



**Washington State  
Department of Transportation**

# Measures, Markers and Mileposts

The Gray Notebook for the quarter ending  
June 30, 2003

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

**Douglas B. MacDonald**  
Secretary of Transportation



# Measures, Markers and Mileposts

## The Gray Notebook for the quarter ending June 30, 2003

10th Edition

Published August 20, 2003

### “What gets measured, gets managed.”

This periodic report is prepared by WSDOT staff to track a variety of performance and accountability measures for routine 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.

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Cover photos: left to right; the ferry Tacoma, incident response truck, Amtrak Cascades, SR 153 in Okanogan County

# Measures, Markers and Mileposts

## The Gray Notebook for the quarter ending June, 2003

10th Edition  
Published August 20, 2003

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#### A Note from Doug MacDonald:

*This tenth quarterly Gray Notebook includes an important new feature that we've dubbed the Beige Pages. It is WSDOT's first iteration of a comprehensive project report that provides a quarterly update on 2003 Transportation Funding Package projects and other major construction projects. This quarter's edition of the Beige Pages serves as a primer for navigating the extensive on-line information that focuses on the progress of the highway construction program as well as providing updates on ferry and rail projects.*

*Four new sections in the Beige Pages provide the reader details on 2003 Transportation Funding Package projects: Project Reporting, Project Highlights, Program Management Information, and Financial Information. Much of the detailed information, including Project Pages and Quarterly Project Reports (QPR), will be readily available on-line at WSDOT's Web site. The Beige Pages will highlight each quarter's progress and develop topical reporting on project milestones and schedule, financial tables, program management issues as well as key information on challenging projects. Also included in the on-line version will be "hot links" that will take you directly to the web-based Project Pages and QPRs.*

*This quarterly report represents a work in progress that will be expanded and refined as more projects approach or enter into construction. We welcome your suggestions and inquiries that can help us strengthen WSDOT's project delivery and accountability reporting.*

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# Project Reporting on the 2003 Transportation Funding Package

## Introduction

WSDOT expects to generate extensive 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 will be regularly presented and maintained on-line on the WSDOT web site. The *Gray Notebook*, in these special pages, will highlight each quarter's progress and develop topical reporting on financial and program management issues as well as key project information.

This new feature of the *Gray Notebook* is organized in the following manner:

- Project Reporting**
- Project Highlights**
- Program Management Information**
- Financial Information**

This first quarterly report represents a work in progress that will be expanded and refined as more and more projects approach or enter into construction. We welcome suggestions and inquiries that can help us strengthen this project delivery and accountability reporting.

## Project Reporting

Project reporting will be accomplished through several different media, including the *Gray Notebook*, web-based Project Pages and Quarterly Project Reports (QPR). A Project Page will be created for all major WSDOT projects, whereas the QPRs will be created for Nickel funded projects of the 2003 funding package. (See also *Financial Information, page 25.*)

### On-line Reporting

WSDOT has Project Pages for a number of projects that are currently under construction. Five new projects were advertised and awarded in June/July. A QPR will be prepared for each these projects and will be available on-line at the time of this printing.

### Navigation to the Home Page and the Project Pages

WSDOT's home page can be found at:  
[www.wsdot.wa.gov/](http://www.wsdot.wa.gov/)

The Home Page (shown at right) has several links that allow access to the individual Project Pages through the *Accountability* navigation bar, the *Projects* navigation bar (which will access a list of all WSDOT projects) or the *Nickel Funding Package Project List*.

Project Pages for several of the largest projects will also be directly linked to the Home Page under the *Projects* navigation bar.

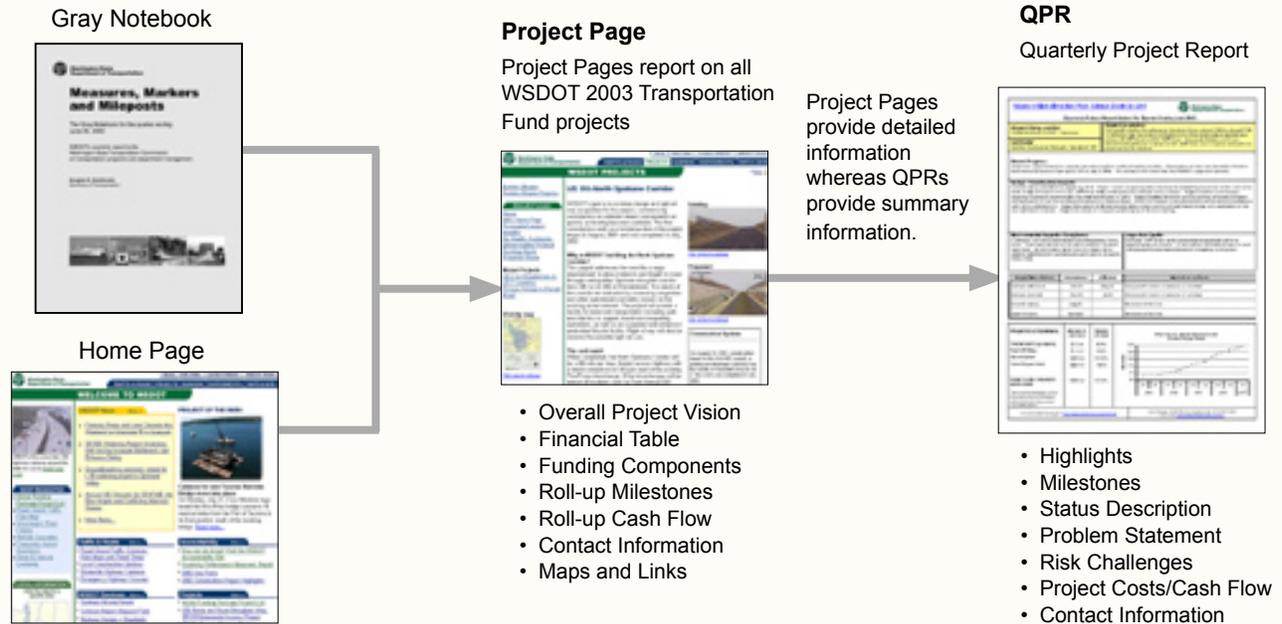
Listed projects will also include a "status indicator" that flags any potential problems to the project schedule or budget.



## Roadmap to On-line Project Information

The diagram below is a roadmap to the information found on-line. The on-line version of the *Gray Notebook* as well as the Home Page will have “hot links” to the individual Project Pages and the Quarterly Project Reports.

### Project Information Roadmap



## Project Pages

Project Pages will contain information on all aspects of a specific project. Many of the 2003 Transportation Funding Package projects are now available on WSDOT’s web site. In the upcoming quarters, new project pages will be added.

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

A summary of the information found on a Project Page will be provided in a Quarterly Project Report (QPR) that can be accessed through a link on the Project Page, and will be formatted in a printable version.

Project pages will, to the best of WSDOT’s ability, be regularly updated.

Project pages can be found at: [www.wsdot.wa.gov/projects/](http://www.wsdot.wa.gov/projects/)



## New Quarterly Project Report

Several Quarterly Project Reports are already posted on the Web site showing status as of June 30, 2003 (see below for links). Others will be coming soon. Unlike the Project Pages, which are updated regularly, the QPR will be updated on a quarterly basis.

The example to the right is an actual QPR showing real data.

This section includes the project title (in some cases, a large project will be made up of several smaller projects or contracts).

This section highlights recent progress, impacts to the design, construction, environmental and traffic.

Project milestones are detailed in a chart that indicates the status of each milestone, with discussions on the milestone outlook and issues.

The last section of the QPR shows the project cost summary. A graph displays the planned expenditures against the actual expenditures for the total project cost.

A link to the Project Page and contact information are listed at the bottom of the page.



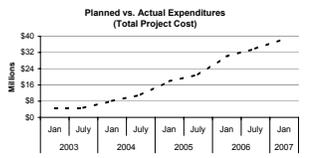
**Widen I-5 Each Direction From Salmon Creek to I-205**  
Quarterly Project Report Update For Quarter Ending June 2003

<b>Project Title &amp; Location</b> I-5/Salmon Creek to I-205 - Vancouver	<b>Project Description</b> This project includes the widening of Interstate 5 from milepost 3.64 to milepost 7.49. I-5 will widen from two lanes in both directions to three lanes plus an auxiliary lane between NE 99 <sup>th</sup> Street and NE 134 <sup>th</sup> Street. Two parallel bridges on I-5 over Salmon Creek and a new structure for NE 129 <sup>th</sup> Street over I-5 will be constructed to accommodate the widening.
<b>Contractor</b> Hamilton Construction Company, Springfield, OR	
<b>Recent Progress</b> Design was completed and the contract was advertised five months ahead of schedule. Construction contract was awarded to Hamilton Construction Company of Springfield, OR on July 3, 2003. The bid was 3.45% lower than the WSDOT's engineers' estimate.	
<b>Design / Construction Impacts</b> Groundbreaking scheduled for August 19, 2003. Stage 1 consists of planning and preleveling the median to prepare for a traffic shift to the detour bridge and closure of the NE 129 <sup>th</sup> Street bridge to demolish and construct a new structure. Stage 2 includes constructing a temporary structure to accommodate two southbound lanes of traffic. Stage 3 includes demolishing of the existing northbound structure and construction of the new northbound structure over Salmon Creek. When the structure is completed, both northbound and southbound traffic will be shifted onto it. Stage 4 will consist of demolishing the detour bridge and the old southbound bridge, and construction of the new southbound structure. Stage 5 will consist of final paving and striping of the new roadway.	
<b>Environmental Impacts / Compliance</b> A cantilever wall will be constructed to avoid impacting Tenny Creek. Three noise barriers will be built to address increased noise levels. All storm water runoff from the project will be collected and detained in a stormwater pond prior to release to Tenny Creek.	<b>Impacts to Traffic</b> Northeast 129 <sup>th</sup> Street will be closed beginning January 2004 for approximately five months. I-5 will maintain two lanes of traffic for both northbound and southbound directions throughout construction.

Project Milestones	Scheduled	Attained	Milestone Outlook
Contract Advertised	Oct 03	May 03	Completed 5 months in advance of schedule
Contract Awarded	Dec 03	Jul 03	Completed 5 months in advance of schedule
Groundbreaking	Aug 03		No issues at this time.
Open to Traffic	Spring 07		No issues at this time.

<b>Project Cost Summary:</b>	<b>Preliminary Engineering</b>	\$3.3 m	8.2 %
	<b>Right-Of-Way</b>	\$1.4 m	3.8 %
	<b>Construction</b>	\$32.0 m	87.9 %
	<b>Total Project Cost</b>	\$36.4 m	100 %
	<b>Nickel funds included in above costs</b>	\$32.0 m	87.9 %

The current expectation is that the project cost at completion will be within the total project cost noted above.



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For more information, go to <http://www.wsdot.wa.gov/ropecl/>

## Existing QPR links

- [www.wsdot.wa.gov/projects/I90SpokaneIdahoStLine/Argonne\\_Sullivan/2QPR03.pdf](http://www.wsdot.wa.gov/projects/I90SpokaneIdahoStLine/Argonne_Sullivan/2QPR03.pdf)
- [www.wsdot.wa.gov/projects/I90TruckClimbingLanes/HighlineCanal\\_ElkHeights/2QPR03.pdf](http://www.wsdot.wa.gov/projects/I90TruckClimbingLanes/HighlineCanal_ElkHeights/2QPR03.pdf)
- [www.wsdot.wa.gov/projects/I90TruckClimbingLanes/Ryegrass\\_Vantage/2QPR03.pdf](http://www.wsdot.wa.gov/projects/I90TruckClimbingLanes/Ryegrass_Vantage/2QPR03.pdf)
- [www.wsdot.wa.gov/projects/I5SalmonCreekt0i205/2QPR03.pdf](http://www.wsdot.wa.gov/projects/I5SalmonCreekt0i205/2QPR03.pdf)
- [www.wsdot.wa.gov/projects/SR500NE112Interchange/2QPR03.pdf](http://www.wsdot.wa.gov/projects/SR500NE112Interchange/2QPR03.pdf)
- [www.wsdot.wa.gov/projects/I182\\_US395\\_IC/2QPR03.pdf](http://www.wsdot.wa.gov/projects/I182_US395_IC/2QPR03.pdf)

# Project Highlights

This section addresses the accomplishments, issues, and expectations for current and future projects and is segmented into the sub-sections listed below. Project titles in blue indicate a hot-link to a Project Page on the web. The following sections treat:

***Contract Advertising and Awards***

***Other Significant Project Accomplishments***

***Schedule Adjustments to Optimize Program Delivery Cost Effectiveness***

***Noteworthy Program Issues***

***“Watch List” Projects: Cost and Schedule Concerns***

## ***Contract Advertising and Awards***

Following the passage of the 2003 Funding Package, WSDOT set out to meet the Legislature’s expectation that five projects would be underway before the end of calendar year 2003. Bid documents were completed and projects advertised.

Although the actual awards of these projects fell in the subsequent quarter (1<sup>st</sup> Quarter of the 03-05 biennium) the awards were all completed in accordance with the anticipated milestones except for the Highline Canal to Elk Heights project (see below). The award details are:

### **[I-5 - Widen Each Direction from Salmon Creek to I-205](#)**

Contract was awarded to Hamilton Construction Inc. of Springfield, Oregon on July 3, 2003 for \$25,920,956. Contract bid was \$925,056 below WSDOT’s estimate. Construction will begin in August, which is five months earlier than originally scheduled. [View Quarterly Project Report online](#)

### **[SR 500 - New Interchanges and Additional Lanes](#)**

Contract was awarded to Tapani Underground, Inc. of Battle Ground, Washington on July 21, 2003 for \$18,162,104. Contract bid was \$394,000 above WSDOT’s estimate, due to WSDOT having underestimated the cost for constructing a protective barrier. Construction will begin in late August or early September, which is four months earlier than originally scheduled. [View Quarterly Project Report online](#)

### **[Truck Climbing Lanes - I-90 / Cle Elum to Vantage](#)**

Two construction contracts were awarded for this project.

#### **[Highline Canal to Elk Heights](#)**

Contract was awarded to Westway Construction of Airway Heights, Washington on August 7, 2003 for Washington on August 7, 2003 at its low bid amount of \$2,816,875, \$507,407 below the WSDOT engineer’s estimate. However, between award and contract execution (the legally permissible window for WSDOT’s review), an investigation of a bid protest by the second low bidder, Scarsella Brothers, Inc. of Seattle, Washington caused WSDOT to rescind the award. The basis for the bid protest was that the low bidder had failed to properly comply with Disadvantaged Business Enterprise requirements contained in this contract by its eligibility for part of its project cost from federal highway funds. The apparent low bidder has until Friday, August 22<sup>nd</sup> to seek administrative reconsideration of its disqualification. If reconsideration is not sought, or should it be denied, award would be expected to be made to the second low bidder, whose bid amount was \$192,015 below the WSDOT engineer’s estimate. WSDOT’s expectation is that an award will be made in the very near future at a contract price that will be no greater than the second low bidder’s bid amount and at a delay not likely to be greater than three weeks from the originally-scheduled notice to proceed. The outcome of this situation will be reported on at the quarterly report for the quarter ending September 30, 2003. [View Quarterly Project Report online](#)

### **Ryegrass Summit to Vantage**

Contract was awarded to Superior Paving Company of Yakima, Washington on August 4, 2003 for \$6,709,324. The low bid was \$187,000 below WSDOT's estimate. Construction is anticipated to begin in late August or early September. [View Quarterly Project Report online](#)

### **I-90 - Build lanes from Argonne to Sullivan Road**

Contract was awarded to Scarsella Brothers Inc. of Seattle, Washington on July 8, 2003 for \$23,915,738. Contract bid was \$2,469,522 below WSDOT's estimate. Construction will begin in August, which is seven months earlier than originally scheduled. [View Quarterly Project Report online](#)

### **I-182 - US 395 I/C - Roadside Safety**

Contract was awarded to the Transtate Paving Company of Yakima, Washington on August 4, 2003 with a bid of \$55,418. The bid was \$17,712 below WSDOT's estimate. Construction is anticipated to begin in late August or early September. [View Quarterly Project Report online](#)

## **Other Significant Project Accomplishments**

### **SR 99 - Alaskan Way Viaduct and Seawall Replacement Project**

This project reached a milestone in June 2003 with the further refinement of scope and costs for five alternatives to be included in the project's Environmental Impact Statement (EIS). The five alternatives to be included in the project's EIS include the all-surface plan, an aerial replacement plan, re-building the existing viaduct plan, a bypass tunnel plan, and a full tunnel plan. Using the Cost Estimating Validation Process (CEVP™), the project costs were refined using new data available from progress made on the project over the past year. Costs for five project options range from \$2.8 to \$4.1 billion (CEVP™ 90%, 2012 dollars). The 2003 Funding Package funds completion of the project's EIS. A preferred alternative should be identified by the spring of 2004. Full funding for this project remains a concern and requires implementation of the Regional Transportation Investment District (RTID) or other major new funding.

#### **WSDOT's Cost Estimate Validation Process (CEVP™):**

This process is used to identify and quantify project cost and potential risk that can impact a project's cost and schedule. Rather than pin-pointing an arbitrary single-number estimate, CEVP produces a range, which is a more accurate description of a project cost estimate. "CEVP™ 90%" means that there is a 90% level of confidence that the project can be delivered at or below the indicated cost. For more information on CEVP™, visit our website at: [www.wsdot.wa.gov/projects/cevp](http://www.wsdot.wa.gov/projects/cevp) where you can also find a recent article on WSDOT's CEVP technology from the *Seattle Daily Journal of Commerce*.

### **SR 520 - Bridge Replacement and HOV Project**

This project reached a milestone in June 2003 with the further refinement of scope and costs for four alternatives to be included in the project's Environmental Impact Statement (EIS). The four alternatives include a four-lane option, a four-lane expandable for high capacity transit (HCT) option, a six-lane expandable for HCT option, and an eight-lane expandable for HCT option. Using the Cost Estimating Validation Process (CEVP™), the project costs were refined using new data available from progress made on the project over the past year. Costs for three project options range from \$1.8 to \$2.5 billion (CEVP™ 90%, 2014 dollars). The 2003 Funding Package funds completion of the project's EIS. A preferred alternative should be identified by the spring of 2005. Full funding for this project remains a concern and requires implementation of the Regional Transportation Investment District (RTID) or other major new funding.

## **I-90 - Two-Way Transit & HOV**

This Sound Transit project reached a milestone in July 2003 when the stalemate on alternatives was broken when new steps were taken towards regional consensus. Specifically, the project's steering committee has identified alternative R8A as the preferred option for the project. (Alternative R8A adds HOV lanes to the outer roadways and preserves the center roadway for HOV and Mercer Island traffic (reversible operation) in the short term, and high capacity transit in the long term.) Approval of the steering committee's recommendation by both the Sound Transit Board and the Transportation Commission is expected in the fall of 2003. The preferred option costs approximately \$128 million (CEVP™ 90%, 2008 dollars). The 2003 Funding Package funds completion of the project's EIS and design. Full funding for this project remains a concern and requires implementation of the Regional Transportation Investment District (RTID) or other major new funding.

## **Vancouver Rail Project – Record of Decision**

The Federal Highway Administration (FHWA) issued the Record of Decision (ROD) for the Vancouver Rail Project in August 2003. The issuance of the ROD completes the environmental documentation phase and allows WSDOT to move the project forward. Construction is currently scheduled to begin in 2007.

The Vancouver Rail Project will add new rail bypass tracks through the Vancouver rail yard and a vehicle/pedestrian overpass at the West 39<sup>th</sup> Street at-grade crossing. This \$53.7 million project will be the first major rail construction project undertaken by WSDOT that will support more reliable, faster, and more frequent Amtrak *Cascades* service between Seattle and Portland.

## **Public Transportation Grants**

A record 83 public transportation projects were awarded grant funds in June. The total amount that will be distributed is \$38.5 million including \$28 million in state funds and \$10.5 million in federal funds. The 2003 Funding Package provided \$14 million in Paratransit/Special Needs grants for transit, \$6 million in Rural Mobility for transit, \$4 million in Rural Mobility for areas without transit, and \$4 million Special Needs grants for nonprofit agencies. This is the largest grant program and the highest number of projects ever funded through the state's public transportation programs.

Grants funds will be distributed to every transit agency in the state, and to many nonprofit agencies that provide transportation in areas where there are no transit services. In the next two years, 108 new vehicles will be put into service and operating assistance will be provided to rural and specialized transportation agencies to provide life-line trips to individuals that often have no other transportation option. State funds will also be used to match federal funds for rural, specialized and job access programs. More information on these public transportation grants can be found at: [www.wsdot.wa.gov/transit/grants/2003-2005\\_competitive\\_grant\\_awards.cfm](http://www.wsdot.wa.gov/transit/grants/2003-2005_competitive_grant_awards.cfm)

## **Four Replacement Auto-Passenger Ferries**

Washington State Ferries (WSF) executives held a meeting with the ship construction industry in May 2003, to discuss the sequence leading up to the request for proposals (RFP) to construct up to four passenger/car ferries. WSF began the outline specifications, feasibility studies and development of the RFP on July 1, 2003. It is WSDOT's intention to have a follow-up meeting with the same parties in the fall with the objective of issuing the RFP in February 2004.

## **Schedule Adjustments to Optimize Program Delivery Cost Effectiveness**

Schedule expectations are a critical component of the undertaking that the Legislature has asked WSDOT to meet in the delivery of the projects in the 2003 Transportation Funding Package. The Legislature's direction in this regard is embodied in the 2003 Transportation Funding Package project-by-project spending schedule. As individual projects progress in design and construction, circumstances will sometimes recommend that adjustments be made to the spending schedules. Some of these adjustments will be for administrative and expenditure timing reasons within a broader project schedule such that there will be no impact on critical start or complete dates. Others may require adjustments to critical dates. These might arise from obstacles in environmental permitting or from the opportunity to achieve savings or avoid costs from coordination between projects or with the projects of individual communities. WSDOT expects few such changes. However, it is important to present information in this report on changes that seem to be recommended from factors emerging in the quarter being reported on (cost implications are summarized on page 10).

### **Highway Construction Program**

#### **I-5 - Pierce County Line to Tukwila Stage 4 HOV**

This project reduces congestion by adding HOV lanes to I-5 northbound and southbound from South 320th Street to the Pierce County line. In the 2003 Funding Package spending schedule, almost all of the specified project cost was placed in the 05-07 biennium; however, the anticipated ad date is April 2005, in the 03-05 biennium. New stormwater requirements that will be in effect when this project is constructed require that WSDOT perform some additional design and right of way acquisition. In order that the design update and right of way acquisition for stormwater facilities can be achieved in time to support the April 05 ad date, WSDOT would shift part of the funding from 07-09 into 03-05 and 05-07 for right of way acquisition for stormwater facilities and for update of project design. No material overall change in the total estimated project cost is anticipated.

#### **I-5 - 2nd Street Bridge Replacement**

This project replaces a low-clearance bridge over I-5, eliminating a through-city detour now required for over-height trucks. WSDOT has determined that the construction can be performed in a single construction season, rather than in two as originally proposed, thereby shortening traffic disruptions and speeding the delivery of benefits, especially for truckers. The anticipated ad date, April 2004, would not change but the open to traffic date would advance from 2006 to 2005. In order to achieve this, WSDOT would shift some of the construction funding from 05-07 to 03-05. No overall change in the total estimated project cost is anticipated.

#### **I-5 - From Rush Road to 13th Street**

This project constructs an additional through lane in each direction on I-5 from the Rush Road interchange to the 13th Street Interchange and a new interchange at Labree Road. The right of way acquisition schedule in the 2003 Funding Package spending schedule placed more money for right of way acquisition in 03-05 than is required. Environmental documentation on this project is not expected to be completed until late 2004. Right of way acquisition cannot begin until after the environmental process is completed. To best time the right of way acquisition, WSDOT would shift \$1 million from 03-05 to 05-07. Beginning the right of way acquisition process in 2004 will still support the planned advertisement date of January 2007.

#### **SR 18 - Issaquah/Hobart Rd To I-90 Widening**

This project provides for development of the Environmental Impact Statement (EIS) required to widen SR 18 between Issaquah/Hobart Road and I-90 as well as paying for a two-phase revegetation along SR 18 from Covington to Issaquah/Hobart Road. The second phase of the revegetation cannot begin until a construction project to widen SR 18 from Maple Valley to Issaquah/Hobart Road is completed in 2006. The anticipated ad date for the first phase of the revegetation would not be affected, but the ad date for the second phase would move from 2005 to 2006. Due to plant establishment monitoring requirements,

each of the re-vegetation phases will take longer than originally scheduled. WSDOT would shift funding accordingly for the re-vegetation program from the 03-05 biennium to the 07-09 biennium and beyond. This would not materially affect the overall project cost.

### **I-90 - Increase Vertical Clearance on Cle Elum River Bridges**

This project modifies the existing westbound Cle Elum River Bridge to increase the vertical clearance by modifying the steel structure. WSDOT recently determined that traffic needs to be completely removed from the bridge during the adjustment of the overhead portion of the bridge. This requires shifting westbound traffic to the eastbound lanes in a nighttime detour. This proposal would require adding construction cost for the detour cross overs, additional traffic control for nighttime detour, removal and replacement of lane delineation, and detour removal. This proposal does not affect the project's scheduled ad date, March 2004.

### **I-90 - Build lanes from Argonne to Sullivan Road**

This project constructs one additional lane in each direction from Argonne Road to Sullivan Road together with other improvements in the Spokane Valley. Since construction plans had already been completed, WSDOT advanced the advertisement of two projects: I-90/Argonne Road to Pines Road from October 2003 to June 2003; and I-90/Pines Road to Sullivan Road from July 2005 to June 2003. This schedule revision was made after discussions with the chairs of the House and Senate Transportation Committees. The construction schedule for this project may result in \$10.2 million projected expenditures being shifted from 05-07 forward to 03-05. To offset any impact from this shift in unbalancing the 2003 Funding Package spending schedule by creating an overspending in 03-05, a reduction in expenditures will be planned for three projects: SR 31/Metaline Falls to Canadian Border - Reconstruction, US 395/NSC-Francis Ave to Farwell Rd, and SR 270 Pullman to Idaho St Line - Additional Lanes. These adjustments will not affect the planned advertisement dates of these projects, each of which is discussed below.

#### **SR 31 - Metaline Falls to Canadian Border - Reconstruction**

This project reconstructs the roadway to provide for all-weather operations. The original 2003 Funding Package spending schedule over estimated the funding required in 03-05. WSDOT would shift \$2.4 million to 05-07. This rescheduling of funding would not affect the planned advertisement of September 2004 or the timely completion of this project.

#### **US 395 - North Spokane Corridor - 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 US 2 and Wandermere. This is a multi-phased project with future contracts. Right-of-way acquisition delays have been experienced due to the statutory imposed condemnation and relocation process involving two different privately owned properties. The project will be ready to advertise as soon as the right-of-way is obtained. "Possession and use" of one of the properties was obtained on August 1, 2003. The Eastern Region is taking every reasonable step to continue to take the process forward but success is not ensured. We anticipate no impact to the overall project cost from this delay. Regardless of the "possession and use" issue, the September 8, 2003 ad date is only achievable if the remaining property owner has found replacement housing and is relocated prior to this ad date.

#### **SR 270 - Pullman to Idaho State Line - Additional Lanes**

This project constructs one additional lane in each direction between Pullman and the Idaho State Line. The timing for the right of way acquisition at the end of the 03-05 biennium means that some of the final payments for right of way will likely be made in 05-07. This allows a revision to the funding plan to shift \$1.5 million from 03-05 to 05-07. The advertisement date of January 2005, the construction schedule, and the expected overall cost would not be affected by this adjustment.

### **SR 161 - Corridor Improvements - 176th to 234th**

This project will reduce congestion and improve safety by adding three additional lanes to a four-mile section of SR 161. This project consists of two construction contracts. The first contract will be advertised as scheduled in November 2003 and will widen SR 161 from 234th Street to 204th Street. The 2003 Funding Package spending schedule anticipated both construction contracts starting at the same time. WSDOT would delay advertising the second contract, 204th Street to 176th Street, from February 2004 to November 2004 to avoid having the entire four-mile section of SR 161 being torn up for traffic at the same time. This proposal will also allow WSDOT to “catch up” on right of way acquisition issues between 204th street and 176th Street. Due to an earlier budget reduction, WSDOT had to withdraw right of way purchase offers along this section of SR 161 in November 2002. WSDOT has now restarted right of way negotiations. The current schedule targets the proposed November 2004 ad date for the 204<sup>th</sup> Street to 176<sup>th</sup> Street contract. This would not materially affect the overall project cost.

### **SR 161 - 36th to Jovita – Additional Lanes**

This project will reduce congestion and improve safety by widening SR 161 from two lanes to five lanes through the City of Edgewood, including adding new left-turn lanes and installing a traffic signal at the 8th street intersection. The 2003 Funding Package spending schedule distributes right of way funding over a five-year period encompassing the 03-05, 05-07 and 07-09 biennia. The City of Edgewood has recently advised WSDOT that it has hired a consulting firm to work with the City and its residential and business communities to develop its own preferred improvement strategy for SR 161. Achieving coordination with the City could delay the start of the WSDOT project by as much as two years. Complicating the situation is the fact that the highway acts as the border between the City of Edgewood and the City of Milton, with the City of Milton supporting WSDOT’s current design. Agreement among all three parties may prove difficult. As described above, this situation prompts WSDOT to suggest a deferral in the funding plan for some of the right of way spending. WSDOT will continue to report on this project in subsequent quarters as circumstances unfold.

### **Tacoma - Edgewood New Freeway Construction (SR 167 ext.)**

This project will eventually improve connections for freight traffic and reduce congestion by adding a new four-lane freeway from I-5 to the Port of Tacoma terminals and between I-5 and SR-167 in the vicinity of Puyallup and Sumner. The 2003 Funding Package will provide for design and contract documents for the first two of four planned construction contracts. It also provides some funding for selected right of way purchase. As project work continues, WSDOT may experience some delays to the design effort as a result of the length of time needed to review and revise the biological assessment addressing listed endangered species within this corridor. WSDOT is currently working with the resource agencies to gain concurrence on preferred design alternatives and mitigation plans prior to finalizing the Environmental Impact Statement (EIS). Until the Federal requirements are met and the EIS is completed and approved, the design effort can proceed on applicable items not in jeopardy of the EIS process and strategic Right of Way acquisition should continue. The WSDOT proposed spending schedule supports the first contract advertisement in the fall of 2008 if additional funds (RTID funding) are provided for completing right of way acquisition and construction.

### **SR 527 - 132nd SE to 112th SE Additional Lanes**

This project adds lanes and enhances safety on a congested state highway. WSDOT’s project design process has anticipated an ad date in late 2003. The 2003 Funding Package spending schedule, however, projected a later ad date of April 2005. Advancing the start date was an important issue for the Boeing Company. The proposed 2005 start date, moreover, would shift the project into a phase of the stormwater regulation program that possibly would require more extensive stormwater treatment facilities (cost difference perhaps as much as an additional \$ 3.2 million, including redesign, as compared to the cost of complying with the rules that would apply to the earlier start date). WSDOT believes the project should be advertised in December 2003 to effectuate the commitment to the Boeing Company and to avoid the possible cost impact to the project of a new stormwater design.

The modest recasting of the 2003 Funding Package spending schedule for the 2003 Funding Package Fund highway construction package that would follow from the project steps described above is shown in the following table (see subsequent section for discussion of projects not in the highway fund program).

<b>Highway Project Cash Flow Adjustments</b>						
<b>Project</b>	<b>03-05</b>			<b>05-07</b>		
	<b>Budget</b>	<b>Adjusted</b>	<b>Net Change</b>	<b>Budget</b>	<b>Adjusted</b>	<b>Net Change</b>
<b>I-5 - Pierce County Line to Tukwila Stage 4 HOV</b>	3,900	5,481	1,581	42,400	48,000	5,600
<b>I-5/2nd Street Bridge Replacement</b>	6,700	11,784	5,084	5,300	216	(5,084)
<b>I-5 from Rush Road to 13th Street</b>	3,500	2,500	(1,000)	7,400	8,400	1,000
<b>SR 18/Issaquah/Hobart Rd To I-90 Widening</b>	8,100	6,119	(1,981)	8,320	6,957	(1,363)
<b>I-90 - Increase Vertical Clearance on Cle Elum River Bridges</b>	712	1,272	560	-	-	-
<b>I-90 - Build Lanes from Argonne to Sullivan Road</b>	12,000	22,150	10,150	22,150	12,000	(10,150)
<b>SR 31 - Metaline Falls to Canadian Border - Reconstruction</b>	4,900	2,400	(2,500)	11,000	13,500	2,500
<b>US 395/NSC - Francis Ave to Farwell Rd</b>	41,900	35,900	(6,000)	47,910	53,910	6,000
<b>SR 270 - Pullman to Idaho St Line - Additional Lanes</b>	11,500	10,000	(1,500)	17,000	18,500	1,500
<b>SR 161 Corridor Improvements - 176th to 234th</b>	12,100	6,800	(5,300)	7,300	12,600	5,300
<b>SR 161 - 36th to Jovita - Additional Lanes</b>	4,700	-	(4,700)	3,880	3,880	-
<b>Tacoma to Edgewood New Freeway Construction (SR 167 Extension)</b>	25,092	18,501	(6,591)	31,418	27,068	(4,350)
<b>SR 527 - 132nd SE to 112th SE Additional Lanes</b>	2,130	15,387	13,257	19,000	5,947	(13,053)
<b>Total</b>	<b>137,234</b>	<b>138,294</b>	<b>1,060</b>	<b>223,078</b>	<b>210,978</b>	<b>(12,100)</b>

Balancing program expenditures is an ongoing process due to the larger number of projects and variety of work managed on a daily basis. At any one time the program may be slightly above or below budget due to actual revenue collections, forecast assumptions, unforeseen project cost changes or contract bids above or below estimates. WSDOT will manage the construction program within appropriated funds.

## ***Rail Capital Program***

The WSDOT Rail Passenger Program is structured to provide a logical progression of investments that result in incremental improvements in frequencies, travel times, reliability, and safety. It is the department's intent to take advantage of opportunities to efficiently and cost-effectively deliver the program, maximize the expenditure of biennial appropriations by delivering projects that are ready to go, and accommodate wherever possible the business need of the Burlington Northern and Santa Fe Railway (BNSF) and other partners that impact timing and sequencing of the program as originally approved by the Legislature.

WSDOT would shift \$14.22 million from the 05-07 and 07-09 biennia into the current biennium for the projects described below. This shift represents a change in projects, but not a change in total biennium funding levels established by the 2003 Legislature. These funds will allow WSDOT to deliver an additional round trip between Seattle and Portland by 2005, without negatively impacting current Amtrak *Cascades* service north of Seattle.

### **Purchase Oregon Train Set**

The Amtrak *Cascades* fleet consists of five mechanically-identical train sets; two are owned by Amtrak, two are owned by WSDOT, and one is leased to the state of Oregon. The owner of the leased train set, Renfe Talgo of America Inc., has put it up for sale, and other out-of-state interests have given official notice of their intent to purchase. State funds for this purchase will be available in the 05-07 biennium, but it is almost certain that the train set will have already been sold. WSDOT would move the \$7.5 million designated for the train purchase forward to the 03-05 biennium. This shift of funds will help maintain the efficiencies gained through operation and maintenance of identical train sets, and, with the completion of two crossovers south of Tacoma, lead to the addition of a fourth daily round trip between Seattle and

Portland by 2005. Failure to move these funds forward will delay this additional round trip, as it will take up to four years to produce a new train set at a cost of \$20 million or more.

### **High Speed Crossovers-Titlow**

This \$3.97 million crossover project, combined with the train set purchase listed above and the Ruston Way crossover project included in the old law portion of the 03-05 transportation budget, will allow WSDOT and Amtrak to add one additional daily round trip between Seattle and Portland in 2005. The \$3.97 million would be moved forward from the 05-07 biennium. Failure to move these funds forward will prevent WSDOT and Amtrak from adding this additional daily round trip before 2007.

### **Vancouver Rail Project**

The Vancouver Rail Project will add new rail bypass tracks through the Vancouver rail yard, which is one of the key rail chokepoints in the Pacific Northwest. This project will increase safety, reduce rail congestion, and improve Amtrak *Cascades* service between Seattle and Portland. The project's environmental process was completed with the issuance of a Record of Decision by FHWA in August 2003. The project is slated for construction in the 07-09 biennium, but WSDOT would move \$2.75 million forward to the 03-05 biennium for preliminary engineering and property acquisition.

### **Seattle – Mount Vernon Project Adjustments**

BNSF is revising its long term operating plans and infrastructure needs north of Seattle. These revisions are affecting four of the Rail projects included in the 2003 Transportation Funding Package. These BNSF revisions will dictate the timeline for these and other projects in the area. BNSF has advised WSDOT that the following projects, originally scheduled for the 03-05 biennium, cannot be completed within this timeframe.

The following four Rail projects will be affected by the changes mentioned above:

#### **PA Jct. Curve Realignment & Delta Yard Storage Tracks**

This \$9 million project will adjust the curvature of the tracks and add more rail car storage space near Everett so that passenger trains can go up to 50 mph. This speed increase will result in a travel time reduction of up to four minutes for Amtrak *Cascades* riders traveling between Seattle and Vancouver, BC. \$1 million would be used in the 03-05 biennium for project engineering, and the remaining \$8 million would be spent in 05-07 to complete the work.

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

This \$3.8 million project will extend the rail siding near Mount Vernon so that slower moving freight trains can leave the main line and allow faster Amtrak *Cascades* trains to pass them, resulting in improved on-time performance. \$1.83 million would be used in 03-05 for pre-construction activities and a portion of the siding construction, and \$1.97 million would be spent in 05-07 to complete the project.

#### **Ballard Double Crossovers**

This \$5.0 million project will add crossover tracks between the two main lines north of the Ballard Bridge so that faster Amtrak *Cascades* trains can move around slower freight trains near the bridge and the Interbay rail yard. \$3.75 million would be used in the 03-05 biennium for pre-construction activities and a portion of the construction, and \$1.25 million would be spent in 05-07 to complete the project.

#### **Stanwood Siding**

This \$3.0 million project will extend the rail siding near Stanwood so that slower moving freight trains can leave the main line and allow faster Amtrak *Cascades* trains to pass them, resulting in improved on-time performance. This project would require the closure of Logan Road, a one to two year process that must

occur before construction can begin. Preliminary work on this project would begin in the 05-07 biennium, with project completion slated for 07-09.

<b>Rail Project Cash Flow Adjustments</b>						
Project	Budget	03-05		Nickel Budget	05-07	
		Adjusted	Net Change		Adjusted	Net Change
Purchase Oregon Train Set	-	7,500	7,500	7,500	-	(7,500)
High-Speed Crossovers-Titlow	-	3,970	3,970	3,970	-	(3,970)
Vancouver Rail Project	-	2,750	2,750	-	-	-
PA Jct. Curve Realignment & Delta yard Storage Tracks	9,000	1,000	(8,000)	-	8,000	8,000
Mt. Vernon Siding Upgrade	3,800	1,830	(1,970)	-	1,970	1,970
Ballard Double Crossovers	5,000	3,750	(1,250)	-	1,250	1,250
Stanwood Siding	3,000	-	(3,000)	-	250	250
<b>Total Rail Projects</b>	<b>20,800</b>	<b>20,800</b>	<b>-</b>	<b>11,470</b>	<b>11,470</b>	<b>-</b>

### ***Noteworthy Program Issues on 2003 Transportation Fund Projects***

There are important program issues in the following projects on which WSDOT requires further direction or guidance to determine and implement legislative intent in the 2003 Transportation Funding Package.

#### **SR 99 - Alaskan Way Viaduct and Seawall Replacement Project**

There are differences of opinion about the 2003 Legislature's intent for this project's scope. Some think the Broad Street Under-crossing, an element of the overall project necessary for traffic detours during construction, is included in the 2003 Transportation Fund allocation for the project. Others believe that this part of the project should be constructed later as more project funding is secured. Complicating this discussion is the Seattle Art Museum's (SAM) plan for building a sculpture park in the Broad Street vicinity. Coordinating WSDOT's plan with the SAM plans is essential to minimize construction disruption in the area and to ensure that one project does not impact the other. The current SAM plan is to begin construction in 2005. WSDOT is working to coordinate with SAM but the scope and cash flow issues must be resolved by the fall of 2003 or schedule delays in both projects are probable. WSDOT expects to work with Legislative leaders to determine an appropriate course of action.

#### **I-405 - Congestion Relief and Bus Rapid Transit (BRT) Projects**

The 2003 Funding Package spending schedule anticipates construction funding for three congestion relief projects in the I-405 corridor, at South Renton, South Bellevue, and Kirkland. The original spending schedule would result in their construction over a 6-year period, with the final section open to traffic in 2013. Concern has been broadly expressed that this would unnecessarily extend traffic and noise disruptions during construction and foster the overall public impression that the 2003 Transportation Fund Program was moving too slowly. The spending schedule could be revised so that these three projects could be started two years earlier and be completed in four years, with the final section open to traffic in 2009. Other projects may be affected if I-405 construction is accelerated. WSDOT expects to work with Legislative leaders to determine an appropriate course of action.

#### **D Street Grade Separation**

There are differences of opinion about what agreements were reached during the final budget building process of the 2003 Legislature regarding the Freight Action Strategy for the Everett Seattle Tacoma Corridor (FAST) program's D Street Grade Separation project. Some believe a commitment was made to shift funding between projects to allow D-Street to proceed in the 2003-2005 biennium (to align with the expectations of the City of Tacoma and others), while others believe the project would not be funded until the 2005-2007 biennium. A funding plan involving three projects (SR 520 Right of Way – Columbia

Center Boulevard Railroad Crossing-D-Street) has been developed to accelerate D-Street construction to 2004, but because a shift of gas tax and multi-modal funding would be required, legislative action in the 2004 supplemental budget would be necessary. WSDOT is working on coordinating with the FAST partners on this project but the cash flow plan needs to be approved before construction can begin. WSDOT expects to work with legislative leaders to determine an appropriate course of action.

**SR 522 - Bothell - UW Campus Access**

This is a General Administration project to construct a new interchange on SR 522 to provide direct access to the new UW and Cascadia Community College campuses. The 2003 Funding Package provided \$8 million scheduled in 03-05 as a WSDOT contribution to the project construction funding. However, the Governor vetoed funding in the general budget for General Administration project contribution, including money for design. The resulting disconnect between the 2003 Transportation Funding Package and the general budget situation needs to be resolved, given the significant sums involved under the 2003 Funding Package spending schedule for the 03-05 biennium.

**I-5 - Everett - SR 526 to US 2 HOV Lanes**

This project reduces congestion by adding high occupancy vehicle lanes in both directions on I-5 between SR 526 and Marine View Drive, building auxiliary lanes between the 41st Street interchange and US 2, and moving the Broadway off-ramp to the right side of the freeway. The recent selection of Vancouver, BC for the 2010 Winter Olympics results in the need for a review of WSDOT services and planned projects that would affect traffic or deliver potential travel benefits for this significant tourist event for Washington State. This project is now scheduled to be under construction during the Olympics. WSDOT will be preparing a complete assessment of transportation issues on this project and will report to the Legislature. WSDOT expects further discussion with legislative leaders on this project.

**SR 539 – I-5 Access / Improvements: Ten mile Rd to International Border**

This project widens SR 539, a busy freight and passenger route leading to U.S./Canada border crossing sites, from Ten Mile Rd to SR 546. The project consists of two phases. Fish Trap Creek to SR 546 with anticipated ad date of January 2009 and Ten Mile Rd to Fish Trap Creek with anticipated ad date of January 2011. The recent selection of Vancouver, BC for the 2010 Winter Olympics results in the need for a review of WSDOT services and planned projects. This project is scheduled to be under construction during the Olympics. The forthcoming WSDOT report on project needs related to the Olympics (see above) will also review this project. WSDOT expects further discussion with legislative leaders on this project.



***“Watch List” Projects: Cost and Schedule Concerns***

WSDOT is watching closely for early warnings that cost or schedule expectations may be at risk because of developments within the project delivery process or, in some cases, wholly or partly outside WSDOT’s control. The following situations must, however, be described, although in these cases it is premature to draw conclusions about ultimate impacts.

**Widen I-5 Each Direction from Salmon Creek to I-205**

This project constructs an additional through lane and an auxiliary lane in each direction on I-5 from NE 99th Street to NE 134th Street. Because construction plans were complete, WSDOT advanced the advertisement from October 2003 to May 2003. The contract was awarded to Hamilton Construction Inc. of Springfield, Oregon on July 3, 2003 for \$25,920,956, which is \$925,056 below WSDOT’s estimate. The contractor may move work quickly on this project and require larger spending in the 03-05 biennium than shown in the 2003 Funding Package spending schedule. WSDOT will carefully monitor expenditures on this project as construction progresses.

### **SR 9 - Nooksack Road Vicinity To Cherry Street**

This project replaces the existing highway in a new alignment to alleviate weather-related truckload restrictions, reduce accidents, and ease cross-border freight flow. The original scoping for this project failed to identify the total number of properties involved in WSDOT's efforts to acquire right of way and access control. WSDOT will need to purchase 29 more properties than originally estimated for the section of the project that follows the old alignment of SR 9. The right of way cost has increased approximately \$1 million; however an offsetting reduction in construction cost has been made possible due to reduced quantities for roadway excavation and fill materials needed based on a new geotechnical/soils report.

Acquiring the additional properties along with access control will require a significant revision to the right of way plans and a public hearing. This additional effort may delay the ad date from June 2004 to October 2005. WSDOT is undertaking special efforts to minimize the schedule slippage in the right of way phase and or recover the schedule elsewhere in the program.

### **SR 161 – Jovita Blvd to S. 360th Widening**

This project widens SR 161 to five lanes between Jovita Blvd and S. 360<sup>th</sup> St to increase mobility and improve traffic safety operations. The original Environmental Assessment was completed for this project and approved by FHWA in 1996. The project was then shelved for lack of funding. Since the environmental documentation is more than three years old with no activity on the project, the Environmental Assessment for this project must be updated and resubmitted before the project can move forward. Compounding this issue, the Puget Sound Clean Air Agency updated the allowable carbon monoxide (CO) emissions last year and moved the target year for estimating emissions from 2010 to 2030. The site-specific carbon monoxide analysis for this project must be consistent with the new target year. There is a chance that increased traffic in the target year will increase emissions enough to exceed allowable site-specific CO levels. However, more efficient vehicles will in use by 2030 possibly offsetting additional emissions from increased traffic. The project as now designed could face redesign if the air quality analysis shows that the current intersection design would lead to air quality violations in 2030. If so, redesign and likely expansion of the project (additional lanes) will have significant impacts to the currently projected ad date and proposed project cost.

### **SR 167 – 15th St. SW to 15th St. NW HOV**

This project reduces congestion by adding a northbound high occupancy vehicle lane and adding southbound ramp meters and high occupancy vehicle bypass lanes at several interchanges. WSDOT's design and environmental permitting for this project was completed five years ago but, for lack of construction funding, the project was then "put on the shelf." Since that time, permits for this project have expired and the project must be re-permitted. However, salmon species have been listed within the last five years and the re-permitting process will require changes, at minimum, in the project's drainage design. It may be that the design would add as much as \$ 3.4 million to the estimated project cost. This incremental amount was not included in the "project cost" provisions in the funding plan adopted by the Legislature. In addition to this exposure to an increased cost amount, the possible schedule revision would be a delay of almost a year in the project ad date, from May 2004 to February 2005 – subject, of course, to the details of the substantive environmental concerns. None of these matters have yet been finally discussed with the Army Corps of Engineers (ACOE) or the Department of Ecology (DOE). WSDOT will continue to report until resolution is reached.

### **SR 3 - SR 303 I/C (Waaga Way) - New Ramp**

This project will construct a direct connection between northbound SR 3 and eastbound SR 303. Currently northbound traffic must exit SR 3 onto the local roadway system before entering SR 303 going east, causing traffic backups. It may be necessary to delay the contract advertisement date to give WSDOT time to ensure that related Kitsap County roadway improvements are compatible with WSDOT's design. Also, the environmental documentation needs to be reviewed to determine if revisions are required. After the failure of R-51, the county and WSDOT dissolved the formal partnership and now need to coordinate

design details. WSDOT will provide updated information in the next quarterly report. There is no estimated impact to the overall project cost.

#### **US 395 - North Spokane Corridor - 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 US 2 and Wandermere. This is a multi-phased project with future contracts. Right-of-way acquisition delays have been experienced due to the statutory imposed condemnation and relocation process involving two different privately owned properties. The project will be ready to advertise as soon as the right-of-way is obtained. "Possession and use" of one of the properties was obtained on August 1, 2003. The Eastern Region is taking every reasonable step to continue to take the process forward but success is not ensured. We anticipate no impact to the overall project cost from this delay.

#### **I-90 - Two-Way Transit & HOV**

This project will make travel times between downtown Seattle and Bellevue more reliable for buses, carpools, and vanpools. Based on the project steering committee's identification in July 2003 of R8A as the preferred alternative, this project will add HOV lanes to the outer roadways between Seattle and Bellevue. Sound Transit is the lead for the environmental impact assessment process. Issuance of the draft Environmental Impact Statement in April 2003 was delayed six months and will be followed by issuance of the final EIS in March 2004. Final design will be completed October 2005 with an ad date that month. This project is currently funded by Sound Transit, the FHWA and WSDOT and is dependent on RTID and other sources of funding for construction.

#### **SR 99/ S. 284th St. To S. 272nd St. - HOV Lanes**

This project will reduce congestion and enhance safety by adding HOV lanes in both directions, upgrading bus zones, improving pedestrian safety and accessibility, and giving signal preemption capability to transit buses at traffic signals. In July, 2003, WSDOT determined that the existing right of way plans are inadequate and it is necessary to produce a new record of survey to correctly reflect property ownership. The current ad date of December 2005 and the total project cost will not be effected. However, the expenditure of \$1.1 million of the right of way funding may shift from 03-05 to 05-07 to accommodate the additional time for the new record of survey.

# Program Management Information

This section discusses topics in the overall management of the 2003 Transportation Funding Package. As widely reported, the program involves approximately 100 separate roadway and ferry projects and additional projects in various transportation modes, in which Washington State expects to make an investment of over \$4.1 billion over ten years. Citizens have insisted and the Legislature has instructed that delivery of projects on-time and on-budget is a paramount expectation for the program. The issues, which should be reported on in that connection, extend beyond specific projects to the general challenges that must be met for the program to succeed. This section is a first step in that reporting. Topics will be added and refined as the program moves ahead.

This section treats the following topics:

## ***Management Information Systems and Needs***

### ***Right of Way Acquisition***

### ***Utilities Relocation***

### ***Environmental Documentation and Review, Permitting and Compliance***

### ***Construction Employment Information***

### ***Construction Safety Information***

### ***Consultant Utilization***

## ***Management Information Systems and Needs***

A key lesson learned from WSDOT's nationwide assessment of project delivery information systems was that successful transportation programs were supported by integrated and comprehensive management information systems, developed and implemented within current technology standards. Currently, WSDOT's systems, pieced together over a period of more than twenty years to meet various management requirements, fall far short of delivering what is necessary to support today's higher level of management oversight and accountability reporting. Meeting the needs of management, the Legislature, and the public will be difficult at best and will require numerous reconfigurations of existing systems in the short term.

The lack of an integrated project and program delivery system based on current technology presents significant challenges. WSDOT managers are required to access project financial plans, expenditure plans, actual expenditure levels, project milestones, and project work load estimates from several different management systems (examples highlighted below). Reporting from the various systems, while partially automated, requires a significant degree of manual intervention and the use of supplemental support systems (databases, spreadsheets, etc.) in order to provide meaningful and actionable management information while providing information that is easily understood by the Legislature and the public.

The 2003 Legislature supported WSDOT's request for a systems modernization assessment study. This eventually will result in the development of a plan to replace our current disparate and inefficient management information systems. Developing the long-term plan is a key initiative for 03-05, but there are pressing short-term investment needs that are required to shore up the existing systems to ensure improved project and program management. Key short-term initiatives include:

- Identifying mission critical system "fixes" including staff training to eliminate procedural inconsistencies, connect or interface systems and implement application changes or enhancements where reasonable and cost efficient.
- Developing and implementing technology solutions that provide for an efficient use of legacy or old system data collection capabilities and new data storage and reporting technologies.
- Integration of web based technologies to support enhanced communication opportunities with all WSDOT constituencies.
- Replace aging IT equipment to ensure a reliable technology infrastructure to support the increasing demands on management information and communication systems.

## **Management Information Systems for Project Delivery and Accountability**

**Project Delivery Information System (PDIS)** – Project level highway construction resource scheduling system to support detailed project control and accountability.

**Capital Program Management System (CPMS)** – Statewide system support for program level project development, monitoring, managing, and delivery of the overall capital highway construction program including project costs by source of funds, project cash flow, and planned versus actual costs.

**Transportation Reporting and Accounting Information System (TRAINS)** – Statewide accounting system for all WSDOT revenues, expenditures, receipts, disbursements, resources, and obligations.

**Financial Information Retrieval System (FIRS)** – Financial reporting tool, which provides access to summarized accounting, spending plan, and work order information.

**Construction Contracts Information System (CCIS)** – Statewide system support for collecting, analyzing, and reporting construction contract details, e.g. start and end dates, percentage-of-completion, fair hiring practices, fair wage rates, percent of work sublet, etc.

Although each system by itself may be reasonably meeting its focused and singular objective, the challenge of developing a more integrated and comprehensive project management and reporting system is complicated by a number of factors.

These systems were developed independently over an extended length of time with no clear overall integration strategy. The reporting of meaningful information is complicated because data resides on different system development platforms, which leads to data inaccessibility and inconsistency issues. Management information must be accurate, consistent, and timely to ensure confidence in WSDOT's ability to deliver its construction program.

## ***Right of Way Acquisition***

With the accelerated pace of the highway construction projects in the 2003 package, WSDOT faces major hurdles in achieving timely and cost-effective right of way acquisition.

The right of way acquisition process is rigidly prescribed by both federal laws and regulations under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 [Title 23 US Code, Title 42 US Code, 49 CFR 24, and 23 CFR 710] and state eminent domain law (RCW Chapter 8.04, Chapter 8.25, Chapter 8.26, and Chapter 8.28). The steps and procedures written into law to protect the rights of property owners are prescriptive and time-consuming. Little opportunity is afforded for flexibility or for streamlining of the procedures.

This issue is made more difficult because the long dry spell in activity for many of the projects to be funded from the 2003 Funding Package has meant that the process must start from standstill in many cases. WSDOT has taken several steps to enhance the right of way acquisition process. This includes the recruitment of an Urban Corridors Real Estate Services Manager to support project delivery; the development of a statewide right of way projects list in order to target assistance to regional offices to meet project advertisement dates; using the ability to make protective purchases of property slated for development to reduce project costs (SR 167); initiating the inclusion of early right of way money in Urban Corridors projects; and relocating the Statewide Utility Engineer to the headquarters real estate office to more closely tie acquisition with the clearing of utilities.

Statewide, WSDOT has approximately 125 people working in the real estate services area, with about 90 percent involved directly in the right of way acquisition process. The remainder provide assistance to local agencies and perform property management duties. This work force must be augmented to deal with right of way work peaking issues resulting from the 2003 Funding Package. WSDOT is preparing to issue on August 28, 2003 a request for proposals from private firms that specialize in real estate services. Proposals are due in late September 2003 with the first consultant contracts to be negotiated and entered into by the end of November. Shortly thereafter these private sector resources will be available to work on selected projects. This will augment, not displace, the efforts of existing WSDOT staff.

## ***Utilities Relocation***

The large volume of construction work on the highway projects in the funding package will add a significant burden of utilities relocation to the already heavy demands of this work from projects with old law funding.

Utility relocation is, in almost every instance, the responsibility of the utility company, both as to the work and the cost. But planning and coordination requirements must be carefully managed and led by WSDOT to minimize both service disruptions and traffic impacts as much as possible, to say nothing of holding down costs for everyone concerned.

Utility location is also a major issue for the prompt and efficient preparation of construction plans and specifications. WSDOT has access through on-call contracts to subsurface utility engineering providers who provide surface geophysical equipment to assist in locating existing utilities and providing utility information to WSDOT designers. These providers also carry errors and omissions insurance to cover any missed utilities, insulating WSDOT from potential financial liability for utilities found during construction.

The Northwest Region's utilities and right of way engineering staff and their counterparts at Puget Sound Energy (PSE) have developed draft guidelines for a new Northwest Region Guide to Utility Coordination that is currently under review. A Memorandum of Understanding will eventually be developed. Meanwhile, trial implementation of utility relocation milestone procedures has been conducted on the SR 18 and SR 202 projects, resulting in preparation of Utility Relocation Work Plans that were incorporated into contract specifications to facilitate WSDOT contractors' work. These kinds of efforts ought to be able to be moved from trial status to standard operating procedures as experience is gained.

The Olympic Region sent utility companies in the region a letter on June 26, 2003, listing the 2003 Funding Package projects and alerting them of expectations regarding relocation and coordination responsibilities. Project specific meetings have already been held on SR 161 Corridor Improvements, 176th to 204th and SR 161, Corridor Improvements, 204th to 234th. On the SR 16 HOV Improvements, Olympic View Drive to Union Avenue, utility coordination meetings have been going on for some time.

The Eastern Region has met with various utility companies and local agencies to discuss project impacts. The region met with Modern Electric Water Company, Columbia Fiber Company, AVISTA, City of Spokane Valley, and Inland Power and Light between May 8th and August 8th to discuss the I-90 Argonne Road to Sullivan Road project.

The Eastern Region has also met with Kaiser Aluminum, Spokane County Utilities, Qwest, Spokane County Water District 3, BPA, and Burlington Northern Santa Fe between May 13th and August 7th, to discuss US 395 North Spokane Corridor project. Additional relocation work plans will be developed for SR 270 Pullman to Idaho State Line project and the SR 31 Metalline Falls to the Canadian Border project as soon as enough engineering data becomes available.

In the North Central Region, WSDOT met with Chelan County PUD in Wenatchee on July 2, 2003, to discuss the US 97A – Entiat Park Entrance – Turn Lanes project and is working towards a fall 2003 advertisement combining the turning lane project with a paving project (US 97A / Wenatchee North) scheduled in the same vicinity. The PUD is a partner with WSDOT on this project. Other North Central Region projects are scheduled for advertisement in future biennia and utility coordination work will occur, as the planning and design phase progress.

South Central Region has a standard process of early coordination with utilities that meet project delivery needs. Work is progressing on all issues related to utilities, agreements, and easements on the SR 24 project. The region has met with the City of Yakima, Terrace Heights Sewer District, and Old Union Ditch and established a utility plan. Some of the utilities relocation will need to be done six months to a year in advance of the ad date. Work is beginning on the US 12 projects and the Utilities Engineer will be meeting with the designers in the next few days to discuss all pertinent issues related to utilities installations, relocations and agreements on the projects. An Agreements/Utilities Status report for all transportation projects will be created and updated daily.

The Southwest Region has met with several utility companies to coordinate relocation efforts for two upcoming 2003 Transportation Funding projects. Beginning in May, on the SR 500/NE 112th Ave Interchange project, WSDOT met with Clark County PUD, Electric Lightwave Inc., and Comcast to coordinate efforts. Underground crossings, conduit requirements, options for handling overhead wires, and cost distribution between the utilities and WSDOT were discussed with an agreement on underground crossings. On the I-5/Salmon Creek to I-205 widening project, WSDOT has met with Clark County PUD, Comcast, and Qwest on July 9, 2003 to discuss details of upcoming construction work.

## ***Environmental Documentation and Review, Permitting and Compliance***

Environmental processes are an important aspect of project delivery. WSDOT is working with resource agencies to improve the environmental aspects of project delivery while minimizing the time required to document and permit its projects and while taking the steps needed to ensure timely project construction. As such, environmental processing and permitting of the projects is an issue of high interest.

- Quality and completeness of environmental processing is a critical element of good project development. WSDOT is working with FHWA, resource agencies, local governments, and interested citizens to improve environmental processes and ensure that WSDOT's program enjoys broad public support.
- Project schedules and costs can be very vulnerable to unexpected developments, delays, or burdens emerging from the environmental process – making the area an important management focus for successful program management and program delivery.
- Environmental processing requires extensive staff effort not only at WSDOT, but at the permitting and review agencies, putting a premium on good planning and management of this activity.

## **Environmental Documentation and Review**

### ***National Environmental Policy Act***

The 1969 National Environmental Policy Act (NEPA) and 1971 State Environmental Policy Act (SEPA) require the WSDOT to analyze and consider the potential environmental consequences related to the development of transportation projects. Typically, NEPA documents can be used to satisfy the SEPA environmental review requirement.

There are three levels of environmental review under NEPA. They range from the most complex to the relatively simple review, as described below.

- Environmental Impact Statement (EIS) - The most detailed project evaluation conducted when significant environmental impacts may occur.
- Environmental Assessment (EA) - A thorough analysis to determine if significant adverse environmental impacts may occur
- Documented Categorical Exclusion (DCE) and Categorical Exclusion (CE) - An exemption for minor projects. A DCE is essentially the same as a CE, but with additional documentation.

The 2003 Legislature passed legislation providing funding for 45 highway improvement projects to start construction between July 1, 2003 and June 30, 2005. The legislation also provides funding for an additional 50 projects to start construction between 2006 and 2011.

An initial evaluation of projects starting construction by June 30, 2005 has been conducted. The initial evaluation covering 31 projects shows:

- Two Projects will require an EIS
- Seven projects either have recently completed the Environmental Assessment process or are actively developing this environmental documentation.
- 22 projects will require either a Categorical Exclusion or Documented Categorical Exclusion.

The other projects are still being analyzed.

## *Environmental Impact Statement Projects*

**SR 520 Bridge Replacement & HOV Project** – Completes environmental review, designs the floating bridge and approaches and constructs noise walls at the I-5/SR520 interchange. This work completes the first stage of a larger corridor project to replace the floating bridge and make other improvements on SR 520. *The draft EIS is currently in preparation. However, the noise wall construction does not require EIS completion.*

**I-90 Two Way Transit & HOV** – Contributes to a partnership project that will provide reliable two-way transit and HOV operations on I-90 between downtown Seattle and Bellevue (I-405). *The draft EIS is complete on this project and WSDOT is proceeding to the final document.*

**SR 500 New Interchanges and Additional Lanes** – Constructs new interchange on SR 500 at 112<sup>th</sup> Avenue/Gher Road to reduce accidents at the current at-grade intersection at this high accident location. *The Environmental Assessment process was completed on April 16, 2003.*

**SR 240 Tri Cities - Additional Lanes** - Constructs additional lanes on SR 240 between Richland and Kennewick linking Interstate I-182 with the U.S. Department of Energy's Hanford site, the Columbia Center commercial areas and east Kennewick industrial zones. This project will save travel time for auto and vanpool commuters, expand and enhance the pedestrian/bicycle corridor to facilitate alternate modes of transportation. There are currently four lanes. There will be six lanes when this project is completed. *The Environmental Assessment is being processed and is expected to be complete by January 2004.*

**SR 522/Bothell – UW Campus Access** – WSDOT's contribution toward General Administration's project to construct a new interchange on SR 522 to provide direct access to and from the new University of Washington/Cascadia Community College joint campus in Bothell. *The Environmental Assessment process was completed on March 23, 2003.*

**SR 304 – SR 3 to Bremerton Ferry Terminal** – Additional Lanes - Widens the roadway and constructs HOV lanes to reduce congestion. There are currently four lanes. There will be six lanes when completed. *The Environmental Assessment on this project is being processed.*

**SR 31 Metaline Falls to Canadian Border** - Reconstructs SR 31 for all weather operation of legal loads from Metaline Falls to the Canadian border. This will allow for removal of seasonal weight restrictions. *The Environmental Assessment is being processed.*

**SR 99 Shoreline Aurora Avenue** – N Corridor Transit HOV/Lanes - Constructs new transit HOV lanes in each direction to reduce congestion and improve safety. There are currently 5 lanes. There will be 7 lanes when the project is completed. *The Environmental Assessment is being processed.*

**SR 24 – I-82 to Keys Road – Additional Lanes** – Constructs one additional lane in each direction from I-82 to Keys Road, improving the interchange, and constructing a new bridge over the Yakima River, relieving congestion and improving safety. There will be four lanes when this project is completed. *The Environmental Assessment is being processed and is expected to be completed by November 2003.*

More information on NEPA status of other projects will be provided in the next report.

## *Endangered Species Act*

The Endangered Species Act (ESA) requires all projects with federal funds or permits to undergo consultation with the US Fish and Wildlife Service (USFWS) and/or the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). WSDOT must evaluate the effects that a project will have on listed species. Projects with no effect on listed species do not need to undergo consultation. Projects which may affect listed species must undergo either informal consultation or formal consultation. ESA intended informal consultations to be completed in 30 days, and formal consultation are to be completed in 135 days. This effort can be complicated

as it can be difficult in the EIS process to develop a Biological Assessment in sufficient detail so that federal agencies can complete a Biological Opinion.

The relatively new listings of northwest salmon species have strained the resources of the federal fisheries services. NOAA Fisheries and USFWS consistently miss the review periods established in ESA. These agencies are also struggling with new policies and procedures to define potential impacts to salmonids. These issues have lead to unanticipated project delays. WSDOT and FHWA are working with NOAA Fisheries and USFWS to ensure that these agencies have the resources they need to review project applications in a timely manner, to ensure that potential effects from WSDOT's projects are adequately addressed and to work through the policy and procedural issues facing the implementation of ESA

Of the 45 projects going to ad in the 03-05 biennium, 23 have already completed the consultation process. Of the remaining 22, five are currently in the formal consultation process. These include the SR 240/Richland Y to Columbia Center Interchange project, and the SR 24/182 to Keys Road project.

It is unclear at this time if the other 17 projects will require formal or informal consultation under ESA. Further in-depth review of the projects impacts on listed species is required before that determination can be made.

WSDOT has combined efforts of project managers, regional environmental specialists, and the headquarters Environmental Services Offices to develop detailed task descriptions and timelines for ESA consultation and permitting many of the projects. For example:

<b>Program Delivery Tracking Sheet for ESA Section 7 Consultation</b>									
<i>WSDOT Projects, '03 – '05 Biennium</i>									
			<b>NOAA Fisheries</b>		<b>USFWS</b>				
<b>Project Title</b>	<b>SR</b>	<b>Begin BA Prep</b>	<b>BA Submit</b>	<b>Consultation Complete</b>	<b>BA Submit</b>	<b>Consultation Complete</b>	<b>NEPA Type</b>	<b>NEPA Complete</b>	<b>Ad Date</b>
I-90/RYEGRAS SUMMIT TO VANTAGE	090		1/7/99	7/4/99	1/7/99	1/26/99	DCE	5/17/00	6/16/03
I-90/HIGHLINE CANAL TO ELK HEIGHTS	090		11/1/99	8/8/00	11/1/99	8/8/00	DCE	12/13/00	6/30/03
SR 16 HOV IMPROVEMENTS (Union Street to Jackson Avenue)	016	6/1/03	7/1/03	7/1/03	7/1/03	7/1/03	EIS		9/2/03

## Environmental Permitting

For any given project, WSDOT may need to acquire a variety of permits that govern how projects interact with water quality, wetlands, shorelines and wildlife. For example, practically every project will need a permit that controls erosion during construction (Clean Water Act Section 402 NPDES granted by the Department of Ecology). Any project that creates new impervious surface needs to address stormwater run-off (also Clean Water Act Section 402 NPDES from the Department of Ecology). Projects with dredge or fill components will need permits from the Army Corps of Engineers under the Clean Water Act Section 404, and potentially under Section 10 of the Rivers and Harbors Act. Projects with construction in or over water bodies will need a Hydraulic Project Approval (HPA) permit from the Department of Fish and Wildlife.

In anticipation of the volume and complexity of WSDOT's projects, the Department of Ecology and the Department of Fish and Wildlife proposed in June 2003, and WSDOT has agreed, that important permitting activities for several projects be placed in the hands of Multi-Agency Permitting Teams (MAP Teams) to secure the efficiency of physical co-location and data sharing. WSDOT and resource agency staff will work together in the same office to obtain permits for a defined set of projects. The Army Corps of Engineers has agreed to participate on an as-needed basis. US Fish and Wildlife and NOAA Fisheries are interested in the concept but have not committed resources at this time.

The goal set at the June meeting was to have the MAP Team up and running by September 2003. WSDOT's Northwest Region has identified fifteen projects that have the most urgent permit needs. Office space for the team has been procured in the Department of Ecology's Northwest Region office. IT personnel from the three agencies are working together on computer hardware and software needs. WSDOT has named the Team Manager and the Permit Specialist. WDFW will soon name a staff biologist and hydrologist to the team. Ecology is quickly working through their personnel appointments as well. The agencies are currently on track for meeting the September deadline.

Meanwhile, the legislature directed the Transportation Permit Efficiency and Accountability Committee in EHB 6188 to identify 10 projects in the 2003 Funding Package for a special pilot program where WSDOT staff will draft permit terms and conditions for resource agency review. Four of these projects will go to bid in the 03-05 Biennium including:

- SR 24 / I-82 to Keys Rd – Additional Lanes
- I-5 Pierce County Line to Tukwila Phase 4 HOV
- SR 106/Skobob Creek – Fish Passage
- SR 270 Pullman to Idaho St Line – Additional Lanes

The remaining pilot projects include:

- US 101 – Northbound Truck Climbing Lane
- I-405 Master Plan: Phase I (Nickel Projects)
- I-5 from Rush Road to 13th Street
- SR 539 I-5 Access/Improvements: Ten Mile Rd to International Border
- SR 22 / I-82 to McDonald Road
- WSF Project – Edmonds Multi-modal Terminal

This will include a Rail Project to be named at a future date.

The SR24/I82 to Keys Road project in the South Central Region is the first project to use this new process. Regional environmental staff have met with resource agency staff on August 12, 2003 to determine permitting needs and criteria.

### **Compliance Assurance**

As an important part of WSDOT's progress in developing its full scale Environmental Management System (EMS), WSDOT began an agency-wide effort to consolidate information on environmental violations and compliance activities. This statewide effort will supplement prior practice where this information was maintained within regional or program offices with little opportunity to note trends and develop performance measures. These trends and performance measures will facilitate the overall strengthening of the agency's environmental compliance and performance. WSDOT is working with the resource agencies to develop inspection forms to evaluate and document compliance with permit conditions during construction for both WSDOT inspectors and for state resource agency inspectors. In addition, we will conduct an annual evaluation and comparison of non-compliance event data recorded by WSDOT and the resource agencies.

### **Construction Employment Information**

Commencing with the next quarterly report, WSDOT will attempt to report the approximate number of on-site workers (craft workers, office support in the trailers, traffic management, shipyard workers on the ferry projects, etc.) engaged at each quarter in construction projects funded by the 2003 package. This will not include WSDOT

staff assigned to the project, non-site administrative or management employees, or manufacturing employees at suppliers, etc.

## **Construction Safety Information**

Safety at job sites is a matter of protecting people on both sides of the traffic barrier. The first side is the traffic side, where a safe environment must be maintained for roadway users. On the job side of the traffic barrier, the safety of the work force is always a concern. Of course, construction sites are such that traffic safety and worker safety issues are often closely intertwined.

### **Traffic Safety**

Safety of the traveling public is of utmost importance throughout the development of projects. During the initial development phases, project designers consider project concepts and staging to minimize the disruption to the traveling public during construction. This effort considers the use of detours, night work, complete closures, and hours of operations.

After the initial concept is selected, detailed traffic control plans and specifications are developed for the project. After award of the contract the contractor is obligated to evaluate the operation and either adopt the traffic control methodology included in the plans, or submit for approval an alternate means. In addition to these detailed plans, WSDOT requires that its own personnel as well as the contractor's personnel are trained and certified to perform traffic control work.

During construction, the project engineer assigned to the project, will monitor the traffic operation to ensure safety objectives are being met and will make adjustments as needed. Additionally, the region traffic offices serve as independent reviewers to evaluate the traffic control on projects. All observations made are shared with the Project Engineers as well as the contractor.

### **Worker Safety**

The next quarterly project report will provide details of site safety programs and initial steps at ongoing reporting of the site safety statistics for the various projects and program wide.

## **Consultant Utilization**

With the enactment of the 2003 Transportation Funding Program, WSDOT has moved to supplement its workforce with consultant services. A meeting was held with consulting firms on June 25, 2003 to brief them on the kind of work being contracted.

The Northwest Region is soliciting consultants for the following work:

### **I-5-SR 161/SR 18 Triangle Improvements**

Environmental Documentation, Access Decision Report, Design File (\$2.5 million)

### **SR 18-Issaquah Hobart Rd to I-90 Widening**

Environmental Documentation, Design File (\$3.4 million)

### **SR 520-W Lake Sammamish Parkway to SR 202-Add. Lanes**

Environmental Documentation, Design File (\$5 million)

### **SR 522-Snohomish River to US 2 Four Lane Widening**

Environmental Documentation, Design File (\$1.2 million)

### **SR 539-I-5 Access/Improvements: Ten Mile Rd to International Border**

East/West Corridor Study-Access Decision Report (\$1.2 million)

### **Ten Mile Road to SR 546 Widening**

Environmental Documentation, Design File (\$4 million)

The consultants selected for the Northwest Region work may be called upon to complete additional work on these projects such as the preparation of right of way plans and preparation of the plans specifications and estimates needed to advertise for bids.

Olympic Region consultant utilization will include various task assignments such as hydraulic analysis and design, signal design and preparation of plans, specifications and estimates as needed. The SR167 corridor will require consultant effort to augment existing WSDOT staff. That planning effort is still on-going. The Cross-Base highway (SR 704) project is currently being developed assuming the design-build process will be used for delivery.

WSDOT's Urban Corridors Office (UCO) in Seattle has work underway on the following corridor projects:

#### **Alaskan Way Viaduct & Seawall Project**

Environmental Documentation & Preliminary Engineering (\$17 million)

#### **SR 509/ I-5 Freight & Congestion Relief Project**

Design File, Hydraulics Report, Permitting (\$3.3 million)

Right of Way (amount TBD)

#### **I-405 Congestion Relief & Bus Rapid Transit Projects**

General Engineering Consultant, Environmental Documentation, Preliminary Engineering (\$34 million)

#### **SR 520 Bridge Replacement & HOV Project**

Environmental Documentation, Preliminary Engineering (\$9.5 million)

Noise Wall Design & Construction (\$0.3 million)

In 03-05, UCO budgets total \$147 million, of which approximately 70% will go to consultants, including the contracts specified above. UCO will use engineering firms to provide general engineering oversight, specialized expertise, workforce to accelerate project delivery, and workforce to cover workload peaks. Consultants will work on specific tasks or help WSDOT staff for a specified amount of time, working side-by-side with WSDOT staff or other consultants. By early August, more than 30 firms have been selected to help deliver the UCO program. More firms will be selected in the coming months, largely from the following three on-call rosters:

### **Engineering Staffing**

Consultants must have staff with diverse professional expertise in a wide range of engineering disciplines including but not limited to: civil engineering, design, geotechnical, architecture, surveying traffic engineering and construction project administration. In addition WSDOT is seeking support for project management, systems management, schedule development and budgeting.

### **Environmental Services**

The projects will vary widely and will require expertise in a wide range of disciplines and in the preparation of environmental documentation and biological assessments.

### **Public Involvement and Communications**

Projects will vary widely and will require expertise in public involvement planning, communications planning, public information and education efforts, developing creative concepts, communication production techniques, market research, media buying, media relations, and marketing on a regional or statewide basis.

# Financial Information

## 2003 Transportation Funding Package – Paying for the Projects

Attaining the Legislature’s expectation on program delivery from the 2003 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 new 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 of the report begins to address these issues.

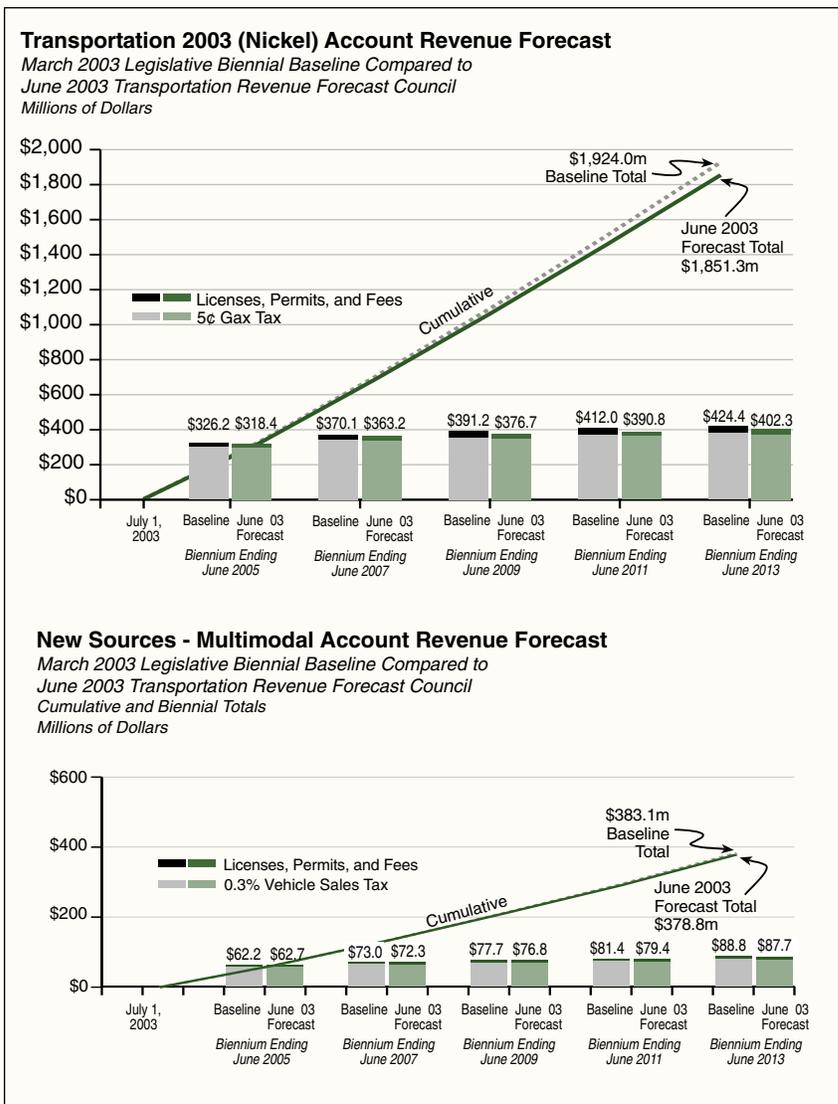
### Revenue Forecasts

The 2003 Transportation Funding Package enacted by the Legislature included tax and fee increases. The gas tax was increased by 5¢ and gross weight fees on trucks were raised by 15%. An additional sales tax on new and used vehicles of 0.3% and a license plate number retention fee were both established. The first two sources will be deposited to a new account established by the Legislature called the Transportation 2003 (Nickel) Account. The latter two will be deposited to the Multimodal Transportation Account that was established several years ago.

The following charts show the current projected revenues over the next ten years as forecasted in June 2003 by the Transportation Revenue Forecast Council for these new funding sources compared to the Legislature’s assumed ‘baseline’ projections used in the budget-making process in March 2003. Cumulative ten-year totals and individual biennial amounts are both shown.

Washington law provides statutory direction (RCW 82.33.010) for the preparation and adoption of economic and revenue forecasts each quarter. The Transportation Revenue Forecast Council is responsible for adopting quarterly revenue forecasts relating to transportation.

Future forecasts comparisons will include actual revenue collection data to date as well as updated projections based on new and revised economic variables. Actual revenue collection 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 2003 forecast will be the first to have the benefit of actual revenue receipt information.



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

The 2003 Transportation Funding Package contained two new bond authorizations: a gas tax authorization of \$2.6 billion and a state general obligation (GO) authorization of \$349.5 million. The proceeds from the new gas tax bonds will be used to fund highway projects.\* The debt service will be paid by the nickel increase in the gas tax. The proceeds from the new state GO bonds will be used to fund rail and certain ferry projects. Debt service for these bonds will be paid from the multimodal account. Receipts from the new 0.3% sales tax on new and used vehicles will be deposited to the multimodal account and will augment rental car tax receipts and other fees already directed to this account.

<b>2003-2005 Bond Sales Plan for New Authorizations Provided in the 2003 Transportation Funding Package</b>							
<i>Debt service for gas tax bonds will be paid by the new Nickel. Debt service for state GO bonds will be paid by the 0.3% sales tax on vehicle sales.</i>							
Bond Authorization	July 22, 2003	January 2004	Fiscal Year 2004 Total	July 2004	January 2005	Fiscal Year 2005 Total	2003-2005 Biennium Total
Gas Tax Bonds SB 6062, Section 1	\$80,000,000	\$50,000,000	\$130,000,000	\$90,000,000	\$60,000,000	\$150,000,000	\$280,000,000
State GO Bonds SB 6062, Section 7	\$0	\$20,000,000	\$20,000,000	\$22,000,000	\$6,000,000	\$27,700,000	\$47,700,000
<b>Total</b>	<b>\$80,000,000</b>	<b>\$70,000,000</b>	<b>\$150,000,000</b>	<b>\$112,000,000</b>	<b>\$66,000,000</b>	<b>\$177,700,000</b>	<b>\$327,700,000</b>
Interest Rate Planned	5.500%						
Actual	4.647%						
<b>Difference</b>	<b>-0.853%</b>						

### 2003-2005 Biennium

For the 03-05 biennium, the Legislature appropriated \$280 million in proceeds from the new gas tax bonds and \$47.7 million from the state GO bonds. Planned bond sales from these authorization are displayed in the table below.

The interest rate assumed for planning purposes on all bond sales this biennium is 5.5%. For the first bond sale, WSDOT requested the State Finance Committee to authorize the sale of \$80 million. On July 22, 2003 the debt was sold at an interest rate of 4.647%, well below the planning assumption of 5.5%. Projected lower debt service because of the lower interest rate helps offset the lower revenue forecast presented earlier. Because this program is still its early stages, little overall significance can be derived from the favorable interest rate at this time. The analysis of financing program results will be expanded over time.

<b>Tracking Finance Expectations Against Program Delivery Results</b>				
<b>Awarded Projects from the New 2003 Transportation Funding Package</b>				
<i>Contract Award Compared to WSDOT Engineer's Estimate</i>				
Project Name	Award Amount	WSDOT Engineer's Estimate	Over (Under) WSDOT Estimate	Margin % Under Estimate
Widen I-5 Each Direction from Salmon Creek to I-205	\$25,920,956	\$26,846,012	(\$925,056)	-3.4%
SR 500 NE New Interchange and Additional Lanes	18,162,104	17,768,104	394,000	2.2%
Truck Climbing Passing Lanes - I-90/Cle Elum to Vantage				
Two contracts: (1) Highline to Elk Heights*	2,816,875	3,324,282	(507,407)	-15.3%
(2) Rye Grass to Vantage	6,709,324	6,896,324	(187,000)	-2.7%
I-90 Build Lanes from Argonne to Sullivan Road	23,915,738	26,385,260	(2,469,522)	-9.4%
I-182 - US 395 I/C - Roadside Safety	55,418	73,130	(17,712)	-24.2%
<b>Totals to Date</b>	<b>\$77,580,415</b>	<b>\$81,293,112</b>	<b>(\$3,712,697)</b>	<b>-4.6%</b>
<small>*See project descriptions on pages 4 and 5</small>				

The financial plan includes revenue forecasts and actuals, capital finance projections and actuals, and of course, anticipated project expenditure cash flows. Project cash flow expectations were outlined at the time the projects were included in the 2003 funding package. The spending schedule will be affected over time due to project delivery adjustments and by actual results. It is too early in the program to produce much more detailed information; however, this table illustrates the type of information to be included in future reports.

\* Ferry capital projects will be largely funded by cash receipts from the 5¢ gas tax increase deposited in the 2003 Transportation (Nickel) account.

It is noteworthy that interest rates on general obligation bonds have risen dramatically in recent weeks. The interest rate of WSDOT's initial bond sale (July 22, 2003) was 4.6%. By July 31, 2003 the Bond Buyer Index had increased to 5.1%.

### 10-Year Plan

As noted earlier, the new bond authorizations from the 2003 Transportation Funding Package included a gas tax authorization of \$2.6 billion and a state GO authorization on \$349.5 million. The table below presents the 2003-2005 bond sale plan, plus an update on how future bonds will likely be sold to support the project expenditures as presented in the financial plan. An interest rate of 6% was assumed for future biennia 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 available for cash funding due to higher debt service requirements.

<b>10-Year Bond Sales Plan for New Authorizations Provided in the 2003 Transportation Funding Package</b>							
Debt service for gas tax bonds will be paid by the new Nickel. Debt service for state GO bonds will be paid by the 0.3% sales tax on vehicle sales.							
Bond Authorization	Authorization as of July 1, 2003	2003-05 Proceeds appropriated in 3-05 budget*	projected bond sales plan to support project expenditures and to maintain positive account balances				Total 10-Year
			2005-07	2007-09	2009-11	2011-13	
Gas Tax Bonds SB 6062, Section 1	\$2,600,000,000	\$280,000,000	\$568,000,000	\$670,000,000	\$643,000,000	\$439,000,000	\$2,600,000,000
State GO Bonds SB 6062, Section 7	\$349,500,000	\$47,700,000	\$43,700,000	\$128,700,000	\$89,600,000	\$39,800,000	\$349,500,000
<b>Total</b>		<b>\$327,700,000</b>	<b>\$611,700,000</b>	<b>\$798,700,000</b>	<b>\$732,600,000</b>	<b>\$478,800,000</b>	<b>\$2,949,500,000</b>

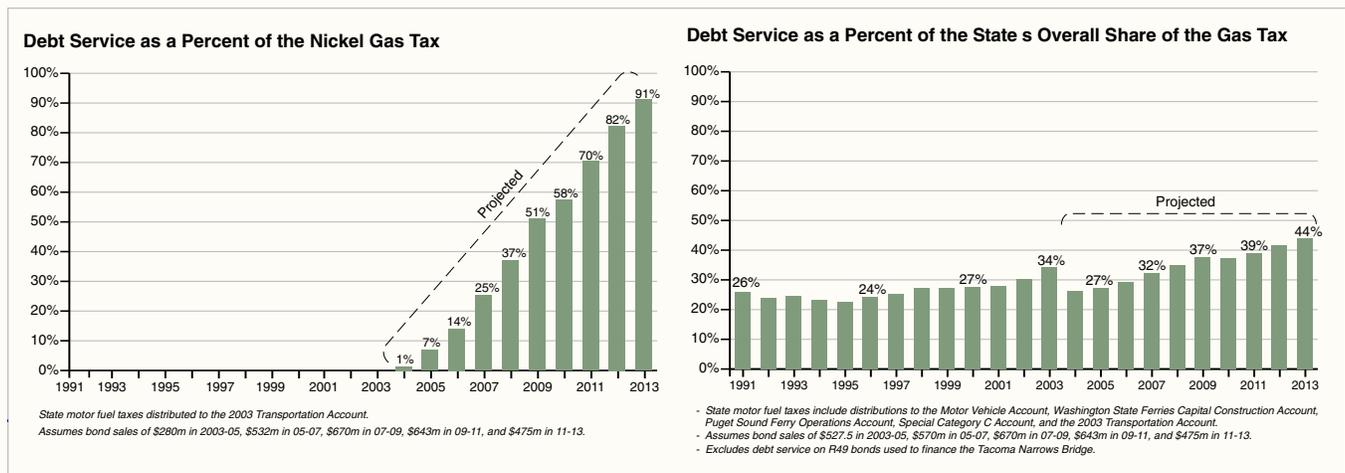
\*ESSHB 1163; Chapter 147, Laws of 2003.

The plan shown above for the out-biennia shows higher bond sales earlier than assumed in the March 2003 plan. With the lower June 2003 revenue forecast prepared by the Transportation Revenue Forecast Council compared to March baseline, bonds will likely need to be sold earlier than anticipated in the legislative financial plan to support the level of program expenditures. The combined affect of the revenue forecasts, bond sales assumptions and project expenditure assumptions is presented in the next section.

### Debt service as a percent of revenue

With the revenue forecast and bond sales assumptions, nearly all of the revenue from the new nickel gas tax increment will be dedicated to paying debt service by the end of the 10-year period. The chart on the left displays the growing percentage over the 10-year period.

By way of comparison, the combined state portion of the gas tax, (12¢) plus the new nickel (total state share of gas tax 17¢), and all associated debt service is displayed in the chart on the right.



## Financial Plans for Accounts Supporting the 2003 Funding Package

### Transportation 2003 (Nickel) Account

As mentioned earlier, a new account was established in the state treasury to be the repository of the new nickel gas tax and the increases in various vehicle licenses, permits and fees. The new account is called the Transportation 2003 (Nickel) Account. Bond proceeds from the new \$2.6 billion authorization will also to be deposited to this account. Uses of the account will 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 new account, the uses of the account are restricted to highway purposes as required by the 18th Amendment to Washington's Constitution. The financial plan below, brings together all of the projected *Sources* (tax revenue, bond proceeds, interest earnings) and *Uses* (2003-2005 appropriations, 10-year projected program expenditures, and debt service) of the 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 plans the ending balances in the outer biennia are affected. A pro forma based on current projections would predict that a shortfall of approximately \$33 million may occur by the end of the 2011-13 biennium. However, key economic variables, tax receipts, and interest rates, all will change over time. Future updates to forecasts as well as inclusion of actual receipts will impact the future fund balances.

	03-05	05-07	07-09	09-11	11-13	Ten-Year Total
<b>Balance Forward from Previous Biennium</b>	\$0.0	\$1.9	\$0.6	\$7.6	\$32.5	
<b>Sources:</b>						
Gas Tax Revenues (new 5¢)	296.6	339.7	351.1	362.9	373.6	1,723.9
Licenses, Permits and Fees Revenues	21.8	23.5	25.6	27.8	28.7	127.4
Bond Proceeds	280.0	568.0	670.0	643.0	439.0	2,600.0
Federal Funds	1.0	9.7	0.0	0.0	0.0	10.7
Local Funds	3.4	2.4	0.9	0.2	3.4	10.3
<b>Total Sources of Funds</b>	<b>\$602.8</b>	<b>\$943.3</b>	<b>\$1,047.6</b>	<b>\$1,033.9</b>	<b>\$844.7</b>	<b>\$4,472.2</b>
<b>Uses:</b>						
Cost of Bond Issuance	0.7	1.3	1.7	1.6	1.2	6.5
Bond Sale Underwriters Discount	2.1	4.0	5.0	4.8	3.6	19.5
Debt Service	20.7	100.2	196.8	264.0	333.0	914.7
Highway Improvements	569.7	794.3	733.8	690.9	461.8	3,250.5
Highway Preservation	2.0	10.3	5.0	20.3	107.0	144.6
Washington State Ferry Construction	5.7	34.5	98.3	27.4	3.9	169.9
<b>Total Uses of Funds</b>	<b>\$600.9</b>	<b>\$944.6</b>	<b>\$1,040.6</b>	<b>\$1,009.0</b>	<b>\$910.5</b>	<b>\$4,505.6</b>
<b>Biennium Ending Balance</b>	<b>\$1.9</b>	<b>\$0.6</b>	<b>\$7.6</b>	<b>\$32.5</b>	<b>(\$33.4)</b>	<b>(\$33.4)</b>

### Multimodal Transportation Account Transportation

The Multimodal Transportation Account was established several years ago as the repository for tax revenues and operating and capital expenditures not restricted by the 18th Amendment. The 2003 Transportation Funding Package directs receipts to this account from the additional 0.3% sales tax on new and used vehicles and the license plate number retention fee. The most significant pre-existing tax deposited to this account is the rental car tax. The 2003 Funding Package also directs bond proceeds from the new \$349.5 million State GO authorization to this account.

Like the Nickel account, changes to projected sources and uses of funds will be updated on a quarterly basis. See the table on the following page.

**Multimodal Account 2003-2005 Budget and Ten-Year Financial Plan**  
(dollars in millions)

	03-05	05-07	07-09	09-11	11-13	Ten-Year Total
<b>Balance Forward from Previous Biennium</b>	\$13.2	\$9.9	\$20.9	\$32.0	\$46.9	
<b>Sources:</b>						
Pro-Rate filing fee	2.2	2.3	2.3	2.4	2.5	11.6
Licenses, Permits Fees Distr	24.6	28.7	30.3	30.2	32.0	145.8
Rental car tax	45.1	49.8	56.1	62.2	68.6	281.9
Sales Tax on New & Used Car Sales	58.8	64.8	68.5	72.9	79.2	344.2
Miscellaneous Income	0.2	0.2	0.2	0.2	0.2	1.0
Bond Proceeds	47.7	43.7	128.7	89.6	39.8	349.4
Federal Revenue	18.3	5.4	5.5	101.6	187.7	318.5
Local Revenue	0.2	0.2	0.2	0.2	0.2	0.8
<b>Total Sources of Funds</b>	<b>\$197.0</b>	<b>\$195.0</b>	<b>\$291.8</b>	<b>\$359.2</b>	<b>\$410.1</b>	<b>\$1,453.2</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	0.3	1.0	0.7	0.3	2.6
Debt service	3.8	10.1	23.7	35.4	45.6	118.6
Transfers to Other Accounts	9.9	4.5	4.5	4.5	4.5	27.9
WSDOT Program Support & Planning	4.4	4.5	4.6	4.7	4.8	22.9
Public Transportation	49.2	52.1	58.4	62.7	66.1	288.5
WSF Maintenance and Operations	5.1	5.3	5.4	5.5	5.6	26.8
Rail	35.1	40.3	41.0	41.8	42.6	200.8
<b>Total WSDOT Operating Uses of Funds</b>	<b>\$107.9</b>	<b>\$117.1</b>	<b>\$138.9</b>	<b>\$155.5</b>	<b>\$169.6</b>	<b>\$689.0</b>
<b>Capital Uses:</b>						
Hwy Preservation POC	5.9	20.0	10.0	0.0	0.0	35.9
WSF Construction W0C	13.3	8.2	60.7	47.3	0.0	129.5
Rail Y0C	44.0	32.7	71.1	141.5	225.0	514.3
Local Programs Z0C	29.2	6.0	0.0	0.0	0.0	35.2
<b>Total Capital Uses of Funds</b>	<b>\$92.5</b>	<b>\$66.9</b>	<b>\$141.9</b>	<b>\$188.7</b>	<b>\$225.0</b>	<b>\$715.0</b>
<b>Biennium Ending Balance</b>	<b>\$9.9</b>	<b>\$20.9</b>	<b>\$32.0</b>	<b>\$46.9</b>	<b>\$62.4</b>	<b>\$62.4</b>

New funding source from the 2003 Legislative Package

New Bond Authorization from the 2003 Legislative Package

Anticipated Federal Funds

Projects funded primarily by New Bonding Authority and Augmented Federal Funds for Rail

## Progress of the Regional Transportation Investment District

Some major projects in the Central Puget Sound Region received preliminary development funding in the 2003 Transportation Funding Package (including the Alaskan Way Viaduct, SR 520 Floating Bridge and HOV lanes, SR 167 in Tacoma, SR 167 Valley Freeway, SR 509, and work beyond the initial projects funded on I-405). In order to be completed these projects rely on further funding from the Regional Transportation Investment District (RTID). The RTID Planning Committee has been working over the last year to develop a funding plan and set of projects for a regional ballot. The current RTID schedule calls for having a draft plan completed in October 2003, a final plan in May 2004, and a public vote in either September or November 2004.

Progress in developing the regional investment plan has been slow, and serious policy disagreements exist. One issue is the level of transit investment in the package, and specifically the inclusion of light rail projects in King County, which are not currently eligible for direct RTID funding. Some argue that a package that does not include a significant transit element cannot get public support in Seattle and consequently would be difficult to pass at the ballot. Another issue is the size of the package itself. The project lists include over \$15 billion for the major projects listed above and others. That level of investment will require a maximum sales tax of 0.5%, additional motor vehicle and regional fuel taxes, and a commitment by the state for about \$5 billion of state-backed bonds. Competition for the sales tax and the uncertainty over state bonding, which needs a 60% approval of the Legislature, has some people questioning whether voter approval of this level of investment is realistic.

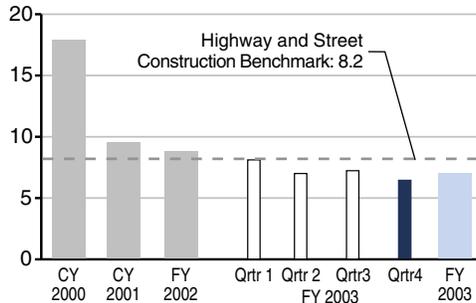


# Worker Safety: Quarterly Update

Continuing updates on *Gray Notebook* safety topics – data is shown for calendar years (CY) 2000 and 2001, fiscal year (FY) 2002, and FY 2003 by quarter and by Year-to-Date (YTD).

## WSDOT Highway Maintenance Workers

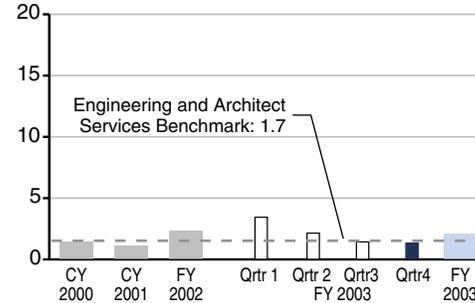
Recordable Injuries per 100 Workers per Fiscal Year



The fourth quarter recordable injury rate for maintenance workers was 6.5 injuries per 100 maintenance workers. There were 24 recordable injuries during the fourth quarter, of which 17 were lost workday cases. This quarter, the five most injured parts of the body in maintenance recordable accidents were the back (19%), finger (11%), knee (8%), ear (7%), and ankle (5%). Knee injuries had the highest average length of time for recovery. In fiscal year 2003 maintenance lowered their annual recordable injury rate for the fourth straight year. Maintenance achieved a 20% reduction in recordable accidents and an 11% reduction in lost workday injuries over the previous year.

## WSDOT Highway Engineer Workers

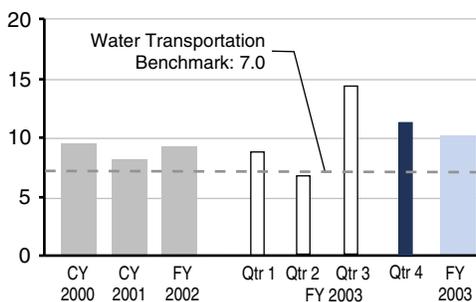
Recordable Injuries per 100 Workers per Fiscal Year



The fourth quarter recordable injury rate for engineering workers was 1.3 recordable injuries per 100 engineer workers. There were seven recordable injuries in the fourth quarter of which three were lost workday cases. In FY 2003 there were 46 recordable injuries for a rate of 2.1 recordable injuries per 100 engineer workers. Twenty-seven of the 46 injuries were lost workday cases. The number of engineering recordable injuries increased in FY 2003 by 11% above FY 2002 but the number of lost workday cases remained the same. The five most injured parts of body for FY 2003 were back (21%), ear (12%), ankle (7%), finger (7%), and leg (7%). The part of body with the highest average length of time for recovery from injury was the back.

## WSDOT Ferry Vessel Workers

Recordable Injuries per 100 Workers per Fiscal Year



There were 28 recordable injuries for Washington State Ferry (WSF) vessel workers during the fourth quarter for a recordable injury rate of 11.2 recordable injuries per 100 vessel workers. In FY 2003, the number of recordable injuries and the number of lost workday cases in the vessel worker category increased 22%. This is the third consecutive annual increase in recordable injuries. The five most frequently injured parts of the body for FY 2003 in vessel workers recordable accidents were back (24%), leg (10%), knee (8%), multiple injuries (8%), and shoulder (7%). The five most common types of injuries were strains/sprains (66%), contusions (15%), aggravation of previous injury (7%), exposure to contaminants (7%), and multiple (2.9%).

Source for all charts: WSDOT Safety Office.

## Accident Prevention Activities

Fourth Quarter FY 2003

- North Central Region introduced a new "Four As of Safety" program to maintenance and Transportation Equipment Fund (TEF) employees. The program addresses attitude, awareness, action, and accountability in accident reduction. The region instituted a safety contest for maintenance and TEF crews to develop the most innovative plan to address the four As of safety in their work group.

### Reading the Charts

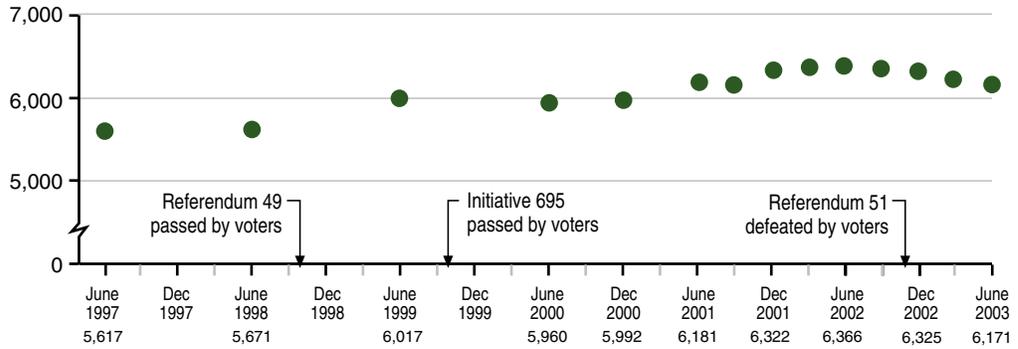
"Recordable Injuries and Illnesses" is a standard measure that includes all work related deaths and work related illnesses and injuries, which result in loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. The U.S. Bureau of Labor Statistics provides the selected 2000 national average benchmarks. After discussion with the National Bureau of Labor Statistics, the following benchmarks were selected to provide a more relevant and consistent benchmark.

Maintenance: "Highway and Street Construction" Standard Industry Classification (SIC) 161 (rate 8.2)  
 Engineering: "Engineering and Architect Services" SIC 871 (rate 1.7)  
 Ferry vessel workers: "Water Transportation" SIC 44 (rate 7.0)  
 One worker equals 2,000 hours per year.

## WSDOT Workforce Levels

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 1996. (The number of "FTEs" [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.)

### Number of Permanent Full-Time Employees at WSDOT



Source: WSDOT Office of Human Resources.

## WSDOT Employee Training Requirements

### Maintenance and Safety Training Required by Law

WSDOT continues progress toward achieving training goals for maintenance employees. A total of 24 safety and maintenance courses are required by law and/or regulation. The chart shows status of training completed for 6 of the 13 required safety courses and 5 of the 10 required maintenance courses.

	Maintenance Workers Requiring Training Jun 03	Total Current Maintenance Workers Trained to Date Mar 03	Maintenance Workers Trained 3rd Quarter FY03	Maintenance Workers Trained 4th Quarter FY03	Compliance to Date: Target = 90%	Change Since Last Quarter
<b>Safety Courses</b>						
Blood Borne Pathogens	1,244	1,038	43	34	83%	0%
First Aid	1,461	1,398	14	27	96%	0%
Hearing Conservation	1,347	1,287	0	60	96%	+6%
Personal Protective Equipment	1,332	672	85	123	50%	+7%
Fall Protection	728	363	13	22	50%	+1%
Flagging & Traffic Control	1,138	1,113	4	13	98%	+1%
<b>Maintenance Courses</b>						
Drug Free Workplace	350	308	45	19	88%	+8%
Forklift	1,191	1,009	12	19	85%	+1%
Hazardous Materials Awareness	970	504	1	50	52%	+7%
Manlift Operations	548	302	11	0	55%	0%
Excavation, Trenching & Shoring	291	167	24	22	57%	+20%

### Training for All WSDOT Employees

The following table reflects continued progress on training that shapes the culture of the department. This edition contains completion information on Security Awareness Training. This training is intended to alert employees to possible hazards to infrastructure or facilities related to actual or potential terrorist activity.

	Number Requiring Training*	Number of Employees Trained to Date Mar 03	Number Trained 3rd Quarter FY03	Number Trained 4th Quarter FY03	Compliance to Date: Target = 90%	Change Since Last Quarter
<b>Training Courses</b>						
Disability Awareness	7,155	2,358	191	172	33%	+2%
Ethical Standards	7,155	6,936	58	77	97%	-1%
Security Awareness - all employees	7,155	5,283	0	5,283	74%	-
Security Awareness - supervisors	2,804	2,533	0	2,533	90%	-
Sexual Harassment/Discrimination	7,155	3,748	560	292	52%	+3%
Valuing Diversity	7,155	2,960	384	229	41%	+2%
Violence that Affects the Workplace	7,155	5,445	20	35	76%	-1%

\*Courses shown are mandatory for all permanent full-time, part-time, and temporary employees.

All permanent full-time, part-time, and temporary employees attend the training listed. Diversity training reported refers to the revised curriculum introduced in April 2003. A majority of the WSDOT workforce (63%) completed the previous version prior to introduction of the revised curriculum. The goal is to train 90% of the workforce.

Source: WSDOT Office of Human Resources, Staff Development.

# Highway Construction Program: Quarterly Update

## Meeting WSDOT's Scheduled Advertisement Dates

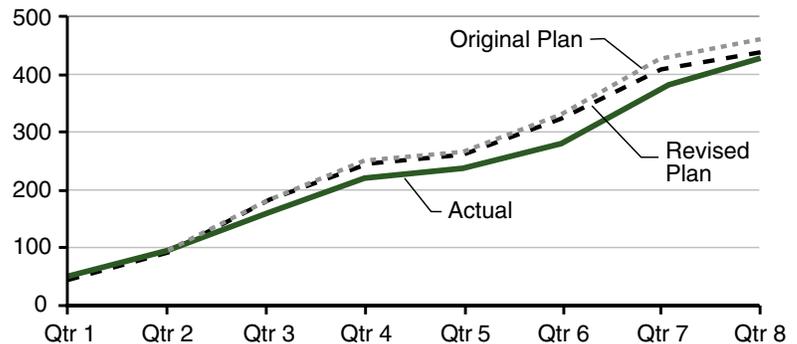
For the 2001-2003 biennium, WSDOT advertised 427 improvement and preservation projects against a revised plan of 438 projects. This represents a delivery rate of 97% for the 2001-2003 biennium. WSDOT's project delivery plan for the 2001-2003 biennium, according to the Capital Improvement and Preservation Program (CIPP), is shown on the adjacent chart. The chart also shows a revision to the original planned line of 463 scheduled project advertisements. This is the result of the \$76 million Current Law Budget reduction to the CIPP, from the 2002 Supplemental Budget.

The delivery rate for planned advertisement dates increased from 92% to 97% this quarter, although 16 projects were not advertised as planned. The project deferrals can be attributed to the following factors:

- WSDOT Maintenance completed one project:
  - SR 155, Columbia River Bridge 155/101** near Grand Coulee. The project was to repair cracked welds on the bridge structure.
- One project was deferred as the result of the Current Law Budget reduction:
  - I-90 East Vantage Interchange Ramps** consists of improvements to the ramp geometrics. The project was deferred for 18 months into the 03-05 biennium.
- Project deferrals were caused by insufficient time for design work and delayed scoping during preliminary engineering. This accounted for seven of the deferrals this quarter. Two examples:
  - SR 302, Victor Slide** project, near Allyn, repairs an unstable slope. The roadway has been temporarily repaired and monitoring instruments have been installed. A heavy rainfall event must occur to monitor movement and determine if the temporary solutions are adequate. As a result, the project has been delayed for 16 months.
  - SR 520 to Sahalee Way**, near Redmond, consists of 2.3 miles of roadway widening and channelization. Discovery of, and concern for reactivating, an ancient landslide required a re-design, delaying the project ten months.
- Project deferrals as a result of coordination with partner agencies. This accounted for four of the deferrals this quarter. Two examples:
  - SR 99 Pavement** project, in Kent, consists of 1.25 miles of asphalt paving. The project was delayed two years to match the City of Kent's construction schedule.

## Highway Construction Program Delivery

*Planned vs. Actual Number of Projects Advertised  
2001-2003 Biennium, Quarter 8 Ending June 30, 2003*



Source: WSDOT Program Management Office.

**SR 2, Money Creek Tunnel Vicinity**, near Skykomish, consists of slope stabilization. Late information delayed a species survey, causing U.S. Forest Service permit delays. Formal consultation with U.S. Fish & Wildlife Service is required. The project was delayed one year.

- Project deferrals as a result of changing project priorities. This accounted for one of the deferrals and two deletions this quarter. Two examples:

**I-90/Lincoln County Line to Salnave Rd. Pavement Project**, in Spokane, consists of ten miles of asphalt overlay with safety improvements. However, the adjacent Salnave to Geiger section of I-90 deteriorated more rapidly than expected, requiring an earlier repair. In order to accommodate the Salnave to Geiger project this section was deferred until November 2004.

**I-90, East Fork Issaquah Creek Vicinity** is a slope stabilization project near Issaquah. Field investigations determined that there has been no recent slope movement. The project was deleted and the area will continue to be monitored.

## Highway Construction Program Cash Flow

Expenditures through the biennium ending June 30, 2003, at 97% of budgeted cash flow, are slightly above the historic range for this program of 92% to 95%. The chart reflects the revised plan due to the budget reduction explained above. The expenditure rate reflects the high delivery rate of projects to advertisement in the highway improvement program. As the end of biennium billings are processed, final expenditures are expected to remain at this level. This expenditure rate continues to reflect:

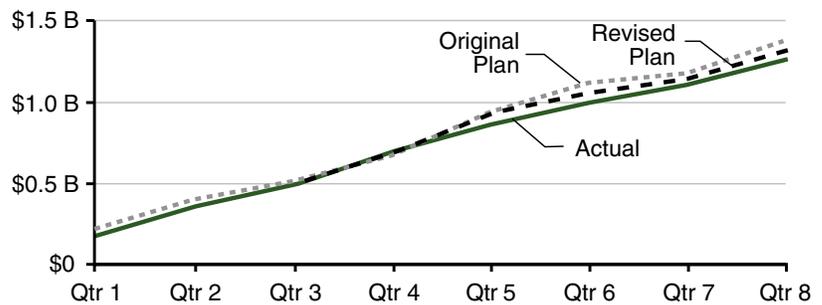
- A highway construction program that included a large number of new construction starts in spring 2001. While these projects were actually started in the last quarter of the 1999-2001 biennium, this work drove expenditure levels in the 2001-2003 biennium.
- The department's emphasis on getting projects to advertisement. This has been an important management focus and has been reported throughout the biennium in the quarterly *Gray Notebooks*.
- Activity in the regions, often with direct encouragement and support of customer communities, in moving projects to ad, given the prospects for project deferrals or cancellation in a period of expected budgetary stringency.
- Favorable construction weather, encouraging contractors to speed their work.

## Highway Construction Program Cash Flow

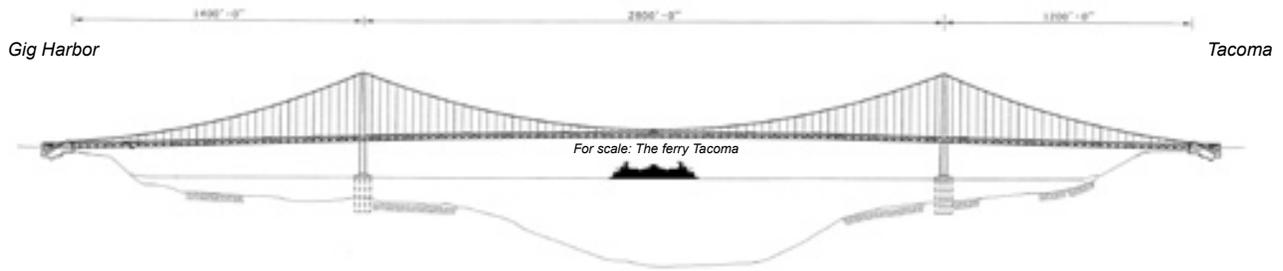
*Planned vs. Actual Expenditures*

*2001-2003 Biennium, Quarter 8 Ending June 30, 2003*

*Dollars in Billions*



Source: WSDOT Program Management Office.



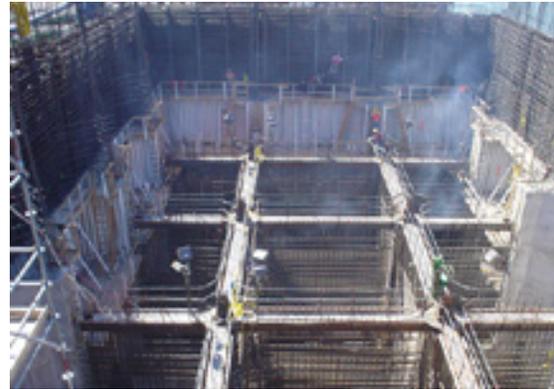
## Tacoma Narrows Bridge Project Update

As of June 30, 2003, design/builder Tacoma Narrows Constructors (TNC) had completed 13.8% of the new State Route 16 Tacoma Narrows Bridge. Construction was about a week behind schedule but on budget. After the two completed cutting edges were towed from the Todd Pacific Shipyard in Seattle to the Port of Tacoma, they were outfitted with 60-foot-high steel “skins” and temporary interior shoring so crews could build concrete walls reinforced with steel rebar. The Tacoma caisson was towed to the Narrows Bridge site on July 21; the second (Gig Harbor) caisson will be towed to the bridge site in late August. Once at the bridge site, crews continue the “top-down” construction of the caissons by pouring layers of reinforced concrete. Slowly, both caissons will reach and then become embedded in the Narrows seabed. At that point, crews can start building the towers above water. In preparation for the caisson float-outs, crews have installed riprap (large rocks) on the Narrows seabed where the caissons will sit, and installed anchors and anchor cables to hold the caissons in place while they are constructed.

Roadwork is proceeding concurrently at a rapid pace. Crews have installed all the bridge girders for the 24th Street NW overpass west of the bridge. They continue to build two ramps at the overpass, and to improve 36th Street NW and 22nd Avenue NW, which will ultimately become the new access to eastbound SR 16. Crews also continue work to relocate utilities,



24th Street Bridge girders in place are shown in this recent photo.

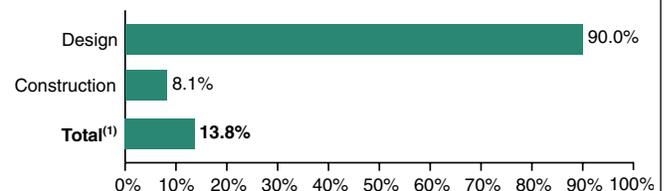


This photo shows the caisson concrete wall construction 70' feet high from the bottom and was completed at the end of June. This caisson will be the first one that was towed from the Port of Tacoma to the bridge site on July 21st.

grade, realign local roads, widen and improve intersections, create bicycle facilities, and widen SR 16 to accommodate future HOV lanes. Concurrent design work also continues.

For more information, visit [www.tacomannarrowsbridge.com](http://www.tacomannarrowsbridge.com).

### Project Progress to Date Percent Complete



<sup>(1)</sup>Weighted 7% Design progress and 93% Construction progress.

The percent completion is arrived at through an assignment of budgeted hours to the design and construction with both being weighted. The weighting is distributed as follows: Design contributes 7% toward the physical completion of the project whereas construction contributes 93%. Once the percent of progress is determined based on the budgeted hours, the weight is then applied for a percent of completion.

# Construction Contracts Annual Update: July 1, 2002 through June 30, 2003

A summary of the last 12 months of construction projects in relation to cost expectations.

## Awarded Contracts

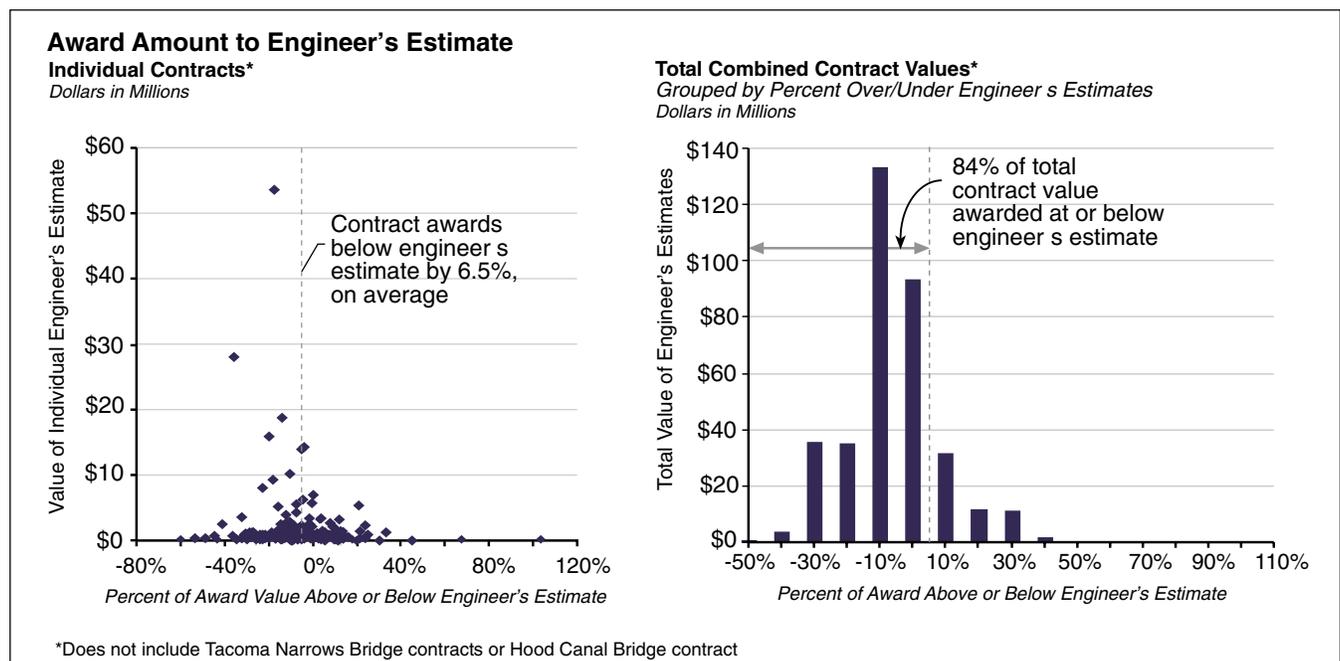
WSDOT awarded 176 highway construction contracts in this 12-month period.

### Award Amount to Engineer's Estimate

The Engineer's Estimate is WSDOT's estimate at the time of advertisement for work to be done by the contractor. Award Amount is the lowest responsive bid.

The total award amount of the contracts awarded during the 12-month period was \$314,534,831. The total engineer's estimate for these projects was \$355,420,644.

*The statistics on this page do not include the Tacoma Narrows Bridge contracts or the Hood Canal Bridge contract. The Tacoma Narrows Bridge contracts included a final negotiated price while the Hood Canal Bridge contract size was far beyond the typical WSDOT contract.*



### Year-to-year comparison

	FY 2002	FY 2003
Number of highway construction contracts awarded during the fiscal year	177	176
Total award amount for highway construction projects during the fiscal year	\$250,561,516	\$314,534,831
Total engineer's estimate for highway construction projects during the fiscal year	\$277,091,361	\$355,420,644
Average percent that individual awards were below the engineer's estimate	7.5%	6.5%
Number of highway construction contracts awarded within the engineer's estimate	129	123
Percent of highway construction contracts awarded within the engineer's estimate	72.9%	69.9%
Percent of total contract dollar value awarded at or below the engineer's estimate	71.0%	84.0%

Source: WSDOT Construction Office.



SR 519 – Toward Seattle Skyline



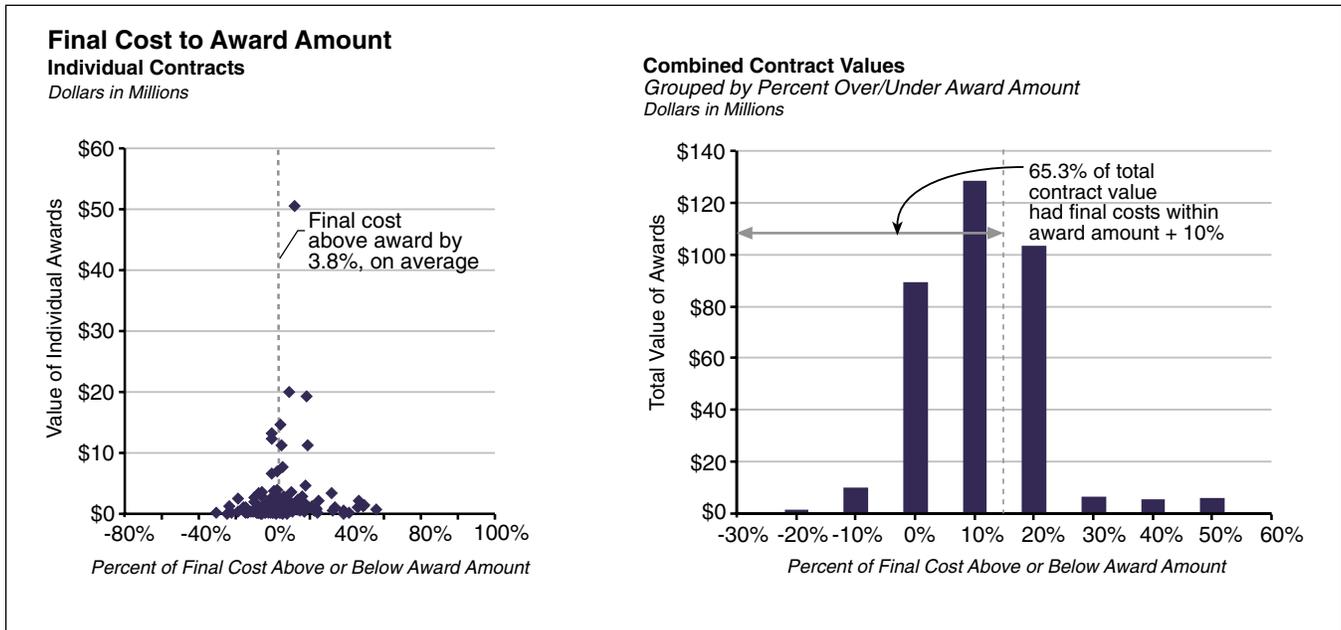
Spokane River – Trent Avenue Bridge

## Completed Contracts

WSDOT completed 175 highway construction contracts in this 12-month period.

### Final Cost to Award Amount

The Final Contract Cost is the amount paid to the contractor at the end of construction.



#### Year-to-year comparison

	FY 2002	FY 2003
Number of highway construction contracts completed during the fiscal year	122	175
Total final cost for highway construction contracts completed during the fiscal year	\$213,953,965	\$375,244,919
Total award amount for highway construction contracts completed during the year	\$196,000,000	\$351,525,709
Average percent that individual projects were above the award amount	1.8%	3.8%
Percent that total final costs were above total award amount	9.2%	6.7%
Percent of combined contract value with final cost within award amount + 10%	66.0%	65.3%
Percent of contracts with final cost within award amount + 10%	80.3%	78.3%

Source: WSDOT Construction Office.

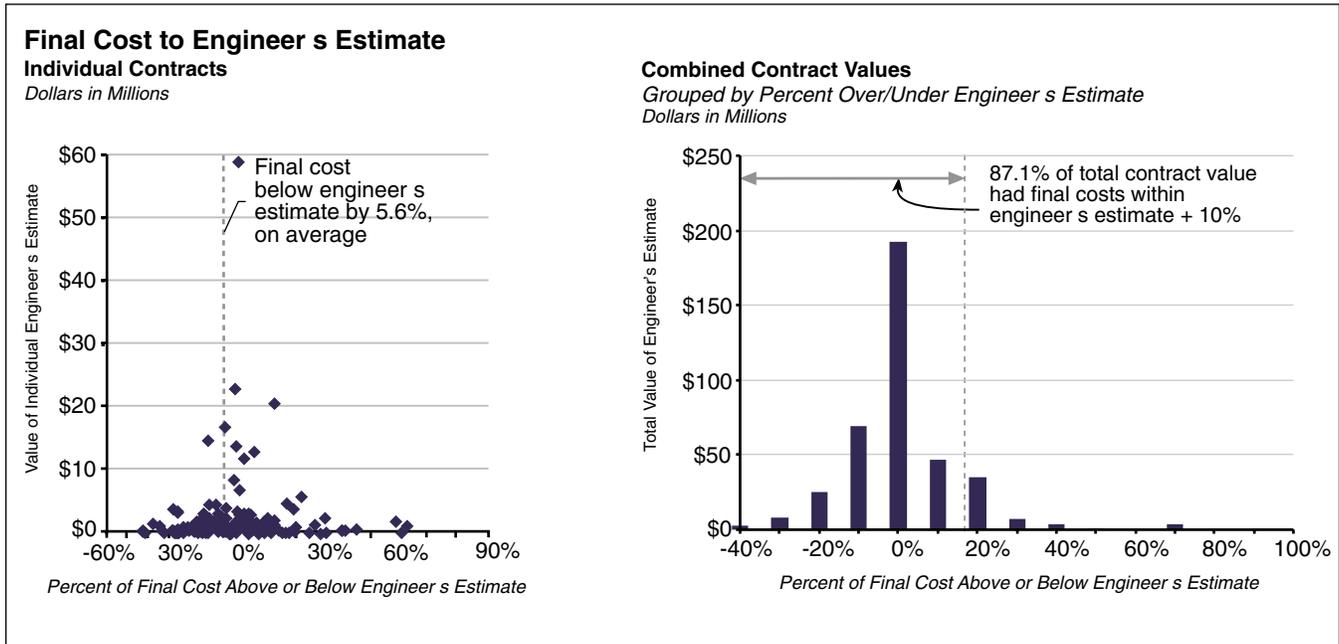
An analysis for all projects in which the final cost is greater than 15% over or under the initial award amount was performed. Some of the more notable reasons for overruns:

- Increased traffic control to meet the demands of the traveling public.
- Additional asphalt concrete pavement quantities.
- Some projects include items that cannot be fully estimated until after the project has begun. For example, the condition of a bridge deck underneath an overlay, rock scaling projects, unsuitable excavation quantities, or the amount of erosion control which will be required during a project are some of the items that vary depending on a number of conditions.
- Mechanical and electrical rehabilitation projects are also difficult to firmly define solutions for in advance.
- Meeting a third party's needs may require additional work on the contract. For example:  
On the SR 509 project, WSDOT added two large pipe arches to accommodate the Port of Tacoma's need to drive semi trailers underneath the roadway. This work was required to be done in conjunction with the construction and the added cost was paid for by the Port of Tacoma, but is reflected in the final cost.
- Third party delays, utilities, adjacent projects.

# Completed Contracts

Continued

## Final Cost to Engineer's Estimate



### Year-to-year comparison

	FY 2002	FY 2003
Total final cost for highway construction contracts completed during the fiscal year	\$213,953,965	\$375,244,919
Total engineer's estimate for all completed contracts	\$215,000,000	\$393,078,777
Average percent that individual contracts were below the engineer's estimate	4.7%	5.6%
Percent that total final contract cost were below the total engineer's estimate	0.5%	4.5%
Percent of total value of all contracts with final cost within the engineer's estimate + 10%	75.7%	87.1%
Percent of contracts with final cost within the engineer's estimate +10%	81.1%	86.3%



Asphalt Paving Operation – SR 2, Rocklyn Road to Davenport



Portland Cement Concrete Pavement (PCCP) Paving Operation – SR 16 in Tacoma, Washington

# Highway Safety Construction Projects

## Quarterly Update

The highway safety projects on this page are a portion of the construction projects described on [page three](#). Of the 63 safety improvement projects originally planned to be advertised by the end of the 2001-2003 biennium, nine projects were removed due to Supplemental Budget reductions, for a revised plan of 54 project advertisements.

Through the end of the biennium, 41 projects were advertised. In the revised 8th quarter plan, six projects were scheduled for ad. Eight projects went to ad during that period: one originally scheduled project, five previously delayed projects, and two additions.

From the revised plan of six scheduled projects in the 8th quarter, four were deferred and one was deleted:

- Three projects were deferred due to design, scoping, right-of-way, or environmental issues. The first two projects listed below are being developed jointly with one another.

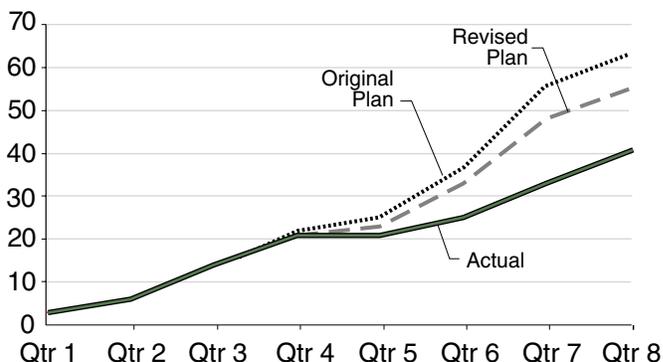
**SR 9, Schloman Road Vicinity to 256th Street E Vicinity, north of Arlington.** This project will widen SR 9 to 12-foot lanes and 4-foot shoulders, straighten two curves, and flatten the roadside. The original plan identified limited improvements at various locations within the project limits. However, the decision was made to realign the highway for a more comprehensive safety solution. This generated a need to acquire 45 parcels of land and satisfy all federal regulations. As a result, the ad date is delayed 42 months.

**SR 9, 252nd St NE Vicinity, north of Arlington.** This project will add left turn lanes at the intersection, along with illumination, guardrail, culvert replacement, and relocation of utility poles. It was combined with the project listed above to coordinate safety improvements to the highway. The ad date is likewise delayed 42 months.

**SR 20, Libby Rd Vicinity to Sidney Street Vicinity, north of Coupeville.** This project will straighten curves to increase sight distance, improve three intersections, remove roadside hazards, and control access. Several things contributed to the delay: an inadequate existing right-of-way plan, delay of a required historical/archaeological survey, federal environmental requirements when the project switched to federal funds due to a shortage of state funds, negotiations with the National Park Service to mitigate impacts to a recreational site and a wildlife refuge, the requirement to evaluate three design alternatives, and conformance with sole-source aquifer regulations. The ad date is delayed an estimated 35 months.

### Safety Improvement Program Delivery

*Planned vs. Actual Number of Projects Advertised  
2001-2003 Biennium, Quarter 8 Ending June 30, 2003*



- One project was deferred due to funding issues.

**SR 164, 196th Avenue SE Vicinity to 244th Avenue SE in Enumclaw.** This project will flatten shoulders, install guardrail, remove fixed objects from the roadside, and improve the layout of three intersections. At 244th Ave SE, turn lanes will be added, the signal upgraded, and visibility increased. Funding for right-of-way was changed from state to federal, requiring a Biological Assessment before right-of-way activities could begin. The project is delayed 17 months.

- One project was deleted as a result of changing project priorities.

**SR 507, Skookumchuck Bridge to Zenkner Valley Road in Centralia.** The project would have added turn lanes and widened five intersections on SR 507, increased sight distance, reduced access, and replaced the signal at Reynolds Road. Analysis of accident data showed the benefit/cost ratio was too low to justify further work on the project.

Examples of projects that were moved into the 8th quarter:

**SR 2, Fairchild Air Force Base Channelization, west of Spokane.** In response to traffic backups on SR 2 due to heightened security at the military base, this project was added. The work includes a new right-turn lane and traffic signal improvements.

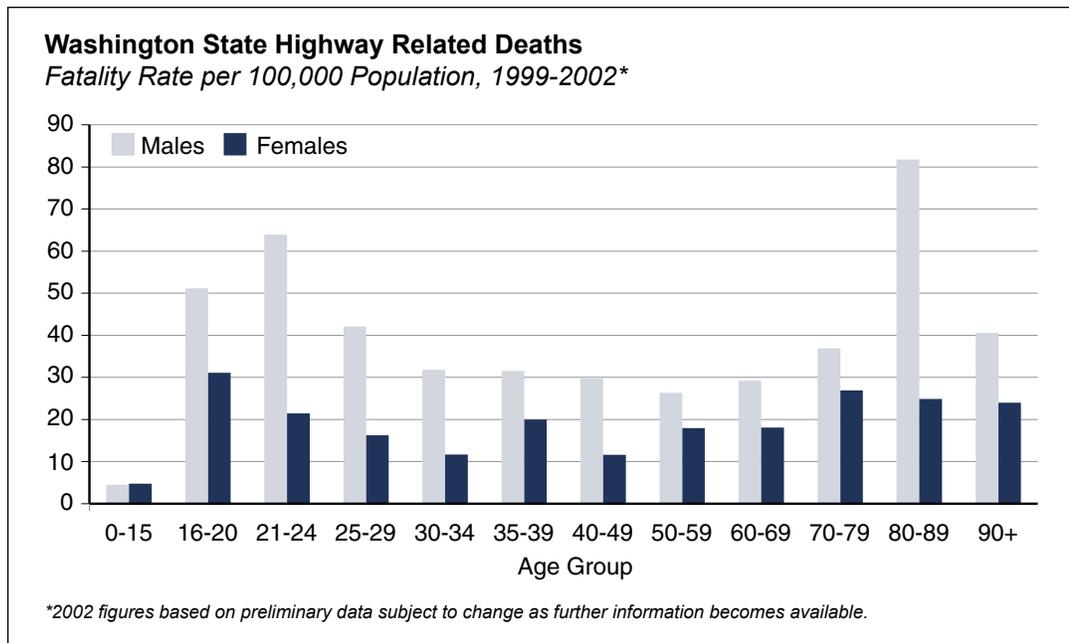
**SR 531, 11th Ave. NE to 16th Dr. NE Vicinity, west of Arlington.** The project increases pedestrian safety by adding curbs, gutters, and sidewalk on the south side of SR 531 in front of Lakewood High School. The project was delayed several months to coordinate with the school district. As a result, right of way donations were given to WSDOT that lowered the project cost significantly.

## WSDOT Addresses Safety Issues Faced by Older Drivers

By 2020, one in five people in the United States will be 65 or older. By the age of 70 or older, many people begin to experience diminished physical capabilities associated with driving, including vision, hearing, and reaction times. Many older people intend to continue to drive, so roadway design engineers and traffic engineers are recognizing and applying many design approaches that, while making roads safer for all, may be especially helpful in enabling safer driving by older drivers.

Some of these design approaches include: (1) adding turning lanes at intersections where drivers must use judgment to determine other vehicles' speed, distance, and the gap between vehicles, (2) use of new, brighter fiber optic traffic signals, reflective lane marking and larger traffic signs that allow drivers additional decision-making time, (3) improvements in overhead lighting that provide greater lighting uniformity, (4) addition of rumble strips in numerous locations throughout the state to alert drivers if they leave the traffic lane, (5) roadway curves that are designed to be comfortable to drive and clear of obstacles that reduce visibility, and (6) new pedestrian improvements, including median refuge areas in mid-block locations and narrowed crossing distances are provided when appropriate.

WSDOT also allows for additional safety factors in its design standards compared to many other transportation agencies. These standards allow for wide lanes, long merges and exits, and visibility at curves and hills.

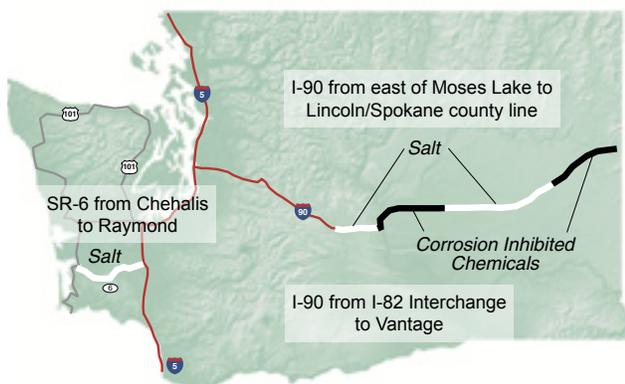


# Highway Maintenance – Snow and Ice Control

## Introduction

As reported in the [September 30, 2002 edition](#) of the *Gray Notebook*, WSDOT conducted a small pilot evaluation this past winter that compared several aspects of using salt for highway snow and ice control to corrosion-inhibited snow and ice control chemicals. Sections of highway were designated where salt products (salt brine and rock salt) were the sole chemicals used. Similar sections of highway were designated where corrosion-inhibited chemicals (corrosion-inhibited liquid calcium chloride, corrosion-inhibited liquid magnesium chloride, and corrosion-inhibited rock salt) were the sole chemicals used. Specific highway sections are noted on the map. The aspects evaluated included costs of program delivery, program results, environmental impacts, and corrosion. This past winter season was very mild, providing less than optimal winter conditions for conducting this field evaluation. Nevertheless, the preliminary results of the limited pilot suggest some intriguing possible results that persuaded the department to extend the pilot for at least another year.

## Salt Test Locations



## Background

Before the late 1980s, WSDOT used rock salt for snow and ice control on highways. In the late 1980s, anti-icing practices (applying anti-freeze chemicals to the roadway to prevent formation of frost or snow/ice on pavement)



Snow removal on SR 20 in the North Cascades.

using corrosion-inhibited liquid chemicals were being increasingly used by road maintenance organizations. These chemicals include magnesium chloride, calcium chloride, and sodium chloride, each in combination with chemical additives that are intended to mitigate corrosion. WSDOT decided to abandon rock salt in favor of these alternative chemicals.

Since the policy change, WSDOT personnel observed continued corrosion on maintenance trucks and heard complaints from road users – raising questions about the relative overall benefits. Most other road maintenance organizations throughout North America continue to rely on rock salt or liquid salt brine to control snow and ice. The adverse affects from salt use in these other states, provinces, cities, and counties has not been great enough to generate a policy change similar to that made by WSDOT. To compare a variety of results between a program using corrosion-inhibited chemicals to a program using rock salt and salt brine, WSDOT selected three test locations where salt brine and rock salt would be the sole snow and ice control chemical used. Comparable sections were also selected where corrosion-inhibited chemicals were the sole snow and ice chemicals used.

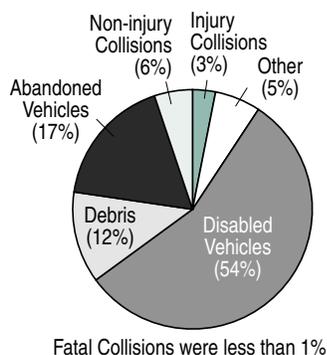
## Preliminary Findings At a Glance

- On the roadway, chemicals did not perform as well as they did in the lab.
- Corrosion results were mixed, depending on pilot project variables such as location and type of metal exposed.
- Corrosion-inhibited chemicals appear to corrode sheet and cast aluminum alloys more than salt. This may help explain why corrosion complaints have persisted even though WSDOT discontinued the use of salt in the late 1980s.
- Maintenance crews were able to keep roadways in equally good condition whether they were using salt or chemicals.
- Costs (labor, materials, and equipment) for snow and ice control were generally less for maintenance crews using salt than for maintenance crews using corrosion-inhibited chemicals.
- Measurements of chlorides in roadside soils and water showed no significant differences between sections using salt and sections using corrosion-inhibited chemicals. Chloride levels found in the roadside environment at all test locations were significantly lower than regulatory thresholds.

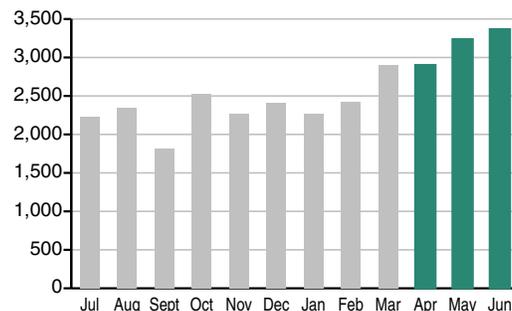
# Incident Response: Quarterly Update

## Program Totals

The Incident Response (IR) Program Totals graph shows the second quarter of 2003 compared to the baseline that began in July 2002, with the rollout of the expanded Incident Response program. The IR Program Totals includes all types of responses and incident durations.

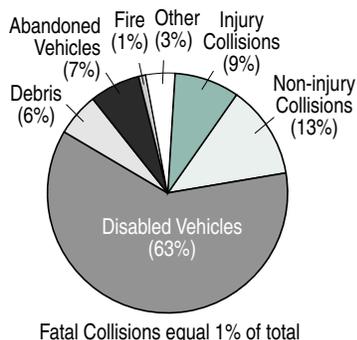


**Total Number of Responses by Month**  
July 2002 to June 2003

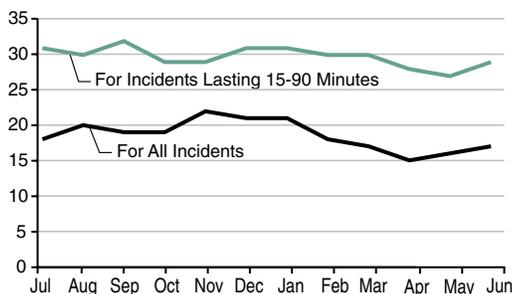


## Incidents Lasting 15 to 90 Minutes

Incidents that last more than 15 minutes typically have multiple responders and/or other jurisdictions (e.g., WSP, Registered Tow Truck Operators, etc.) working together to clear the scene. WSDOT is taking a closer look at incidents that last from 15 to 89 minutes in order to find ways to further reduce the time it takes to clear these incidents.

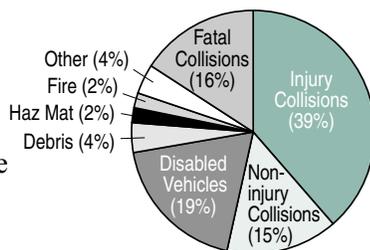


**Average Clearance Time**  
(in Minutes) July 2002 to June 2003

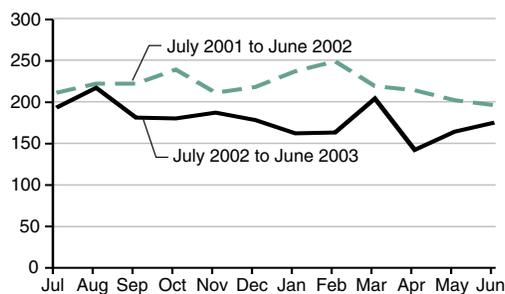


## Clearing Incidents Within 90 Minutes

Incidents that last 90 minutes and longer are considered the most severe. These incidents are being monitored as indicated in the Joint Operations Policy Statement between WSDOT and the WSP to find ways to further reduce the time it takes to clear these incidents.



**Average Clearance Time for Incidents Lasting Over 90 Minutes**  
(in Minutes) 2001 to 2003



## Examples of Incidents Over 90 Minutes

Of the 166 incidents that lasted over 90 minutes for the quarter, the following 5 incidents had the longest clearance times.

- May 29** – A vehicle traveling westbound on SR 526 near Airport Rd. in Everett collided with a vehicle traveling eastbound. WSDOT responders provided traffic control for this head-on injury collision. It took 5 hours and 15 minutes to clear the scene.
- June 5** – A vehicle traveling southbound on I-5 near the Bow Hill Rest Area crossed the median and collided with a vehicle traveling northbound. WSDOT responders performed traffic control for this injury collision and cleaned up the resulting debris. It took 5 hours and 30 minutes to clear the scene.
- June 13** – A semi traveling westbound on SR 2 near Cole's Corner in Chelan County crossed the centerline in a curve and collided with a vehicle traveling westbound resulting in a fatality. WSDOT performed traffic control, cleaned up debris and offloaded diesel from the semi. It took 9 hours and 2 minutes to clear the scene.
- June 16** – A semi traveling eastbound on SR 900 rolled onto its side knocking down a power pole and blocking a lane. WSDOT performed traffic control while the truck was removed and for the initial stages of resetting the power pole. It took 7 hours and 20 minutes to clear this non-injury collision scene.
- June 30** – A semi traveling northbound on SR 16 at the I-5 Interchange rolled over, blocking all lanes. Prior to righting the trailer, WSDOT pumped off 5,000 gallons of diesel. Hazardous materials were spilled and the Department of Ecology was on the scene. The company performed their own cleanup. It took 6 hours to clear this injury collision scene.

## Non-Collision Responses

Stopped vehicles on freeways and major highways – in a travel lane or even on a shoulder – distract approaching drivers, delay traffic, cause back-ups, and pose safety hazards for approaching traffic and for the occupants of the stopped vehicles. Problems on the roadway that lead to stopped vehicles range from major pile-ups to minor stalls. Incident response is a continual task that WSDOT provides with the Washington State Patrol, local fire departments, and others. Every incident response helps limit delay and increase safety. “Helping drivers, clearing roads,” the motto of incident response, is a cost-effective congestion management strategy – and WSDOT’s routine efforts also free up WSP resources for the enforcement activities uniquely in its mission and competence. WSP has seen a significant reduction in its roadside assistance duties over the past year that it links to the growth in Incident Response. In the words of WSP Chief Ronal W. Serpas, IRT’s success has given WSP “more time to enforce those traffic violations we think have the best chance to reduce collisions and injuries.”

## Service Patrols

Service Patrols include the Washington State Patrol (WSP) Cadets, Regional Tow Truck Operators (RTTO), and Motorist Assist Vans (MAV). The WSP Cadets and the RTTOs patrol the major commute corridors in Seattle and Tacoma. The only MAV under contract patrols the Tacoma-Olympia vicinity.

The overwhelming majority of incidents that are encountered are disabled vehicles, debris, and other non-collision incidents. Service patrols are a very effective method of removing these incidents from the roadway without needing to block traffic and wait for a tow vehicle.

The Service Patrol program responded to a total of 1970 incidents for the quarter.

RTTO Total Responses = 1569

WSP Cadets Total Responses = 351

MAV Total Responses = 50



WSP Cadet Service Patrol assisting the driver of a disabled vehicle on I-5.

## Response Types

April to June 2003

Total Incident Responses = 9,501

- 951 Collisions
- 8,550 Non-Collisions\*

	April	May	June
Fatality Collisions	8	6	16
Injury Collisions	94	102	108
Non-injury Collisions	192	200	227
Disabled Vehicles	1,590	1,798	1,766
Abandoned Vehicles	528	524	607
Debris	331	421	422
Fire	3	8	19
Hazardous Materials	2	4	12
Other	154	174	190

\*Some non-collisions fall into more than one of the above categories.

## Service Actions for Non-Collision Responses

Service Actions Taken for Non-Collision Responses

April to June 2003

	April	May	June
Traffic Control	202	279	263
Provided Fuel	247	235	199
Changed Flat Tire	199	206	211
Minor Repair	97	135	104
Pushed Vehicle	91	101	160
Towed Vehicle	25	23	31
Cleared Debris	299	377	353

# WSDOT's Economic Analysis of Incident Response Program

## Can You Believe a Benefit/Cost Ratio of 20:1?

WSDOT conducted a comparative analysis on a section of I-405 where incident response vehicles were recently deployed. Prior to the deployment of Incident Response on I-405, the Washington State Patrol was called upon to clear disabled vehicles. Incident Response was only called out to provide assistance at major incidents that were anticipated to last one hour or longer.

### I-405 Disabled Vehicle Study

The Washington State Patrol's Computer Aided Dispatch (CAD) system shows that in 2000 on I-405 (before Incident Response vehicles patrolled the corridor), it took an average of 17 minutes to clear a disabled vehicle.

Data from WSDOT's Incident Tracking System (WITS) from 7/1/02 to 9/30/02 (after Incident Response vehicles began patrolling I-405) revealed that it took an average of 10 minutes to clear a disabled vehicle.

Comparing the results shows a 7-minute reduction in delay since Incident Response units began roving the I-405 corridor.

### Comparing "Apples to Apples"

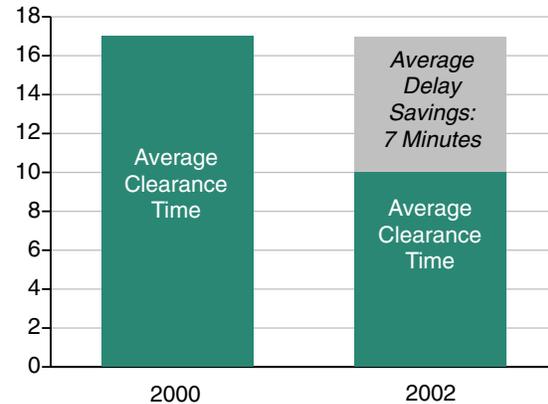
In order for the analysis to have a credible foundation, real data at a location on I-405 that corresponded to the disabled vehicle study was needed. In the same months used for determining the clearance time for disabled vehicles with Incident Response, there were a total of 7 disabled vehicle incidents that blocked a single lane on Northbound I-405 in the vicinity of milepost 13.5. A loop detector was also at that location. (A loop detector is necessary to provide the volume of traffic at any given time. The same loop detectors are also used to calculate travel times.) Highway performance Monitoring Data was also available at that location which was necessary to compute the percent of commercial trucks. In short, all the data used in the analysis was specific to the location and timeframe of the 7 incidents.

### Placing a Dollar Value on Reduced Delay

Based on a documented incident that occurred on I-405 at milepost 13.5, and using WSDOT's standard User Cost Parameters, the savings in dollars for one Disabled Vehicle for fuel and other operating costs is over \$5,800. The savings for cost of time is over \$7,000.

### I-405 Disabled Vehicles

Average Delay Savings with Incident Response in Minutes



On average, WSDOT responds to twice as many disabled vehicles as all other types of incidents combined (from 7/1/02 to 9/30/02, WSDOT responded to over 6,300 incidents. Of those incidents, over 3,700 were disabled vehicles).

### I-405 MP 13.5 Disabled Vehicle Cost Calculations

August 15, 2002 8:26 a.m.

Capacity	6,408 Vehicles per Hour
Volume	5,592 Vehicles per Hour
Percent of Commercial Trucks	6%
Number of Lanes Blocked	1 Lane
Clearance Time	10 Minutes
w/o Incident Response	17 Minutes

#### Fuel & Other Operating Costs

Fuel & Other Operating Costs - Auto	\$3.75 per Hour
Fuel & Other Operating Costs - Truck	\$32.85 per Hour

#### Costs of Time

Costs of Time - Auto	\$6.12 per Hour
Costs of Time - Truck	\$20.22 per Hour

Using the seven disabled vehicle incidents that blocked a single lane on I-405 in the vicinity of MP 13.5 during July 2002 to September 2002, a savings of \$5,800 per incident (when calculating only the fuel and operating costs) translates into a total savings of over \$40,000 to the traveling public. These savings come from the seven-minute reduction in incident-related delay made possible by the deployment of the Incident Response units.

*This is a work in progress. WSDOT welcomes comments on this article and continues to monitor national forums on congestion management strategies.*

# Trucks, Goods, and Freight: Annual Update

## Freight Research and Activities

Freight is getting increased research attention. The Federal Highway Administration released its Freight Analysis Framework earlier this year, which allows for nationwide freight comparisons. WSDOT is in the process of updating the Freight and Goods Transportation System and is funding a Regional Freight Logistics Profile research project. WSDOT is working with Washington State University on a Strategic Freight Transportation Analysis, which is providing commodity and origin-destination information on freight. WSDOT also has a research proposal for performance measures for trucks on the highway. The Freight Mobility Strategic Investment Board (FMSIB) is receiving WSDOT assistance on a GIS project in which live data is collected from Boeing trucks using GPS technology traveling to and from Tacoma to Everett. Direct travel time for trucks is also being explored for areas from Oregon to King County.

## Freight Shipments To, From, and Within Washington and the United States

The shares of freight tonnage moved by different modes in Washington state are about the same as for the country as a whole. However, Washington's extensive network of rivers and ports results in more freight carried by water than the national average. Water borne freight tends to carry raw or bulk materials that have relatively low value. In contrast, air freight is less than one percent of tonnage moved, but carries 12 percent of the value of freight (e.g. high value items like medical supplies and perishable goods). By 2020, in Washington state and the country as a whole, freight volume is expected to nearly double and freight value is expected to triple.



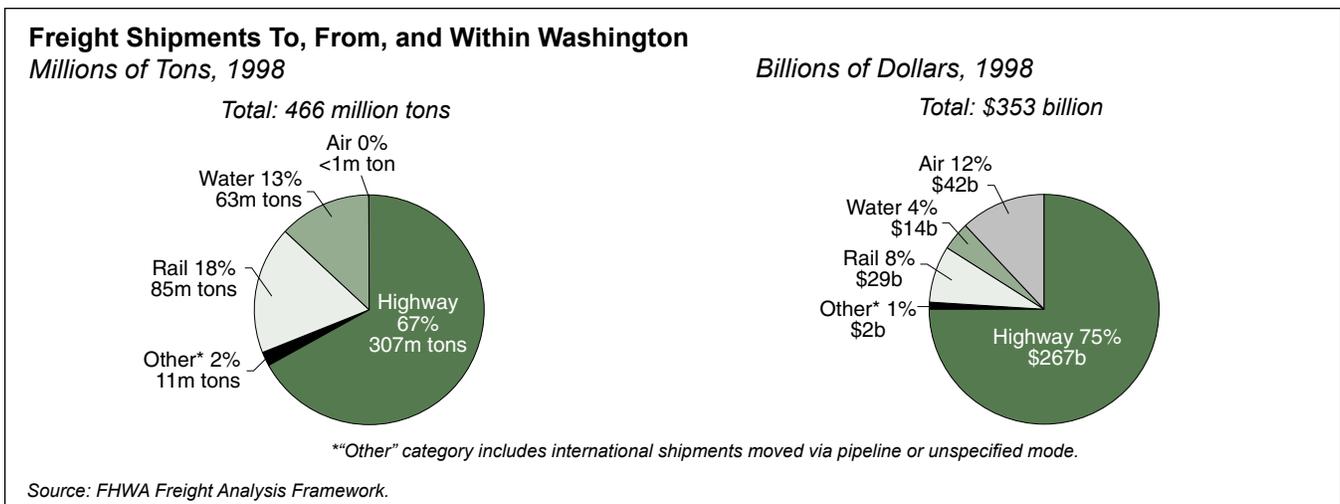
Loading containers onto chassis at the Port of Seattle.

## Typical Truck Sizes by Weight Class



This increase in freight volumes, combined with an expected doubling in overall vehicle volumes will be a challenge for our transportation system.

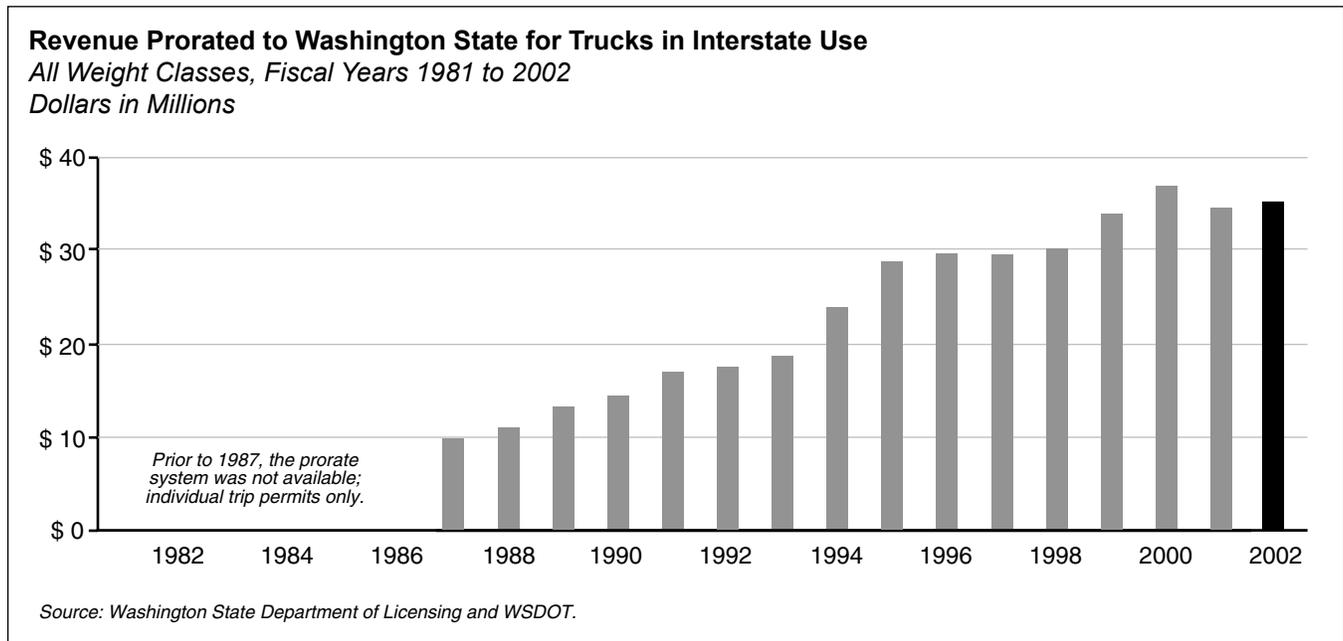
Sources: Washington State Department of Licensing and WSDOT.



## Revenue from Trucks

As a result of the 2003 Transportation Funding Package, gross vehicle weight fees will increase 15 percent for vehicles over 12,000 pounds and will generate an estimated \$118 million in additional transportation revenues over the next ten years.

Additionally, trucks in interstate commerce register and pay state taxes based on weight and travel mileage. See the [June 30, 2002 Gray Notebook, page 12](#), for more information about the following chart.

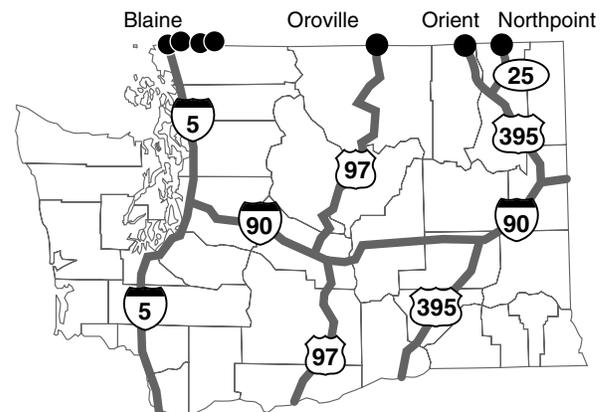


## Washington Freight At Border Crossings

There are 17 border crossings (officially known as ports of entry) in Washington state. Many changes are occurring at these locations as a result of the post 9/11 environment and the creation of the Department of Homeland Security. The federal General Services Administration (GSA) is currently rebuilding six low-volume Washington-Canada border crossing stations to improve security, entry/exit procedures and inspections. The stations are located at the Boundary, Frontier, Metaline, Laurier, Ferry, and Nighthawk ports of entry. New technologies are being developed that will rapidly provide vehicle, driver, and cargo information to Customs agents when a truck crosses the border. These may include identification cards embedded with personal information, fingerprint or iris (eye) scans, transponders on trucks, and electronic seals on cargo containers. The challenge is to minimize the time it takes to cross the border while still maintaining security.

In 1999, the group of crossings near Blaine, Washington, called the Pacific Highway crossing was the busiest truck crossing in Washington state. It was also the fifth busiest in the nation.

## Major Washington Freight Routes and Border Crossings



## Cross Border Truck Volumes

Cross border truck volumes in western Washington have nearly doubled over the past 11 years. In the mid to late 1990s, cross border truck volumes increased approximately 10 percent annually. However, in 2001 there was a 5.5 percent drop in truck volumes to a level comparable to 1998 border crossings. Year 2002 volumes appear to be about at the same level as year 2001.

## Freight at the U.S. 97 Border Crossing at Osoyoos/Oroville

The fourth busiest freight crossing from Washington to Canada is on U.S. 97 at Oroville. (The first three are near Blaine.) Although it carries only a fraction of the truck traffic of the Blaine crossings, U.S. 97 still carries more than 4 million tons of freight every year and is a state designated Strategic Freight Corridor.

A 1999 nationwide study of trucks crossing the U.S./Canadian border suggested that some truck drivers are choosing to use U.S. 97 to avoid congestion and delay experienced at the Blaine crossings. WSDOT's North Central Region and the cities of Oroville and Tonasket are currently undertaking a U.S. 97 Corridor Study to identify the needs of freight and recreational travel on this route.

Source: Truck Freight Crossing the Canada-U.S. Border, 23 September 2002, the Eastern Border Transportation Coalition.

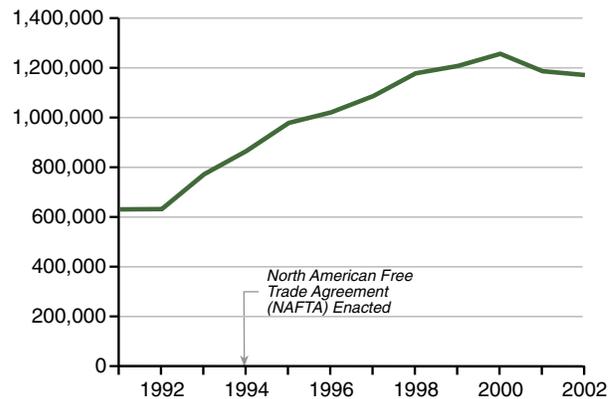
### Osoyoos/Oroville Border Facts\*

- 2,000 trucks cross at the border weekly, in equal numbers north- and southbound.
- 18,000 metric tons of freight cross the border weekly.
- 50% of northbound trucks originate in Washington.
- 90% of northbound goods by tonnage are bound for the Vancouver, B.C. area.

\*1999 Data

Source: Truck Freight Crossing the Canada-U.S. Border, 23 September 2002, the Eastern Border Transportation Coalition.

## Western Washington Cross Border Truck Volumes Northbound and Southbound, 1991-2002



Data Source: U.S. Customs Service and Statistics Canada.  
Compiled by Whatcom Council of Governments.



Border Crossing on U.S. 97 at Oroville

## 2003 Transportation Funding Package – Highway Projects with Freight Benefits

Some highway projects specifically improve conditions for freight, but most often, improved freight mobility is just one part of a project’s overall benefits. The projects listed below are funded by the 2003 Transportation Funding Package and considered to have freight benefits because they are located where there are high volumes of truck traffic, or near a port or international border, or make it easier for large or heavy trucks to maneuver more safely and efficiently.

### 2003-05 Highway Improvement Projects with Freight Benefits

State Route	Project Name
003	SR 3/SR 303 Interchange (Waaga Way) – New Ramp
005	I-5/ 2 <sup>nd</sup> Street Bridge Replacement
005	I-5 NE 175 <sup>th</sup> Street to NE 205 <sup>th</sup> St. Northbound Lane
005	I-5/ Salmon Creek to I-205 General Purpose Lanes
009	SR 9/ Nooksack Road Vicinity to Cherry Street
024	SR 24/ I-82 to Keys Road
031	SR 31/ Metaline Falls to International Border
090	I-90/ Argonne Road to Pines Road Widen
090	I 90/ Pines Road to Sullivan Road Widen
090	I-90/ Cle Elum River Bridge
090	I-90/ Highline Canal to Elk Heights
090	I-90/ Ryegrass Summit to Vantage
395	NSC-Francis Avenue to Farwell Road
522	SR 522/ I-5 to SR 405 Multimodal Project
543	SR 543/ I-5 to International Boundary

#### Highlights of Selected Freight-Benefit Projects

- **I-5 – 2<sup>nd</sup> Street Bridge Replacement in Mount Vernon:** Replace the low-clearance 2<sup>nd</sup> Street Bridge to eliminate a through-city detour now required for over-height trucks. Eliminates the risk of over height trucks hitting the bridge on the busy I-5 mainline.
- **SR 9 Nooksack Road Vicinity to Cherry Street in Whatcom County:** Constructs a new highway alignment from Nooksack Road to Cherry Street to alleviate weather-related load restrictions and reduce the number and severity of accidents; also improves freight mobility across the Canadian Border. There will be two lanes when this project is completed.
- **SR 31 – Metaline Falls to Canadian Border Reconstruction:** Reconstructs SR 31 for all-weather operation of legal loads from Metaline Falls to the Canadian border. This will allow for removal of seasonal weight restrictions for trucks.
- **SR 543 – I-5 to the International Border near Blaine:** Constructs new lanes between Boblett Street and the Canadian border for a separate truck route to address congestion and safety issues on SR 543. Constructs a new interchange at “D” Street. There are currently two lanes. There will be four lanes when this project is completed.

# WSDOT Uses Intelligent Transportation Systems to Assist Washington's Trucking Industry: CVISN/WIM

Since the spring of 1998, a cooperative effort among WSDOT, the Washington State Patrol (WSP), the Department of Licensing, the Washington Trucking Associations, and the Federal Motor Carrier Safety Administration has used Commercial Vehicle Information Systems and Networks (CVISN) and Weigh-In-Motion (WIM) in tandem at weigh stations.



A truck passes under an Automatic Vehicle Identification (AVI) device.

A WIM system imbedded in the roadway about a half-mile before a weigh station weighs each truck passing over it. At the same time, a truck equipped with an Automatic Vehicle Identification (AVI) transponder electronically transmits essential safety rating credentials, weight, size, and other information to the weigh station. The data is instantly checked and if no problems appear, the truck can bypass the station and continue down the highway.

The chart at right shows that transponder use at five CVISN/WIM sites has increased. There are currently seven CVISN/WIM sites in Washington, with plans to have three more sites completed by June 2005. The new sites will be located near Everett on the southbound lanes of I-5, near Kelso on I-5 southbound, and at Plymouth on northbound I-82. WSDOT also partnered with Canadian officials to deploy a CVISN site just north of the U.S./Canadian border at Port Mann, British Columbia. This facility is now checking trucks coming into the U.S.

## Reduced Travel Time and Costs

In Washington, trucks without transponders spend an average of 6.13 minutes at scales for weight verification (inspection can take much longer). According to the American Trucking Association (ATA), the cost for an idling truck is \$1 per minute. In some states, it can take up to 45 minutes for a truck to pass through a weigh station. The table below shows the savings in time and dollars achieved by the use of CVISN and WIM.

### Benefits of CVISN and WIM

July 1, 2002 to June 30, 2003

	Bypass Events	Dollar Savings*	Time Savings
CVISN and WIM	506,801	\$3,106,690	51,778 hours
WIM only	1,544,068	\$9,465,137	157,752 hours
<b>Total</b>	<b>2,050,869</b>	<b>\$12,571,827</b>	<b>209,530 hours</b>

\*Savings calculated based on 6.13 minutes saved per bypass event and a \$1 per minute cost of idling trucks.

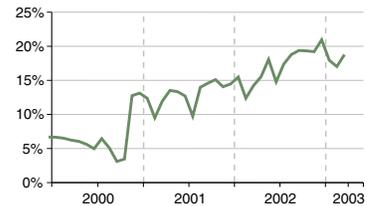
CVISN improves safety and efficiency on the state highway system by reducing the likelihood of trucks blocking travel lanes or creating merging hazards as they enter or leave a weigh station. Eliminating truck idling also reduces environmental impacts, because air quality is improved.

Another benefit is the reduction of fatal truck collisions in Washington, which fell from 62 in 1999 to 46 in 2001 (almost a 26 percent reduction). Truck safety inspections have risen more than 25 percent over the last year. Both statistics can be attributed, in part, to the ability of WSP to concentrate safety efforts on unsafe and illegal carriers, while safe and legal carriers bypass the weigh sites.

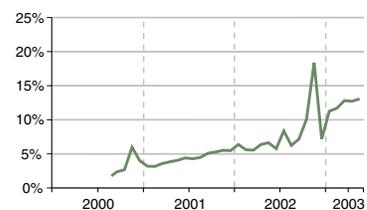
For more information on transponders and weigh station bypass, call 1-888-877-8657 or visit [www.cvisn.wsdot.wa.gov](http://www.cvisn.wsdot.wa.gov).

## Percentage of Trucks with Transponders 2000 to June 2003

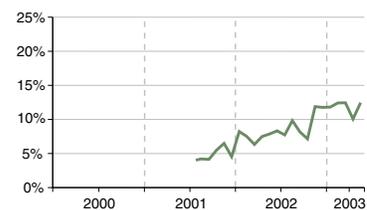
### Ridgefield (I-5)



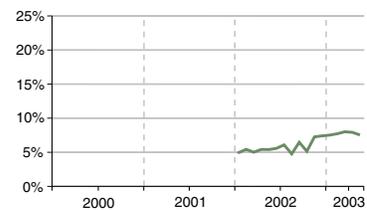
### Stanwood (I-5)



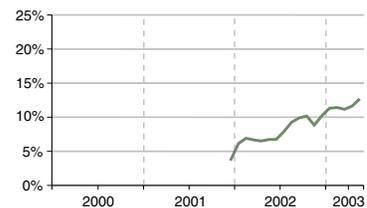
### Ft. Lewis (I-5)



### Cle Elum (I-90)



### Bow Hill (I-5)



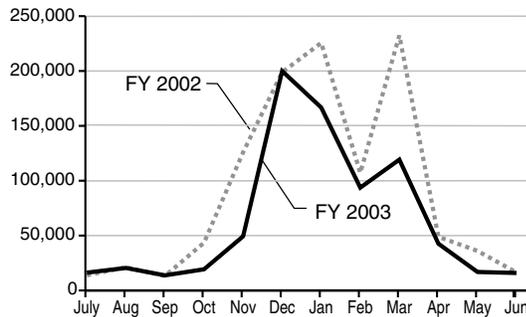
Source: WSDOT CVISN Program.

# Traveler Information: Quarterly Update

WSDOT supplies traveler information in several formats, including on the Web, via changeable message signboards, highway advisory short-wave radio, and over the phone at 1-800-695-ROAD. Nearly all the traveler information on television and radio news statewide is based on WSDOT information. For an overview, see the September 30, 2002 edition of the Gray Notebook.

## Number of Calls to 1-800-695-ROAD

Fiscal Years 2002 and 2003



The volume of calls to 1-800-695-ROAD spikes in winter months due to snow on mountain passes.

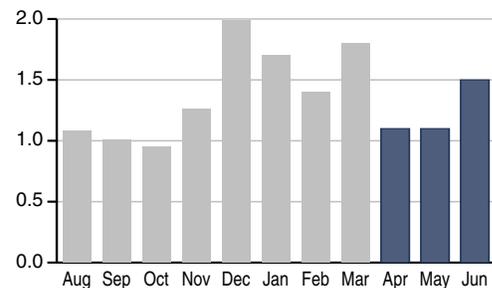
Source: WSDOT Traffic Office.

## On the Web

WSDOT continues to monitor and establish a baseline of customer usage of WSDOT's traveler information on the Internet. As expected, usage has decreased for a quarter free of winter driving issues in the mountain passes.

## Traveler Website Daily Usage

Average Daily Page Views, in Millions



Source: WSDOT Communications Office.

Average daily page views, in millions: April 1.1, May 1.1, June 1.5. It is difficult to determine exactly why usage jumped in June. On April 18th there was an incident on the eastside of the Tacoma Narrows Bridge which caused daytime lane closures. This incident brought with it a five-to-seven-mile backup in both directions and an expected jump in camera usage. The Eastside Tacoma Narrows Bridge camera had 20 times the normal page views for the day — due to this incident, its usage jumped from 6,900 to 164,000 page views. The east and west side bridge cameras had over 1.5 million page views each for the month of June. As expected, usage to the WSF web site increased in June, with ferry schedules jumping into the top ten viewed pages, surpassing almost all of the SR 520 camera images.

## A Tale of Two Cities

Studies evaluating traffic information on the Web were conducted in both Los Angeles and Seattle, two cities with significant traffic congestion.

Data was collected through a voluntary online survey. In Los Angeles the online survey was conducted from January 7 to March 9, 2002, to evaluate the Travel Advisory News Network (TANN) and SmarTraveler traffic web pages. During that period 336 completed responses were collected. In Seattle, the study evaluating the WSDOT traffic web site was conducted April 7 to May 5, 2003, with a total of 456 completed surveys.

While assessments of online traffic information are positive in both regions, customers in Seattle show greater frequency of use and enthusiasm for the service.

Seattle respondents are also more likely to agree that using online traffic information has saved them time and has reduced the stress of traveling in the area.

The surveys confirm previous findings on the profile of Advanced Traveler Information Services (ATIS) users. Those findings are:

- Users are more likely to be male, of working age, well educated, and upper income.
- Customers are likely to have higher than average Internet and technology use.
- In both regions the traffic web sites are used primarily for commute trips, and more so for the afternoon commute than the morning commute.
- Customers in Los Angeles are experiencing significantly longer commutes and greater congestion and volatility compared to their counterparts in Seattle.

## Attitudes Toward the Driving Experience and the Personal Value of Online Traffic Information

(Mean Agreement Scores on 0 to 10 scale.)

	LA	Seattle
At least twice a week there's an unexpected delay on my route.	7.1	5.7
I am satisfied with my commute.	3.1	4.7
Using traffic information on this web site has helped me save time.	7.6	8.6
Access to traffic information on the web reduces the stress of traveling in this area.	5.9	7.1

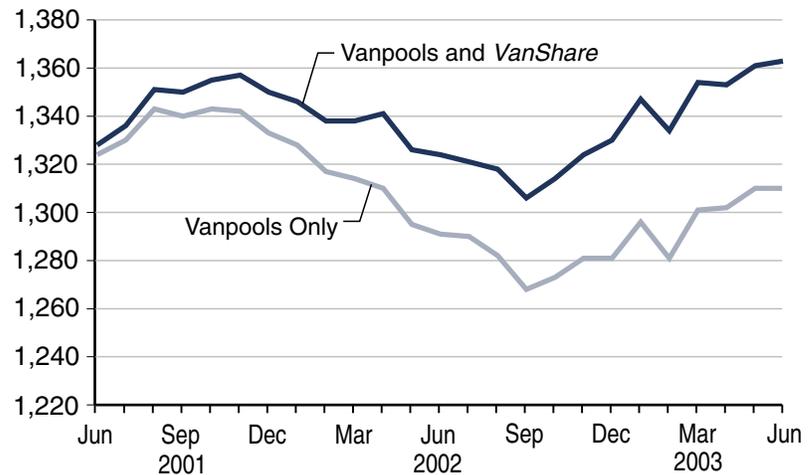
Source: Volpe National Transportation Systems Center.

# Commute Trip Reduction: Quarterly Update

## Vanpools in the Puget Sound Region

During this quarter the number of vanpools on the road continued its rebound from the September 2002 low. The total number of vans on the road is up 2.5 percent over the two-year period. The graph shows how *VanShare* has increased van ridership when compared to vanpool ridership alone. *VanShare* vans support multi-modal commuting for employees in the Puget Sound region by providing a connecting service at *Sounder* stations, ferry terminals, and park and ride lots.

**Puget Sound Vanpool and *VanShare* Trends**



Source: WSDOT Transportation Demand Management Office.

## Quarterly Regional Vanpool Highlights

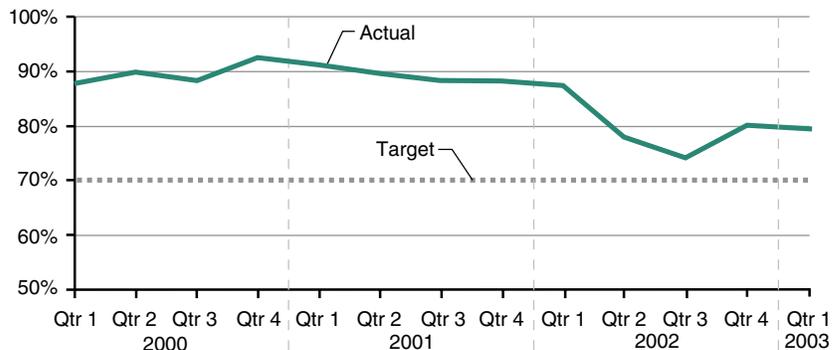
- Several of the operators began new promotional efforts during the quarter. Data on the effectiveness of these efforts will be available in August.
- Island Transit began increasing its efforts to promote vanpooling with Washington State Ferries riders.
- Next quarter's report will tie vanpool ridership to regional trends in vehicle miles traveled.

## Park and Ride Lot Occupancy at WSDOT-Owned Sites in King County

During the first quarter of calendar year 2003, occupancy of the 8,500 parking spaces in the 32 WSDOT lots in King County averaged 79%, showing a two-quarter upswing in usage after several quarters of decline\*\*. About 56% of WSDOT's park and ride lots in King County surpassed the target of 70% occupancy during the quarter, down from 59% last quarter. Parked cars regularly exceeded maximum capacity in seven lots.

### WSDOT-Owned King County Park and Ride Lots

Percent of Capacity Used: 2000 1st Quarter 2003\*



\* Data availability has a lag of three months to allow the transit systems to collect and analyze the data. Data for the second quarter of 2003 will be available in the next Gray Notebook.

\*\*Last quarter's edition of the Gray Notebook published a 77% occupancy rate. This was a calculation error. The correct occupancy rate for 2002 quarter four was 80%.

Source: WSDOT Analysis of King County Metro data.

# Washington State Ferries: Quarterly Update

## Customer Feedback

WSF collects customer complaints, compliments, comments, and suggestions. This information is recorded in the Automated Operating Support System (AOSS) database for measurement and action, based on database cross tabulation and analysis.

The charts show trends in the data for the last four fiscal years and quarterly information for fiscal year 2003.

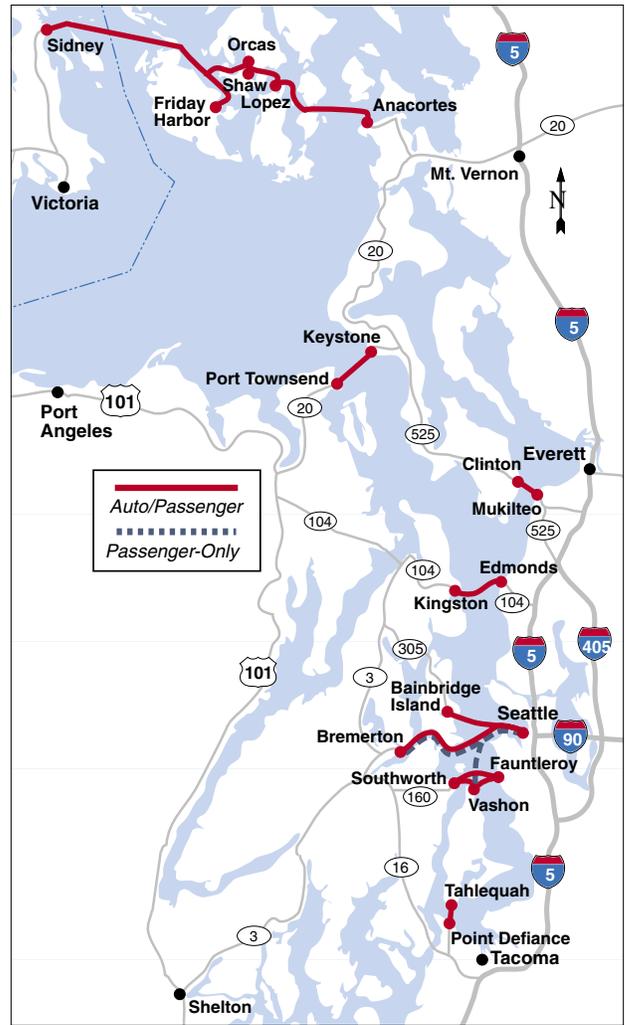
Ticket issue related complaints were up 95 percent for two main reasons: increased accuracy in the measurement of vehicles in the 20-30 foot fare category resulted in a higher fare for some customers, and WSF's primary retail outlet in Seattle for the sale of coupon books withdrew from the program during this quarter. WSF is seeking other venues for the sale of these popular commuter books.

Loading/unloading and information related complaints were up in this quarter due to disruptions in service on the busy Fauntleroy-Vashon-Southworth route caused by vessel related-service disruptions (see trip reliability measure and discussion on the next page).

Customer comment-related performance for the fiscal year was the second best on record since WSF began measuring performance in 1998. In fact, complaints were down 21 percent in fiscal year 2003 compared to fiscal year 2002.



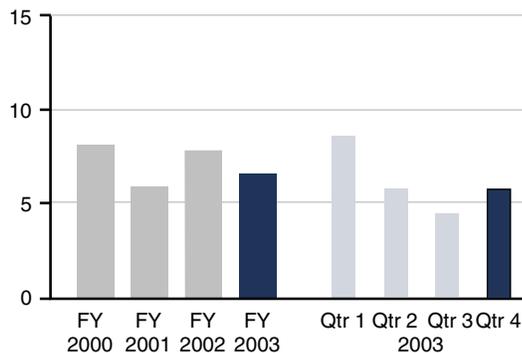
Vehicles board the ferry Elwha in Anacortes.



Washington State Ferries Route Map

### Total Customer Complaints

Complaints per 100,000 Customers\*

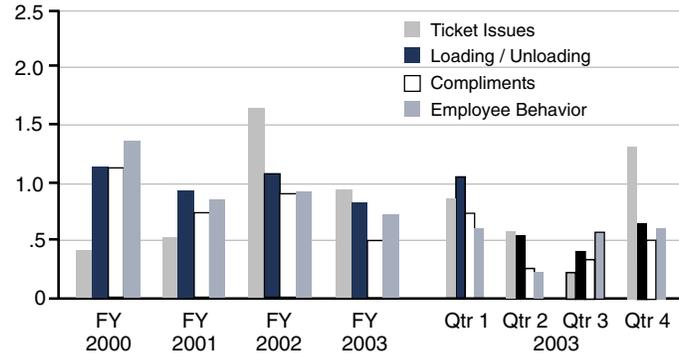


\*Does not include compliments or suggestions.

Source for all charts: WSF.

### Most Common Customer Comments

Top Four Comment Types per 100,000 Customers



## On-Time Performance

WSF has been collecting on-time performance data since June 2001. The table below compares WSF on-time performance across the system for the fourth quarters of fiscal years 2002 and 2003. Overall, performance was similar to last year. Schedule changes on the Bainbridge-Seattle route resulted in significant on-time improvements. Increased security on the international route continues to impact on-time performance. A trip is considered to be on time if it departs within ten minutes of the published scheduled sailing time. Missed trips are not reported in this measure. They are included in the following measure (Trip Reliability).

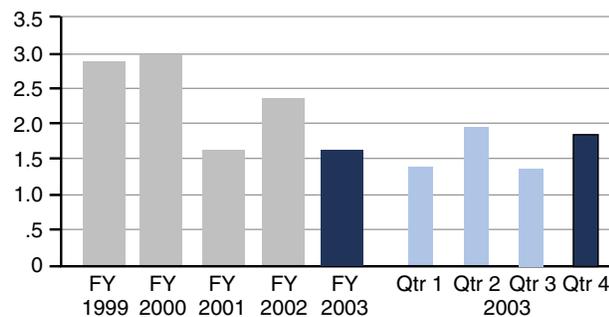
Route	Fourth Quarter Fiscal Year 2002			Fourth Quarter Fiscal Year 2003			Totals for Fiscal Year 2003		
	Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time	Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time	Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time
San Juan Domestic	6,575	88%	3.4 minutes	6,390	82%	4.7 minutes	24,880	83%	4.2 minutes
International Route	209	71%	8.6 minutes	184	69%	10.6 minutes	747	79%	6.7 minutes
Edmonds/Kingston	3,844	93%	3.4 minutes	4,441	98%	2.7 minutes	17,759	94%	3.1 minutes
Passenger-Only: Seattle/Bremerton	1,658	96%	2.9 minutes	1,700	99%	2.4 minutes	6,533	97%	2.6 minutes
Passenger-Only: Seattle/Vashon	1,054	99%	1.9 minutes	1,073	97%	1.7 minutes	4,110	96%	1.9 minutes
Fauntleroy/Vashon/Southworth	10,317	87%	4.3 minutes	10,223	87%	4.3 minutes	39,062	89%	4.0 minutes
Keystone/Port Townsend	2,092	94%	3.0 minutes	2,192	91%	3.6 minutes	8,176	90%	4.0 minutes
Mukilteo/Clinton	6,477	98%	2.2 minutes	6,196	97%	2.4 minutes	24,135	97%	2.3 minutes
Point Defiance/Tahlequah	3,043	90%	3.6 minutes	2,785	89%	3.8 minutes	10,991	91%	3.9 minutes
Seattle/Bainbridge Island	4,094	87%	5.2 minutes	3,964	97%	2.8 minutes	15,644	94%	3.4 minutes
Seattle/Bremerton	2,392	98%	2.1 minutes	2,488	98%	2.3 minutes	9,938	98%	2.5 minutes
Total	41,755	91%	3.5 minutes	41,636	92%	3.5 minutes	161,975	92%	3.4 minutes

### Trip Reliability

WSF scheduled 44,368 trips during the fourth quarter of fiscal year 2003. Of these trips, 204 were cancelled. WSF began measuring trip reliability performance in 1998. The chart below shows a system-wide average reliability index. Assuming that a commuter worked 200 days per year and made 400 trips on WSF, the statistical likelihood is that 1.8 ferry trips would be cancelled. This rating represents a 22% decline in reliability rating from the preceding quarter. Fiscal year 2003 trip reliability measures were the second best on record.

#### Trip Reliability Index

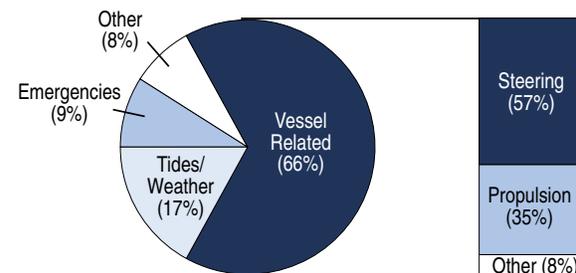
Missed Trips per 400 Sailings



$$\text{Trip Reliability Index Number} = \frac{\text{Cancelled Trips}}{\text{Total Scheduled Trips}} \times 400 \quad (\text{Average Annual Number of Commute Trips})$$

#### Most Common Trip Cancellation Causes

Fourth Quarter, Fiscal Year 2003



Total cancellations were down 27% compared to the preceding quarter. Fiscal year 2003 saw a 30% reduction in cancelled trips compared to fiscal year 2002.

Over 60% of all vessel-related cancellations this quarter occurred on the Fauntleroy-Vashon-Southworth route. Two significant vessel failures on the MV Klahowya accounted for most of the cancellations. On April 9 the MV Klahowya suffered a rudder problem, and on May 21 she suffered a cracked fuel line. Both incidents resulted in the Klahowya being removed from service. Removing one vessel from this busy route causes many missed trips, as two vessels then serve the triangular route structure instead of three. This route accounts for one quarter of all trips completed by WSF: roughly 44,000 sailings per year or 120 sailings per day.

Source: WSDOT/Washington State Ferries.

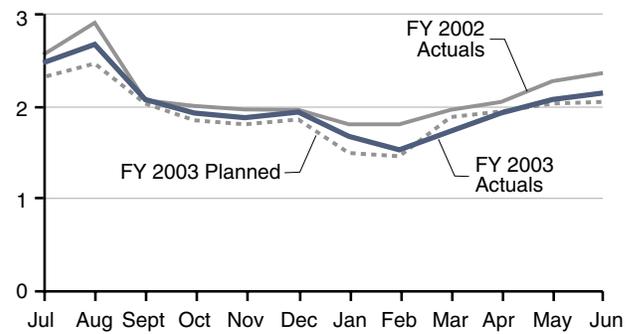
## Ridership and Revenues

The Legislature's Joint Task Force on Ferries (JTFF), comprised of legislators, citizens, ferry management, and ferry workers was formed in 2000. The task force reviewed the workings of the WSF system and made recommendations including tariff increases designed to raise the farebox recovery rate to 80 percent of operating costs over six years. The Transportation Commission instituted this recommendation and approved tariff increases of 20 percent in June 2001 and 12.5 percent in May 2002. In April 2003 the Transportation Commission approved 5 percent tariff increases to take effect in May 2003 and May 2004.

The new tariffs were designed to recover higher total revenues, even though the number of riders could fall slightly when the price of the trip goes up. Repeating the pattern from fiscal year 2002, WSF experienced higher than projected ridership and revenues for fiscal year 2003.

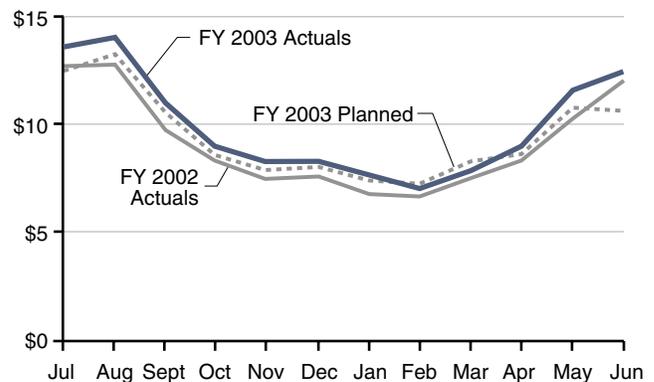
### Ferries Ridership by Month

In Millions



### Ferries Farebox Revenues by Month

Dollars in Millions



## 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.

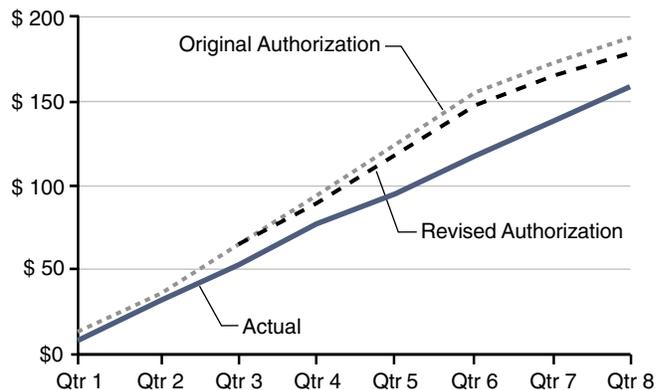
During the 2001-2003 biennium, the program spent \$159 million compared to its biennium spending authority of \$177.5 million (90%). Most of the program's under spending is due to the decision not to acquire a replacement vessel for the *MV Kalama* and *MV Skagit*, cancellation of the project to upgrade the *MV Chelan*, and deferral of the *MV Elwha* Propulsion Control Project to the 2003-2005 biennium.

*"Original Funds Available"* are based on the Capital Improvement and Preservation Program adopted by the Transportation Commission in October 2001.

*"Planned Biennial Expenditures"* reflect a \$10 million appropriation reduction enacted by the 2002 Legislature.

## WSF Construction Program Expenditures

2001-2003 Biennium, Quarter 8 ending June 30, 2003  
Authorized vs. Actual



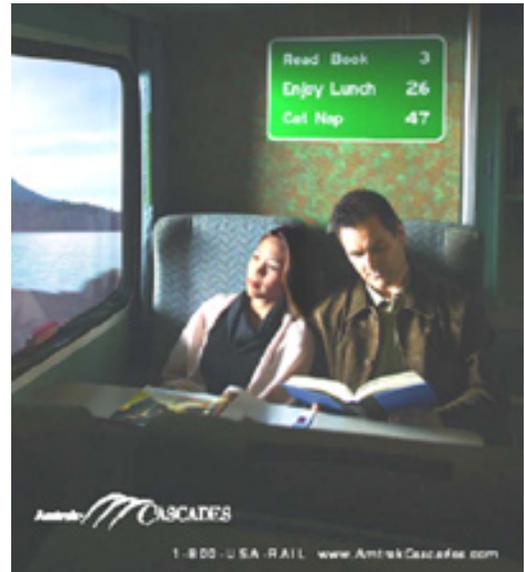
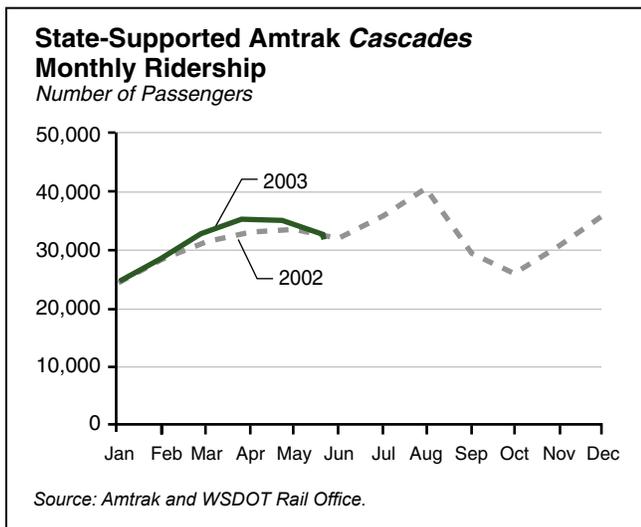
Program expenditures are categorized into spending on terminal construction, vessel construction and emergency repairs of terminals and vessels.

Sources for all charts: WSDOT/Washington State Ferries.

# State-Supported Amtrak Cascades Service: Quarterly Update

## Ridership

Ridership on state-supported Amtrak *Cascades* trains was 101,038 for the second quarter of 2003. This is a slight increase over the same period in 2002. Factors contributing to the quarter's ridership gain were the strong performance of the Seattle-Bellingham trains, several promotional fare offers, over 3,500 participants in WSDOT's Schools on Trains program, and a greater advertising presence in 30 newspapers and regional printings of national magazines.



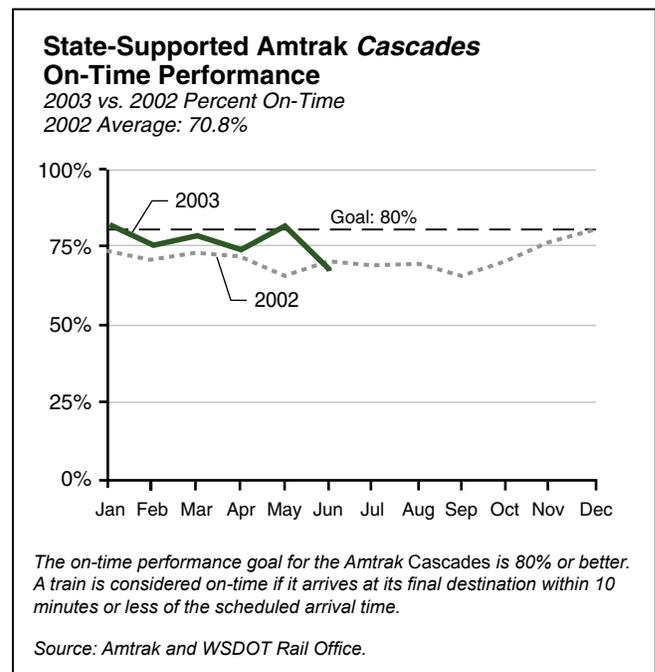
The new Amtrak Cascades advertising campaign debuted in May 2003.

## On-time Performance

The on-time performance for state-supported Amtrak *Cascades* trains averaged 74.1 percent in the second quarter of 2003. This is 5.6 percentage points higher than the on-time performance for the same quarter in 2002, but still short of the 80 percent on-time goal. The primary cause of delays was interference with freight traffic on the Burlington Northern and Santa Fe Railway's mainline, rail line construction to support *Sounder* commuter rail service between Seattle and Tacoma, and U.S. Customs inspections at Blaine. The latter cause gave the evening Vancouver, BC to Seattle train an average on-time performance of less than 65 percent for the three-month period.

## Amtrak Cascades Capital and Operating Budget: 2003-2005

The 2003-2005 Transportation Budget approved by the Washington State Legislature and Governor Locke included \$60 million for activities that support Amtrak *Cascades*. One of the key elements in the transportation budget was funding for the first phase of



major improvements to Seattle's historic King Street Station. The \$16.8 million project—with funding provided by the federal government, WSDOT, Sound Transit, Amtrak, and Seattle's South Downtown Foundation—began in June with the repair and replacement of some station signage. A progress report on this long anticipated station rehabilitation project will be included in the next *Gray Notebook*.

# Aviation: Annual Update

## Aviation Registration Program

The Aviation Division set a goal for fiscal year 2003, to collectively increase pilot, aircraft, and mechanic registrations by 20 percent over fiscal year 2002. An intensive outreach effort, a streamlined registration process, and a focus on providing service to registered customers led to increased registrations, which slightly exceeded the 20 percent improvement goal.

Over 45 percent of Aviation’s customers used the web-based registration service, exceeding projected 30 percent usage of online registration.

A notable new service this year was the introduction of the Aviation News Service, an online information notification service to all registered customers.

Increased registrations means increased revenues available for aviation programs. The table below shows the growth in revenues.

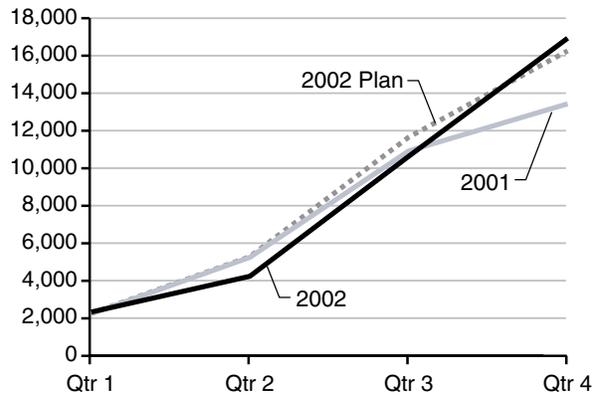
## Registration Revenue Biennial Comparison

	1999-2001	2001-2003
Aeronautics	\$118,960	\$129,693
Search and Rescue	\$148,355	\$155,989
General Fund	\$405,934	\$434,528

Source: WSDOT Aviation Division

## Combined Pilot, Aircraft, and Mechanic Registrations

Planned 20% Increase versus Actual Numbers  
FY 2001 compared to FY 2002



Source: WSDOT Aviation Division

# Value Engineering

Using the Value Engineering (VE) process, WSDOT reviews a project's features and looks for ways to improve quality, minimize impacts, foster innovation, and lower capital and life-cycle costs. A VE study typically takes four to five days to perform and involves a multidisciplinary team. At the concept stage, this team might include planning and right-of-way staff, private citizens, and environmentalists. If the study is done during the design phase, then the team might be composed of construction, design, traffic, and maintenance staff.

During the past year WSDOT performed 14 VE studies. Design teams implemented 71 of the 89 recommendations for a total net savings of \$71 million.

The success of WSDOT's Value Engineering program can be attributed to continued training, timing of studies and careful selection of team members. Recently WSDOT received National AASHTO awards for Most Innovative Proposal during Process for the *I-90 & Collector-Distributor System, U.S. 395 North Spokane Corridor Project* and honorable mention for Most Value Added during Engineering for the *SR 509/I-5 Corridor Completion Project*.

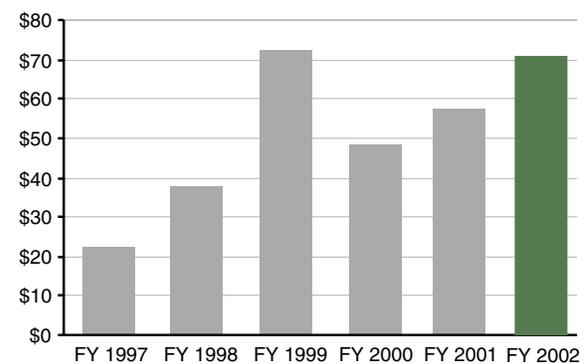
In addition to tracking cost savings, for the second year WSDOT also tracked each implemented recommendation. The chart at right illustrates the results for fiscal years 2001 and 2002. One recommendation can score in more than one category.



I-90 Floating Bridges across Lake Washington

## Value of Recommendations Accepted for Implementation

Dollars in Millions



## Value Engineering Implemented Recommendations

Fiscal Years 2001 to 2002

	2001	2002
Partnering and/or Consensus Building	19	41
Compressed Development or Construction Schedule	13	17
Improved Constructability	14	27
Enhanced Operational Performance	17	40
Minimized Right-of-way and/or Environmental Impacts	15	28

Source: WSDOT Design Office.

### Value Engineering Case Study: Interstate 90, two-way Transit/HOV Improvement Project

This project is early in the development process and was refining alternatives for the Environmental Impact Statement. The project team used the Cost Estimate Validation Process (CEVP™) to identify and quantify project cost and schedule high-risk elements. The team then underwent a value engineering study to explore alternative solutions for those high-risk elements. The value engineering team consisted of staff from WSDOT, FHWA and Sound Transit who came together to evaluate each of the alternatives and make recommendations to add value by focusing on the identified high cost and risk areas. The recommendations implemented from this study assisted in reducing the risk and cost of each of the alternatives as this project continues to move through the process to select the preferred alternative.

# Highlights of Program Activities

Quarter Ending June 30, 2003

## Project Starts, Completions, Updates

- WSDOT opened the first of several central **Puget Sound high occupancy vehicle (HOV) lanes** to solo drivers from 7 p.m. to 5 a.m. under a two-year demonstration project approved by the State Transportation Commission. Before implementing the change in hours, rumble strips and new signs to inform drivers of the new hours of operation were installed to benefit the safety of all drivers.
- Crews from Wilder Construction began repairs on **Interstate 5 through Bellingham**. Work is being done to replace worn concrete panels that have been in place since the 1960s and smooth out bumps in the roadway between panels. The project is expected to last through October.
- A project to pave a total of about 40 miles of **SR 504 (Spirit Lake Highway)** in Cowlitz County and **SR 505** in Lewis and Cowlitz Counties began in mid-June. Lakeside Industries of Longview is the contractor for this \$5.12 million project. Construction will be completed in October.
- A new interim **ramp connecting southbound I-405 to southbound SR 167** opened to provide traffic and safety improvements at one of the most congested spots in the state. Before the new ramp was constructed, traffic exiting the collector-distributor to southbound I-405 had to cross traffic entering the collector-distributor from northbound SR 167. The weaving movements resulted in accidents and increased congestion on both southbound I-405 and northbound SR 167. Max J. Kuney Construction was the contractor for the new ramp that opened in April.
- Crews began night work to pave the **U.S. 101 truck route to Front Street in Port Angeles**. The project included Lincoln Street and Lauridsen Boulevard from Front Street to past Pine Street. Lakeside Industries is WSDOT's contractor for the \$614,000 project.
- A project to prevent rocks from falling on a section of SR 14 approximately 4.5 miles east of **Maryhill Road in Klickitat County** began in May. WSDOT awarded the project contract to LRL Construction of Tillamook, Oregon, for \$319,757. This project replaces an existing chain-link fence with a more durable rock-fall fence and will add additional concrete barriers in front of the fence. Construction will be completed by August.
- An unstable rock the size of a house, perched 200 feet above **U.S. 97A two miles north of Wenatchee**, was removed during a full closure of the highway in late May. This \$402,000 dollar project included bolting the rock face to further stabilize the remaining slope to reduce future rock fall.
- Shoppers and motorists had something to celebrate with the opening of a new loop ramp at the **I-5/196th Street SW Interchange in Lynnwood**. The new ramp exits from southbound I-5 and allows motorists to travel beneath the existing 196th Street SW and Alderwood Mall Boulevard bridges to the signal at 196th Street SW and 36th Avenue West. Construction began last summer on the \$6.4 million dollar interchange improvement and the April opening of the new ramp was a major milestone for the project.
- A major milestone on the **SR 519-South Seattle Intermodal Access-Royal Brougham project** was reached when crews permanently closed the I-90 eastbound on-ramp at 4th Avenue South and opened a section of the new South Atlantic Street overpass. The new South Atlantic Street on-ramp will separate automobiles and trains, and drivers will be able to leave the downtown area much more quickly, especially after large sporting events. Trains cross the road in this area between 50 and 80 times a day.
- Repair of the failing bridge surface and replacement of expansion joints of the eastbound **I-82 Bridge over Cherry Creek**, four miles south of Ellensburg, started and completed in May. The southbound ramp from SR 821 (Thrall Road) to I-82 was closed for the entire project.
- Crews began repairs to the **Pleasant Hill Road overpass** on southbound I-5 just north of Ostrander Road (exit 42) in Cowlitz County. This project will replace a 111-foot long concrete bridge girder on I-5 that was damaged in November 2001 when hit by a truck. The trucking firm's insurance company is paying for the repair. Construction will be completed in August 2003.



South Seattle

- A project to re-line the **U.S. 97A Knapps Hill tunnel** between Wenatchee and Lake Chelan opened to traffic in late April, more than a week ahead of schedule. The tunnel closed February 24, requiring motorists to use a lengthy detour. H.E.M. Construction of Auburn worked extra weekend shifts and brought in additional electrical technicians to complete the \$470,000 project before Wenatchee's Apple Blossom Festival.
- In June, crews completed the **I-5 Troser Road overpass** project in Tumwater two months ahead of schedule. The \$2 million project, built by WSDOT's contractor, Pacific Railroad & Bridge started in May 2002.
- A partnership between the City of Battle Ground, state and regional transportation agencies, and area developers will widen **SR 502 (W. Main Street)** from two lanes to five through Battle Ground. Bike lanes and new sidewalks will be added on both sides of the highway as well as landscaping along the entire corridor. The project includes intersection improvements at **SR 503 and NW 20th Avenue**. The city awarded a \$5.2 million contract for the project to the Nutter Corporation of Vancouver, and WSDOT is overseeing construction. The project will be completed by November.
- Crews began a major resurfacing project on 7.5 miles of **I-90 between the Sullivan Road Interchange and the Idaho border** in June. The pavement resurfacing will eliminate the ruts that have developed over the years as a result of studded tire usage. Several test sections of different pavements are being laid to test their durability to studded tire wear. Work will be completed in August.
- Two miles of the newly widened **SR 525** roadway – better known as the Mukilteo Speedway – opened to traffic more than a month ahead of schedule. This marked the halfway point in the project and moves construction closer to finishing by the end of the year. The newly completed four-lane section is between Paine Field Boulevard and 122nd Street in the city of Mukilteo. Widening work continues between 122nd Street and 132nd Street. Turn lanes, bike lanes and sidewalks are also being built.
- Maintenance crews reopened the state's seasonal mountain passes: **SR 20, North Cascades** (April 14); **SR 123, Cayuse Pass** (April 18); and, **SR 410, Chinook Pass** (May 15). Every spring WSDOT maintenance crews use bulldozers, graders, and large snow blowers to cut through tremendous amounts of snow to open the highways for travel across the Cascade Mountains. The snow pack at the Chinook Pass summit was more than 14 feet deep at the time of opening.
- The **SR 173 Columbia River Bridge** at Brewster was closed for 12 days in April for deck resurfacing. The 30-year-old bridge deck had areas of exposed steel rebar and damaged expansion joints. About 5,000 vehicles use the bridge on an average day. The closure was timed to avoid interference with the cherry picking season. N.A. Degerstrom, Inc. of Spokane was the contractor for the \$371,000 project. The project was completed by mid-May.
- WSDOT and the City of Mill Creek celebrated the start of the next phase of the **SR 527 widening project** with a ground breaking event. This phase of the project will widen more than two miles of roadway, build new bike lanes and sidewalks, and provide environmental enhancements including a new fish-friendly culvert crossing of Mill Creek. This project is on an aggressive schedule to open the new lanes for use by next summer.
- A \$204 million contract to replace the east half of the SR 104 Hood Canal Bridge was awarded to Kiewitt-General of Poulsbo in late June. About two-thirds of the construction amount will be used to build a graving dock facility in Port Angeles to construct the new concrete pontoons and anchors, which will eventually be floated out and towed to the bridge site. When finished, the Hood Canal Bridge will have a new east half floating section, new approach sections, and transition trusses on the east and west ends. The west half of the roadway will be widened to allow for continuous 8-foot shoulders across the entire length of the bridge. Work starts in August.

## Innovations and Awards

- During an Earth Day ceremony on April 22 in Washington, D.C., Mary E. Peters, Federal Highway Administration Administrator, announced the winners of the **2003 Environmental Excellence Awards**. WSDOT received an award in the category of "Roadside Resource Management and Maintenance" for its Roadside Classification Plan and Roadside Manual and the Judge's Honorable Mention in the category of "Cultural Resources" for the Indian Creek Stormwater Treatment Facility located in Olympia.
- Passengers and passersby aren't the only ones who've noticed Washington state's sleek contemporary trains. The Smithsonian's Cooper-Hewitt, National Design Museum, in a review of cutting-edge U.S. design, is recognizing

Cesar Vergara’s work on the **Amtrak Cascades**. Form and function happily coexist on the Amtrak *Cascades*. Inside, the trains offer passenger comfort and amenities like laptop outlets, bike racks and onboard movies. Outside, the aerodynamic shape reflects the sensibilities of the Pacific Northwest. The 7-foot tall tailfins echo not just jet airplanes, but also salmon fins and the wings of eagles, which can often be seen while riding the trains. Inside and out, the trains are designed to highlight breathtaking scenery. In addition, the Amtrak *Cascades* are some of the most accessible trains in North America. The trains were designed to exceed Americans with Disabilities Act requirements and to offer comfort and safety for any passenger who might find it difficult to navigate a moving train.

- At the 24th Annual Telly Awards, **Highways and Local Programs’ Washington State Technology Transfer (WST2) Center** won the bronze award in the Non-Broadcast Film/ Video & TV Programs in Safety category for their video production entitled “Driving Modern Roundabouts.” The video production team includes Terry Ness, Steve Lee, Dave Sorensen, and Brian Walsh from WSDOT; Scott Spence from City of Lacey; and Jay Burney from City of Olympia.
- **WSDOT’s North Spokane Corridor design team** is receiving the American Association of State Highway and Transportation Officials’ (AASHTO) 2003 Value Engineering Award for the “*Most Innovative Proposal in Process Improvement.*” The “*I-90 Collector-Distributor System of the US 395 North Spokane Corridor*” project was selected for the award, competing with 40 applications from 11 different states and Canada. The project required an innovative approach in the design process, and the team responded by creating a process that provided for input from a wide variety of citizens, interest groups, and government representatives. Four judges, members of the AASHTO Value Engineering Task force, evaluated each application. Evaluation criteria included the use of new technology; use of creative thinking; the degree the final project differs from the original design; and improved safety and/or constructability.
- WSDOT launched new **bicyclist and walker web sites** that unite statewide resources for planning cycling and hiking trips – everything from trail routes, cycling organizations, bike shops, maps, and local government contacts – all in a single location. The bicycling Web site is designed to provide easy access to information on route and trail maps, connections to Washington State Ferries and Amtrak *Cascades*, bicycling safety tips, biking to work and school, route closure information, grant opportunities, design and technical assistance, and links to other bicycle related organizations and resources. The walking site includes maps and resource information for walking and hiking trails, walking safety tips, walking for health, links and safety information for children, grant opportunities, design and technical assistance, and links to pedestrian advocacy groups and organizations. Also included on this Web site is equestrian trail information for the horse enthusiast. For more information, visit: [www.wsdot.wa.gov/bike](http://www.wsdot.wa.gov/bike) and [www.wsdot.wa.gov/walk](http://www.wsdot.wa.gov/walk).
- Motorists attempting to navigate **summer construction through the Tacoma/Pierce County area** have a new resource, [www.tacomatraffic.com](http://www.tacomatraffic.com). The Web site provides visitors the latest information regarding breaking construction and maintenance activities. First up is the Interstate 5, Puyallup River bridge deck reconstruction project set to begin in early July. The project, which rebuilds the heavily deteriorated bridge deck, is expected to significantly impact I-5 traffic in large part because of limited detour routes available in the area. The site offers detailed work schedules and an opportunity to rate WSDOT on its efforts to mitigate construction impacts.



Telly Award

## Grants Received and Grants Awarded

- The **Washington State Technology Transfer (WST2) Center** received \$92,000 in grant funding from the Washington Traffic Safety Commission to develop a collision analysis software package for local agency use. The software package will allow a local agency to perform collision analysis and develop a safety management system.

# Gray Notebook Subject Index

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### **Americans with Disabilities Act (ADA) Information**

Persons with disabilities may request this information be prepared and supplied in alternate formats by calling the Washington State Department of Transportation ADA Accommodation Hotline collect (206) 389-2839.

Persons with hearing impairments may access Washington State Telecommunications Relay Service at TTY 1-800-833-6388, Tele-Braille 1-800-833-6385, Voice 1-800-833-6384, and ask to be connected to (360) 705-7097.

### **Civil Rights Act of 1964, Title VI Statement to Public**

Washington State Department of Transportation (WSDOT) hereby gives public notice that it is the policy of the department to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities. Persons wishing information may call the WSDOT Office of Equal Opportunity at (360) 705-7098.

### **Other WSDOT Information Available**

The Washington State Department of Transportation has a vast amount of traveler information available (including Puget Sound area traffic, mountain pass reports, highway closures, ferry schedules, and more).

Call the WSDOT statewide toll-free number: *1-800-695-ROAD*.

In the Seattle area: (206) DOT-HIWY [368-4499].

For additional information about highway traffic flow and cameras, ferry routes and schedules, Amtrak *Cascades* rail, and other transportation operations, as well as WSDOT programs and projects, visit

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

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