



**Washington State
Department of Transportation**

Measures, Markers and Mileposts

Gray Notebook Lite

for the quarter ending December 31, 2004

WSDOT's quarterly report to the
Washington State Transportation Comm
on transportation programs and depart

Douglas B. MacDonald
Secretary of Transportation



**Washington State
Department of Transportation**

This *Gray Notebook Lite* is the fourth edition of relevant highlights and performance topics selected from the *Gray Notebook*. This quarter's edition of *Lite* includes excerpts from the annual Pavement Assessment update, a Highway Safety project analysis, a snapshot of the Environmental update as well as the "Nickel Projects" delivery summary. The full *Gray Notebook* can be found at www.wsdot.wa.gov/accountability/.

Please let us continue to hear your thoughts about what you would like to see in *Gray Notebook Lite*. Send me an e-mail.

Doug MacDonald



Highway Safety Annual Updates

Twenty-One Safety Projects Revisited

Each year, WSDOT completes a variety of safety improvement projects throughout the state highway system, ranging from adding turn lanes and signals to installing median barrier and rumble strips.

To determine their effect on reducing the number and severity of traffic collisions, a second before-and-after study has been conducted to confirm the results of the 21 projects analyzed one year ago in the December 2003, *Gray Notebook* (GNB) edition.

The preliminary results indicated that for the original 21 projects, the average number of collisions per year for all projects combined was reduced by 37 percent. With the additional data now available, the reduction is even greater at 43 percent. Similarly, the average number of fatal and injury collisions per year has been reduced even further, from 37 percent to 47 percent.

Before and After Project Evaluations of 21 Safety Projects

Collisions per Year

| | All Types | Property Damage Only | Injury/Fatal |
|-------------------|-----------|----------------------|--------------|
| Before | 15.2 | 8.6 | 6.6 |
| After | 8.7 | 5.2 | 3.5 |
| Percent Reduction | 43% | 40% | 47% |

Source: WSDOT Transportation Data Office.

Fatalities on Washington Roadways Decrease

Total fatalities on Washington’s public roads (highways, and city and county roads) decreased from 659 in 2002 to 600 in 2003. This was a significant improvement. Preliminary 2004 data indicates that this downward trend continues with a current count of 558 fatalities (as many as 20 fatalities could be added once the 2004 data is finalized). The fatality information for 2003 and 2004 strongly suggests that WSDOT initiatives to reduce high severity crashes and the enactment of the Primary Seatbelt Law (effective June 2002), has helped lower the number of fatalities in Washington State. The law’s effectiveness and the various safety programs combined with strong enforcement appear to drive a continued reduction in fatalities.

Number of Traffic Fatalities by Year

2000 - 631
2001 - 649
2002 - 659
2003 - 600
2004 - 558*

* Preliminary Numbers
Source: Fatal Analysis Reporting System (FARS)

For more details on pedestrian fatalities and seatbelt use see pages 43-49 in the *Gray Notebook*.

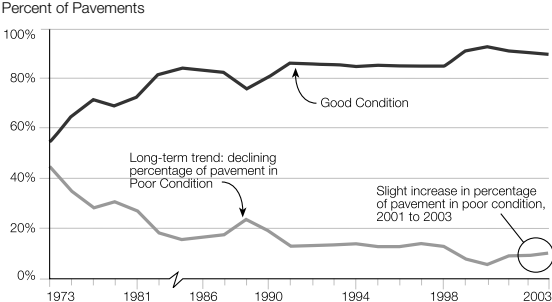
Pavement Assessment Annual Update

2003 Pavement Condition Rating

According to the 2003 pavement condition survey rating, the percent of all pavements in “poor” condition increased in 2003 to 10.0 percent, up from 9.3 percent as reported in the 2002 pavement survey. In 2000 there were 1,068 lane miles (6.1 percent) of pavements in “poor” condition, while in 2003 the total was 1,774 lane miles. Over the last four years, WSDOT has seen an increase of 706 lane miles in “poor” condition.

For more detail on this topic see pages 50 - 53 in the *Gray Notebook*.

Pavement Condition Trends



Source: WSDOT Materials Lab.

| Pavement Type | Lane Miles *** | Annual VMT* 2003 (billions) | Pavement Rating | | | **03-05 Dollars Programmed (millions) | | **05-07 Dollars Programmed (millions) | |
|--|----------------|-----------------------------|-----------------|------|------|---------------------------------------|-------|---------------------------------------|-------|
| | | | | 2003 | 2002 | | | | |
| Chip Seal Pavements A chip seal is a durable surface that provides six to eight years of performance life at approximately \$12,000 per lane mile. | 4,358 | 1.2 | Good | 86% | 89% | \$ 21.0 | 9.5% | \$ 26.5 | 12.6% |
| | 21.8% | 3.8% | Poor | 14% | 11% | | | | |
| Hot Mix Asphalt Pavements Hot mix asphalt pavement surface life, between rehabilitation treatments, ranges from 6 to 18 years (based on actual pavement performance) at approximately \$123 thousand per lane mile for due miles, and \$156 thousand for past due miles. | 13,158 | 21.8 | Good | 91% | 91% | \$ 181.4 | 83.1% | \$ 174.2 | 83.1% |
| | 65.9% | 68.8% | Poor | 9% | 9% | | | | |
| Portland Cement Concrete (PCC) Pavements WSDOT has experienced PCC pavement life ranging from 25 to 45 years with an approximate cost of \$330 thousand per lane mile for dowel bar retrofit and \$1 million per lane mile for full replacement. | 2,439 | 8.7 | Good | 93% | 92% | \$ 16.3 | 7.4% | \$ 8.9 | 4.3% |
| | 12.2% | 27.4% | Poor | 7% | 8% | | | | |

*Vehicle Miles Traveled (VMT) is calculated for travel on mainline, spurs, couplets, alternate routes, and reversible lanes and does not include other lanes such as ramps.

**Does not include dollars for project support, e.g., project scoping and pavement management.

*** Total miles include 714 lane miles more than reported last year. This table does not include 16 lane miles of gravel that are part of the state system.

Trucks, Goods and Freight Annual Update

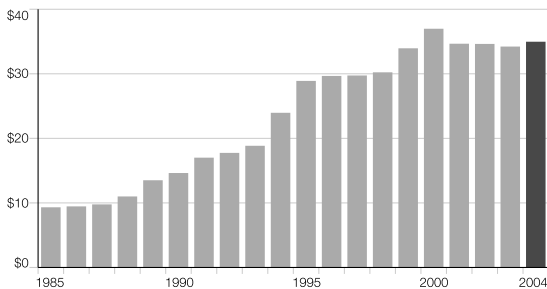
Revenue From Trucks

Trucks in interstate commerce register and pay state taxes based on weight and travel mileage. The upward trend in registration revenues mirrors an overall trend in trucking activity and a 0.5 percent fee increase for vehicles over 12,000 pounds.

Revenue Prorated to Washington State for Trucks in Interstate Use

All Weight Classes, Fiscal Years 1985 to 2003 and 2004 Estimate

Dollars in Millions



Highway Studies Show Demand is Up

The Strategic Freight Transportation Analysis (SFTA), completed for WSDOT in 2003 by Washington State University, was released in 2004. The analysis showed that truck trips increased by 94 percent on the Interstate 5 corridor and by 72 percent on the Interstate 90 corridor, in the ten years between 1993 and 2003. The table (below) shows this upward trend on the most heavily utilized freight corridors in Washington State.

Daily Truck Trips in Washington - Selected Roadways

| | 1993/1994 | 2002 |
|---------|-----------|--------|
| I-5 | 7,909 | 15,314 |
| I-90 | 2,954 | 5,070 |
| Hwy 395 | 1,207 | 3,283 |
| U.S. 97 | 700 | 2,300 |

Source: Washington State University, Strategic Freight Transportation Analysis (SFTA).

For other freight topics such as Road Segment Ranking, Marine Cargo Forecast, Severe Weather Closures, and Nickel Projects with Freight Benefits see pages 54-57 of the *Gray Notebook*.

Environmental Programs: Annual Update

Wetland Monitoring

WSDOT has been mitigating for unavoidable wetlands loss with replacement wetlands for over 15 years to address the state's Executive Order 89-10, which mandates that the actions of state agencies result in no net loss of wetlands.

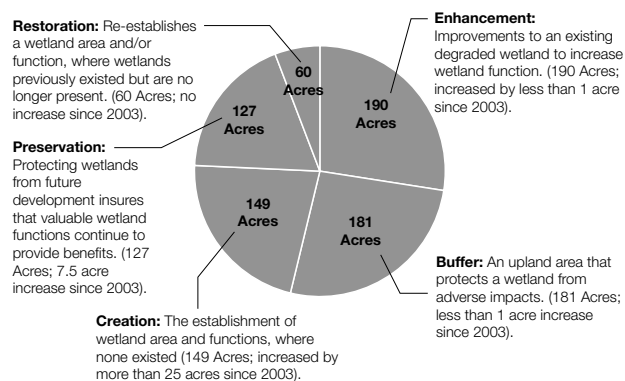
When transportation projects create unavoidable wetland impacts, wetlands are enhanced, restored, created or preserved to achieve the no net loss policy. WSDOT has a total of 120 (708 acres) replacement wetland sites. Monitoring was initiated on four new sites in 2004. These sites add more than 25 acres to WSDOT's inventory of replaced wetland acreage (see pie chart below).

Reasonable ecological success was achieved on six more sites in 2004, bringing the total number of completed sites since 1988 to 59.

WSDOT Replacement Wetlands, 1988-2004

Total Acreage of Wetland Projects

120 Sites, 708 Acres



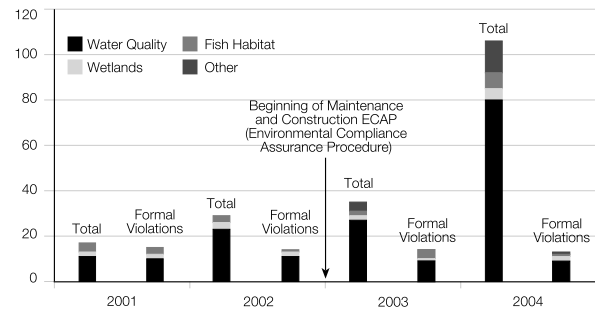
Environmental Management Systems

WSDOT's Environmental Management System helps support the department's environmental efforts and integrates those efforts into everyday operations, training programs, and regular performance reporting.

WSDOT self-monitors for "non-compliance events" whether or not such events are taken up as formal "violations" by regulatory agencies or officials. In 2004 WSDOT recorded 106 non-compliance events, with 13 leading to issuance by a regulatory agency of a formal Notice of Violation. WSDOT is identifying more non-compliance events than before. Most of the non-compliance events are being fixed when they are relatively minor, before they become formal violations.

Non-Compliance Events

2001-2004



Source: WSDOT Environmental Services Office.

For more detail on these topics and other environmental topics such as Stormwater Facilities, Water Quality Monitoring, and Erosion Control see pages 63- 68 in the *Gray Notebook*.

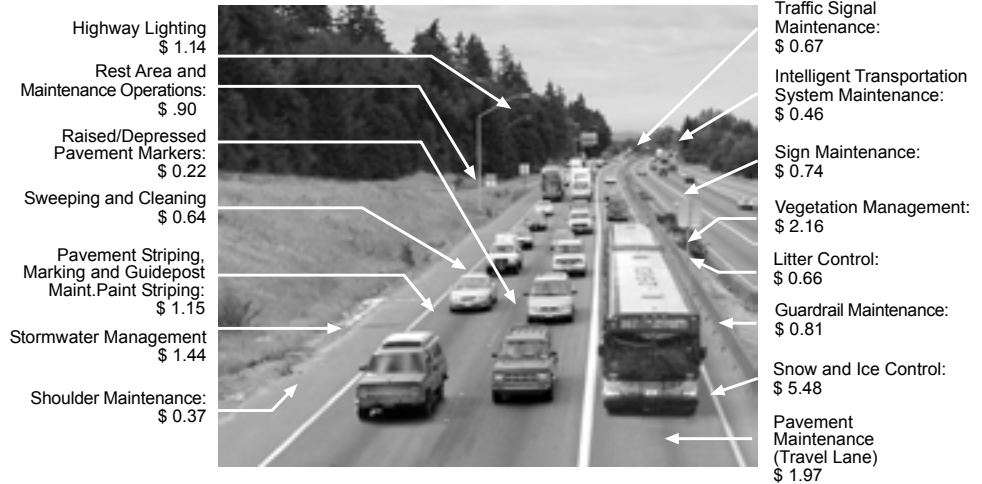
Highway Maintenance Annual Update

The Maintenance Accountability Process (MAP) targets, measures, and communicates the outcomes of 34 distinct highway maintenance activities. Maintenance results are measured using field condition surveys, and are reported as Level of Service (LOS) ratings. LOS targets are defined in terms of the condition of various highway features (for example, the percent of guardrail on a highway system segment that is damaged). LOS targets are also keyed to the level of funding provided by the legislature. During 2004, 33 of the 34 targets were achieved.

For more detail on MAP and other maintenance topics such as the Integrated Vegetation Management Program and the West Nile Virus see pages 58-62 in the *Gray Notebook*.

Typical Costs of State Highway Maintenance

Seeing the Picture "Per Year, Per Car"



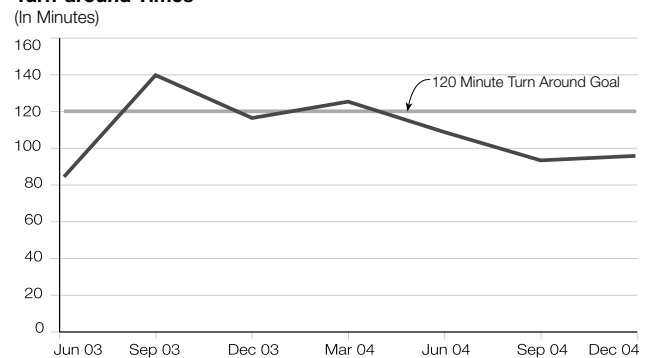
Overweight and Oversize Permits

When the State Patrol started phasing out its participation as a WSDOT permit sales agent in 2003, WSDOT developed and launched a new web-based System Network for Oversize Overweight Permit Information (E-SNOOPI). This enabled WSDOT to manage the increased workload and greatly increased convenience and timesavings for customers.

For all electronically processed permits, the turn around time is less than ten minutes. Permits that customers request by fax or in person have a processing goal of two hours or less. If a request is received after 4:00 p.m., it will be processed by 8:00 a.m. on the following business day.

In 2004 E-SNOOPI processed about 143,000 permits (\$6.7 million in revenue). In 2003 approximately 135,000 permits were processed (\$6.3 million in revenue).

Non Electronic Overweight/Oversize Permit Turn-around Times



Source: WSDOT Motor Carrier Services

TBAP Completes Three Reviews of WSDOT's Management and Measurements Practices

Three reports were published in December 2004 by the Transportation Performance Audit Board (TPAB): Highways and Ferries Programs Performance Measure Review, Capital Project Management Pre-Audit, Environmental Permitting for Transportation Projects Pre-Audit.

Findings Include:

"WSDOT uses performance measurement to provide leadership, set direction, establish a performance-oriented culture, and ensure manager accountability in a highly effective way."

"... exemplary capital project management methods and tools have been developed by WSDOT and are in use in some places in the organization, ..."

For a summary on these reports see page 83 in the *Gray Notebook*. For a complete report view www1.leg.wa.gov/LTC/TPAB/Audits/

How to Find Performance Information

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

To access the index electronically, visit: www.wsdot.wa.gov/accountability/graybookindex.htm.

The information presented here is a snapshot of what you'll find in the full version of the *Gray Notebook*. The full version for the quarter ending December 31, 2004 is available on line at: www.wsdot.wa.gov/accountability/

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Beige Pages: Project Reporting on the 2003 Transportation Funding Package

For the quarter ending December 31, 2004

WSDOT's Web site provides information on almost every project at www.wsdot.wa.gov/projects. The *Beige Pages* begin with guidance and instruction on how to navigate to WSDOT's on-line project pages where you can find more detailed project information. The on-line project information is updated regularly.

Summary of Project Advertisements, Awards and Completions

Biennium To Date

Projects Advertised and Completed

As of December 31, 2004, 31 highway projects in the 2003 Transportation Funding Package have been advertised.

Projects Completed

- 1) SR 9/SR 528 Intersection – Signal
- 2) I-90, Cle Elum River Bridge
- 3) I-90, Geiger Road to U.S. 2 Median Barrier
- 4) I-90, Highline Canal to Elk Heights – Climbing Lanes
- 5) I-90, Ryegrass Summit to Vantage – Climbing Lanes
- 6) I-90, Sullivan – State Line Median Barrier
- 7) SR 97A, Entiat Park Entrance – Turn Lanes
- 8) SR 124, East Jct SR 12 – Reconstruction
- 9) I-182/U.S. 395 Interchange – Roadside Safety
- 10) SR 203, NE 124th/Novelty Rd. Vic
- 11) U.S. 395, Kennewick Variable Message Sign
- 12) SR 500, NE 112th Ave. – Interchange

Projects Advertised and Awarded

- 13) I-5, 2nd Street Bridge – Replace Bridge
- 14) I-5, Salmon Creek to I-205
- 15) I-5, Roanoke Vicinity Noise Wall
- 16) I-5, NE 175th St to NE 205th St – NB Lane
- 17) U.S. 12/SR 124 to McNary Pool – Add Lanes
- 18) SR 16, 36th St. to Olympic NW - HOV
- 19) SR 18, Covington to Maple Valley Highway
- 20) SR 31, Metaline Fall to International Border

Projects Advertised But Not Awarded

- 28) I-5, Pierce County Line to Tukwila
- 29) SR 16, HOV Improvements – Union to Jackson Ave
- 30) SR 240/I-182 to Richland Y – Add Lanes
- 31) SR 240, Richland Y to Columbia Center Interchange

Awarded Projects

The total amount for the 27 awarded projects is \$170 million, \$8 million below the engineer's estimate. The total amount of the pre-bid engineer's estimate for the awarded construction contracts is \$178 million. Four projects have been advertised and are pending award. These projects are not included in the engineer's estimate total of \$178 million.

Delayed/Deferred Projects

Seven projects scheduled to be advertised prior to December 31, 2004 have not been advertised. The circumstances of these seven projects are as follows:

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

Project redesign and remaining work on the environmental permits has delayed the advertisement of this project from December 2004 to May 2005.

SR7/SR 507 to SR 512 – Safety

Local and state elected officials requested that WSDOT delay the project to allow time to pursue additional funding for landscaping and other desirable adjuncts to the project requested by the local community. The ad date is now March 2005.

SR 9, Nooksack Rd. Vic. To Cherry Street

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

I-90, Seattle to Mercer Island

WSDOT delayed the advertisement date for this project by thirteen months, from December 2004 to January 2006, to allow time for the issuance of the draft Environmental Impact Statement. This will allow the design to be completed by October 2005. This change was reported in December 2003.

SR 167, 15th St. SW to 15th St. NW – HOV

Because funding uncertainties had caused the design of this project to sit "on the shelf" for many years, additional time has been needed for re-design of stormwater treatment, wetland mitigation and floodplain investigations to meet new environmental requirements. This project now has a planned advertisement date of October 2005.

SR 522, Bothell – UW Campus Access

The funding needed from the WSDOT partners did not materialize during the 03-05 biennium. As a result, this project has been deferred to the 05-07 biennium.

SR 522/I-5 to I-405

Because of the benefits of coordinating work with the City of Lake Forest Park, the project has been deferred to the 05-07 biennium.



On the I-5, 2nd Street Bridge Replacement project, crews are almost finished with all underground drilling and concrete pouring for the new bridge piers.

Progress on Projects to Date

Several of the highway projects funded by the Nickel Account are now under construction or have reached other important milestones. Details can be found in the respective on-line Project Pages at www.wsdot.wa.gov/projects.

Some of these projects include:

I-90, Build Lanes from Argonne to Pines Road

This project constructs one additional lane in each direction on I-90. Work has now exceeded the fifty percent complete milestone. Work will continue through the winter on the construction of the noise walls south of I-90 near Argonne Road as weather permits. Eastbound traffic was routed to the new pavement in late October 2004. No additional impacts to traffic are expected until March 2005 when the westbound traffic will be routed onto the temporary configuration during construction of the new lane.

I-90, Cle Elum River Bridge

This project increased the vertical clearance of the westbound Cle Elum River Bridge. The project was completed and opened to traffic on November 4, 2004. The project was designed and constructed within budget.

Palouse River and Coulee City RR Acquisition

Right of way acquisition and operating lease negotiations with the previous owner, WATCO, were successfully concluded on November 1, 2004. This made WATCO the lease operator and State of Washington the official owner of the initial 194 miles of the planned 302 miles of track. The remaining 108 miles will be purchased during the first quarter of the 2005-2007 biennium.

Watch List Projects

WSDOT is giving special attention to projects where cost, schedule or scope expectations may be at risk in the project delivery process, sometimes for reasons outside of WSDOT's control. See pages 18 - 19 of the *Gray Notebook* for details on all the Watch List projects.

SR 4, Svensen's Curve – Realignment

As reported in previous editions of the *Gray Notebook*, this project is experiencing significant right of way acquisition difficulties, which may result in WSDOT not being able to fund this project. At this time WSDOT is proposing to transfer \$125,000 from right of way to preliminary engineering. This will not change the biennial expenditure plan or total project cost. Additional funding may be requested for the project when final decisions are made regarding right of way acquisition.

SR 539/Tenmile Road to SR 546

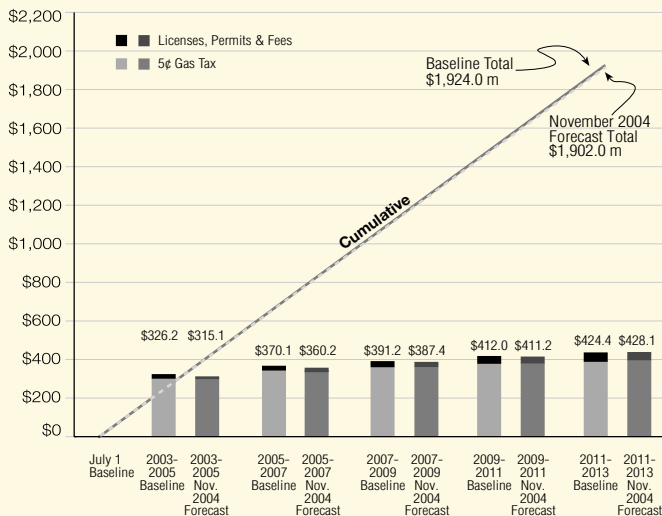
This project was put on hold in 1998 because of the lack of funding. Currently, property information has been updated and indicates that commercial development along the corridor has been significant, causing land values to increase above the forecast on which the proposed project cost was built because land values have increased at a higher rate than the inflation value applied to the old estimate to arrive at the new. Design work continues on this project and right of way information has been updated. The final right of way plans are under development for this project. When complete they will provide a more accurate estimate and identify any opportunities to reduce right of way cost by avoiding high value parcels.

Revenue Forecast

The 2003 Transportation Funding Package enacted by the 2003 Legislature included tax and fee increases. The following charts show the current projected revenues over the next ten years (for the new funding sources) as forecasted in December 2004 by the Transportation Revenue Forecast Council.

Transportation 2003 (Nickel) Account Revenue Forecast

March 2003 Legislative Baseline Compared to November 2004 Transportation Revenue Forecast Council with 2004 Legislative Session Impacts
Millions of Dollars



Multimodal Account (New Sources) Revenue Forecast

March 2003 Legislative Baseline Compared to November 2004 Transportation Revenue Forecast Council
Millions of Dollars

