S. 101 intersects with SR 112. Rumble strips will be installed on the centerline along all two-lane sections of U.S. 101, excluding the City of Port Angeles. The rumble strips are being ground into the centerline to alert drivers when they've strayed from their lane, decreasing the risk crossing into oncoming traffic.

## **SR 20 Paving**

Several sections along an eight-mile stretch of SR 20 are being paved between Memorial Highway and Sharpes Corner. Construction started in June and will close one of the two lanes in either direction around the clock for five days at a time. The continuous lane closures will allow workers to pave the highway twice as fast. SR 20 is the only road on or off Whidbey Island and is the main road into Anacortes. Drivers should plan ahead and expect delays if traveling on SR 20 to get to Whidbey Island or to the Anacortes Ferry Terminal. Work continues through July.

## **I-5, Kelso Weigh Station**

The Washington State Patrol and WSDOT began construction on a project to improve the southbound I-5 truck weigh station near Kelso in Cowlitz County. Crews are installing a "weigh-in-motion" scale and automatic vehicle identification system on southbound I-5 between Exit 42 (Ostrander Road) and Exit 46 (Headquarters Road). This new system will allow trucks outfitted with special electronic transponders to be weighed as they travel at full speed past the weigh station without stopping.

## **SR 11 Fairhaven Parkway**

Crews started a project to repave SR 11, also known as Fairhaven Parkway, between I-5 and 12th Street on June 6. Project cost - \$500,000.

## **SR 27 Resurfacing**

Work to resurface a portion of SR 27 in Whitman County started in June. The project includes repairing sections of the concrete pavement on Grand Avenue in Pullman. Also, some minor sidewalk improvements to meet Americans with Disabilities Act standards are a part of the job.

## **SR 507 Paving in Roy**

A \$1.15 million project to repave SR 507 between Roy and the Roy Wye (SR 7) began in June. The project includes roadway resurfacing, new pavement markings, pavement repair, preservation work on two railroad crossings and installation of road signs. Construction is scheduled to be finished in August.

## **I-5 Olive to James**

WSDOT and Merlino Construction completed the third of four weekend closures of southbound I-5 through downtown Seattle – the first major work on the freeway since it was built 40 years ago. This project resurfaces the two outside lanes of southbound I-5 between Olive Way and James Street in downtown Seattle. The work also includes paving the Union Street and Columbia/James exits and doing bridge repairs and paving at Dearborn Street. Another weekend of work was scheduled for July.



Construction workers on I-5 Olive to James preparing the pavement for resurfacing

## **U.S. 2, 179th Ave SE to Woods Creek Bridge**

A safety improvement project on U.S. 2 from 179th Avenue SE to the Woods Creek Bridge in Monroe began in June. Medians and curb will replace two-way, left-turn lanes; and widened intersections will allow U-turns. Traffic signals will be coordinated with each other and with Burlington Northern Santa Fe railroad crossings to improve traffic flow. Crews will also repave the roadway, which increases its life and provides drivers a smoother ride.

## **U.S. 2, Paving in Waterville**

Travelers through the Douglas County seat of Waterville are enjoying a smoother ride as the grinding, paving and striping on U.S. 2 was completed on June 22. As part of the North Central Region Chip Seal program, 27 miles of U.S. 2 on both sides of Waterville were paved or sealed.

# Highlights of Program Activities

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## ***I-5 Vancouver Noise Wall***

Crews began construction of a noise wall along the west side of I-5 from Salmon Creek to N.E. 129th Street in June. The noise wall will run parallel to N.E. 18th Avenue along the west side of I-5 from N.E. 129th Street to the end of N.E. 18th Avenue. The project also will extend the existing sidewalk on N.E. 18th Avenue approximately 200 feet, enhancing pedestrian safety in the neighborhood. Construction is scheduled to be complete by the end of September.

## ***SR 24, Sagehill Road Intersection***

Work finished at the SR 24 Sagehill Road intersection in Adams County. Crews constructed a left-turn lane in only 10 days. The intersection, five miles south of Othello, was the location of a high number of accidents over the past two years. Work began June 6 and was completed on June 16.

## ***U.S. 101 and SR 107 Paving***

Crews started work in June to pave US 101 and SR 107 in Grays Harbor County. Approximately five miles of US 101 from the Pacific County line to Lund Road will be paved. The nearly \$2.2 million project includes paving approximately seven miles of SR 107 from the intersection with U.S. 101 to the Chehalis River bridge.

## ***SR 7 and SR 706 Paving***

Work started July 5 on a \$1.8 million project that will repave approximately 11.6 combined miles of SR 7 and SR 706. This project overlays six miles of SR 7 between Alder Lake and Elbe (mileposts 22.65 - 16.82) and more than five miles of SR 706 from Elbe to the Nisqually Entrance to Mt. Rainier National Park.

## ***U.S. 101 Estuary Restoration***

The US 101 highway portion of the Willapa River estuary restoration project in Pacific County officially broke ground on July 11. The Willapa River estuary restoration is a \$5.9 million multi-agency project that will convert 300 acres of diked pastureland back into a tidal estuary, and re-contour another 100 acres of wetlands on the upland side of U.S. 101 to improve habitat for waterfowl and other wildlife. The highway portion of this project will prevent U.S. 101 from being flooded during high-water events at Potter Slough by raising it three feet above its current height. The project also will improve the existing storm water runoff system, and create a highway pullout area large enough for up to five vehicles.

## ***SR 106, Culvert Replacement***

Crews began work in July on a \$1.17 million project on SR 106 that will replace a culvert with a new 120-foot single-span bridge over Skobob Creek. The existing Skobob Creek fish crossing is a barrier to migrating salmon. In addition to building the new bridge, the project will restore the creek channel to a more natural state, which will benefit more than 500 acres of wetlands and reduce flooding impacts. Skobob Creek has flooded SR 106 six times since 1997, most recently in October 2003.

## ***I-405, Totem Lake Freeway Station Project***

Sound Transit and WSDOT kicked off construction of the I-405, Totem Lake Freeway Station Project on July 8. WSDOT is building the \$85.9 million project in Kirkland with funds from Sound Transit. Project work will build a bridge over I-405 at NE 128th Street connecting to new HOV on and off-ramps in the I-405 median. WSDOT and Sound Transit plan to open the ramps and bridge in summer 2006.

## ***SR 539, Burlington***

In June crews began a \$1 million project to repave sections of SR 539, also known as the Guide Meridian, between I-5 and Horton Road. Crews will only work and close lanes at night during construction to ease congestion. Specifically, crews will repave the southbound I-5 off ramp; the Bakerview Road intersection; and between Kellogg Road and Horton Road on the Guide Meridian. WSDOT expects to finish repaving the Guide Meridian by the end of August.

## ***SR 14 and U.S. 97, Goldendale***

Workers began resurfacing portions of SR 14 and U.S. 97 in July. This project includes approximately 30 miles of SR 14 between U.S. 97 and the Benton County line, and a small section of U.S.97 between Allen Creek Road and Timmer Lane. WSDOT will use both asphalt paving and chip seal resurfacing treatments.

## ***U.S. 101, Estuary Restoration Near Blyn***

Primo Construction, Inc., of Sequim won a \$332,000 bid to perform estuary restoration work on Jimmycomelately Creek near U.S. 101. The project work includes excavation, grading, reshaping and erosion control. The restoration project, which creates several acres of saltwater marsh, provides mitigation for WSDOT's appropriation of upland wetlands for several U.S. 101 highway improvements to be constructed in the next several years.

# Highlights of Program Activities

## Public Transportation and Commute Options

WSDOT announced awards of \$50,081,221 in public transportation grants made possible through the 2003 Legislative Transportation Funding Package. WSDOT awarded \$27 million in competitive grants for a record 100 projects to help purchase a total of 130 new vehicles including seven full-sized coaches, 58 minibuses, and 65 vans. The grants will also provide public transportation services in 36 counties across the state. Another \$23 million was awarded in formula-based grants, including ParaTransit/Special Needs grants to 25 transit systems, and Rural Mobility Grants to six transit systems. WSDOT will award another \$3.5 million in rural mobility grants next year. Projects begin on or after July 1, 2005 and continue through June 30, 2007. More information on the grant program and awards can be found at [Competitive public transportation grant awards, \(www.wsdot.wa.gov/transit/grants/2005-2007\\_competitive\\_grant\\_awards.cfm\)](http://www.wsdot.wa.gov/transit/grants/2005-2007_competitive_grant_awards.cfm) and [Transit system formula grant awards, \(www.wsdot.wa.gov/transit/grants/2005-07\\_transit\\_system\\_grants.cfm\)](http://www.wsdot.wa.gov/transit/grants/2005-07_transit_system_grants.cfm).

## Ferries

The State Transportation Commission approved a 6% average fare increase, which began June 1. The increase originally proposed was 5%, but was adjusted to regain moneys that WSF projected would be lost by continuing to honor coupon books for 90 days, instead of dropping to 30 days, as originally proposed. This fall, WSF is implementing an electronic fare system (EFS). The passenger multi-fare cards can be used by multiple passengers in a single vehicle. In two years, WSF plans to switch to “smart cards” that can be renewed but not dupli-



Ferries at Colman Dock in downtown Seattle

cated. The commission also reduced the proposed surcharge on tollbooth purchases of multi-ride cards starting next year, after the electronic system is instituted. The initial surcharge proposal was 5%, but some riders said that would be unfair to those without credit cards. The panel agreed to exempt the elderly, disabled and youth, and to limit the surcharge to \$2.50 when it takes effect on May 1, 2006.

As of June 1, drivers of RVs and buses traveling to Vancouver Island on Washington State Ferries (WSF) receive a 50% discount as part of a new promotional rate offered by WSF. Ian Munce, Director of Planning for the City of Anacortes and a member of the Tariff Policy Committee, worked to bring the oversize vehicle rates in line with competitor rates. “By removing the overweight component of the fare, we feel confident we can attract tourists driving recreational vehicles back to the most scenic route to and from Canada,” said Munce.

## Aviation

WSDOT introduces its Aviation Information Clearinghouse ([www.wsdot.wa.gov/aviation/InfoClearinghouse/default.htm](http://www.wsdot.wa.gov/aviation/InfoClearinghouse/default.htm)), a comprehensive web directory that links you to everything aviation in the State of Washington. This new resource is available for people who want to know more about aviation programs, schools, and services in Washington State and beyond. Updated weekly, the clearinghouse includes links to a variety of aviation sites that cover categories such as weather, safety, publications, associations, and more.

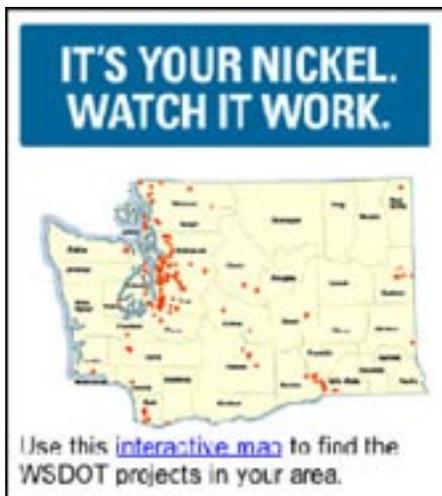
## Improved Motorist/Project Information

WSDOT introduced a new traveler information tool in the north Wenatchee area – a low powered Highway Advisory Radio (HAR). Signs advise motorists to tune their radios to AM 530 to get current traffic advisories from the Department of Transportation. The broadcasts can be heard within a two-mile radius from the HAR’s location between the north shoulder of U.S. 2/97 and Melody Lane. The HAR began broadcasting construction and traffic information about the major paving project on SR 285.

Finding “Nickel Projects” became easier with the new interactive map on WSDOT’s Project Web page: [www.wsdot.wa.gov](http://www.wsdot.wa.gov).

# Highlights of Program Activities

wa.gov/projects/. Nickel Projects are those that were included in the Legislature’s 2003 Transportation Funding Package. The map allows users to click on a county for a list of all the Nickel Projects within that county, or to click on an orange-colored dot on the map indicating the project’s location. By clicking on the dot, the viewer is taken directly to a “Project Page” for details about the project’s purpose, benefits, cost, construction schedule, and other pertinent information.



Nickel project map on WSDOT website

## Events

Each spring as the WSDOT prepares for summer construction and maintenance work, it also concentrates on the importance of work zone safety and reflects on those who lost their lives in work zone-related activities. WSDOT called attention to the National Work Zone Awareness Week (April 3 – 9) by



Worker memorial at WSDOT’s headquarters building in Olympia

staging events in Western Washington to remind motorists to slow down and pay attention when traveling through a work zone. Between 1999 and 2003, more than 5,500 collisions have occurred in Washington work zones. On April 7, WSDOT honored fallen workers with an open-house Memorial at the agency headquarters building in Olympia. The Memorial was a solemn community day of reflection, including a “path of honor,” constructed to symbolize each of the 56 employees who have died while serving the public.

Cayuse Pass (State Route 123) in Mount Rainier National Park opened to traffic on April 21, after a long and unusual winter. SR 123 serves the east side of the park, extending for approximately 20 miles from its intersection with U.S. 12 at the south end to its intersection with State Route 410 at the north end.



Chinook Pass open for the season

Chinook Pass opened for the season on Thursday, April 28. Up until March 25, crews were looking toward an April 1 opening, but late spring storms brought heavy snow and a threat of avalanches dashed those plans. Chinook Pass has been closed since December 7, 2004, from the intersection of SR 123 and SR 410, near the Mount Rainier National Park boundary, to Morse Creek, about six miles east of the summit.

WSDOT reopened Spirit Lake Memorial Highway (SR 504) to traffic beyond the Coldwater Ridge Visitor’s Center on Friday, May 6. SR 504 east of Coldwater Ridge had been closed since October 2004 due to increased volcanic activity on Mount St. Helens. More information can be found at the U.S. Forest Service’s Web page at: [www.fs.fed.us/gpnf/mshnvm/](http://www.fs.fed.us/gpnf/mshnvm/).

# Highlights of Program Activities

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## Grants and Awards

In April, the National Association of Environmental Professionals (NAEP) honored WSDOT with its environmental excellence award in the National Environmental Policy Act category. The draft Environmental Impact Statement (EIS) for the Alaskan Way Viaduct was named the “best of the best” of entries received in all categories. The Alaskan Way Viaduct EIS was the first to showcase WSDOT’s new approach in preparing more reader-friendly environmental documents. By using clear writing and less technical language, WSDOT hopes to more effectively engage the public in the planning and decision-making process for future projects.

The American Road and Transportation Builders Association presented their “2005 Pride in Transportation Construction” award to the I-405 Bellevue Direct Access Project team. The award recognizes the partners for “Community Relations and Public Education that Enhance the Image of the U.S. Transportation Construction Industry.” The project team included WSDOT, Sound Transit, the City of Bellevue, the Federal Highway Administration, Atkinson Construction, and HDR, Inc. The partners delivered the project ahead of schedule and under budget.

## 2005 Awards of Excellence Awarded to Local Agency Projects

The Washington State Department of Transportation (WSDOT) and the Federal Highways Administration (FHWA) selected four local agency projects for the Awards of Excellence. The awards program is a collaborative effort between WSDOT Highways and Local Programs Division and FHWA to formally recognize federally funded local agency projects that have achieved excellence in safety enhancements, construction, innovative design, environmental compatibility, and public involvement and satisfaction. Projects that received the 2005 awards are:

*Best City Project: City of Des Moines, Pacific Hwy South Redevelopment*

*Best County Project: Douglas County, Badger Mt. Road*

*Best Special Project: City of Lynnwood, Heritage Park*

*Director’s Award: Yakima County, Donald Wapato Bridge*

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