



**Washington State  
Department of Transportation**

# Measures, Markers and Mileposts

## ***Gray Notebook Lite***

for the quarter ending December 31st, 2006

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

**Douglas B. MacDonald**  
Secretary of Transportation



**Washington State  
Department of Transportation**

This *Gray Notebook Lite* is the twelfth edition of relevant highlights and performance topics selected from the *Gray Notebook*. This quarter's edition of the *Lite* includes annual excerpts from Highway Safety, Asset Management, Highway Maintenance, and the Environmental Program, along with quarterly excerpts from Ferries and Rail.

The beige insert contains a quarterly summarized roll-up of WSDOT's Capital Project Delivery Program.

The full *Gray Notebook* can be found at [www.wsdot.wa.gov/accountability/graynotebook.pdf](http://www.wsdot.wa.gov/accountability/graynotebook.pdf)

Please let us continue to hear your thoughts about what you would like to see in the *Gray Notebook Lite*. Send me an e-mail at [macdond@wsdot.wa.gov](mailto:macdond@wsdot.wa.gov).

*Doug MacDonald*



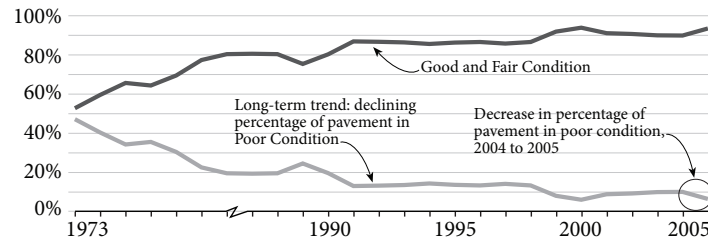
## Pavement Assessment Annual Update

### Increase in the Percentage of Pavement in Good Condition

According to the most current data for the 2005 pavement condition survey, the percentage of all pavements in the “good” category increased from 89.9% in 2004 to 93.5% in 2005, an overall increase of 3.6%.

The decrease in “poor” condition pavements is attributable to a reduction of 119 lane-miles of poor condition portland cement concrete (PCC) pavements, a reduction of 212 lane-miles of poor condition chip seal pavements and a reduction of 307 lane-miles of hot mix asphalt (HMA) pavements in poor condition.

### State Highway Pavement Trends, 1973-2005



Data Source: WSDOT Materials Lab

For the complete Pavement Assessment annual update see pages 53-57 of this quarter's *Gray Notebook*.

Pavement Type	Total Lane Miles <sup>1</sup>	Annual VMT <sup>3</sup> 2005 (Billions) <sup>2</sup>	Pavement Rating	2004	2005	2005-07 Dollars Programmed (Millions) <sup>2</sup>		2007-09 Dollars Programmed (Millions) <sup>2</sup>	
<b>Chip Seal Pavements</b> A chip seal is a durable surface that provides six to eight years of performance life at approximately \$12,000 per lane-mile	4,314	1.1	Good	86%	91%				
	23.5%	3.6%	Poor	14%	9%	\$31.3	15.1%	\$32.3	9.0%
<b>Hot Mix Asphalt Pavements</b> Hot mix asphalt pavements surface life, between rehabilitation treatments, ranges from six to 18 years (based on actual pavement performance) at approximately \$123,000 per lane mile for due miles and \$156,000 for past due miles	11,645	21.7	Good	92%	95%				
	63.4%	68.6%	Poor	8%	5%	\$154.2	74.5%	\$198.2	78.5%
<b>Portland Cement Concrete (PCC) Pavements</b> WSDOT has experienced PCC pavement life ranging from 25 to 45 years with an approximate cost of \$330,000 per lane mile for dowel bar retrofit and \$1 million per lane mile for full replacement.	2,388	8.8	Good	85%	91%				
	13.0%	27.8%	Poor	15%	9%	\$21.5	10.4%	\$22.0	8.7%
<b>Total</b>	18,347	31.6	Good	15,965	16,617	\$207.0		\$252.5	
			Poor	1,797	1,162				

<sup>1</sup>Data Source: State highway Log Planning report 2005 - includes all lane miles

<sup>2</sup>Data Source: Transportation Data Office - excludes ramps, collector - distributors or frontage roads.

<sup>3</sup>Vehicle Miles Traveled: A measure of the amount of vehicular travel. One vehicle traveling one mile = 1 VMT

## Highway Maintenance: Annual Update

### 30 Out of 33 MAP Activity Targets Achieved in 2006

During 2006, 30 of the 33 MAP activity targets were achieved by the highway maintenance program. This equates to a 91% achievement rate (see chart on the right). The three activities for which targets were not attained are Traffic Signals, Intelligent Transportation Systems (ITS) devices, and Highway Lighting. ITS is comprised of a variety of electronic devices throughout the highway system including ramp meters, variable message signs, and highway advisory radio systems.

### Herbicide Use Decreased

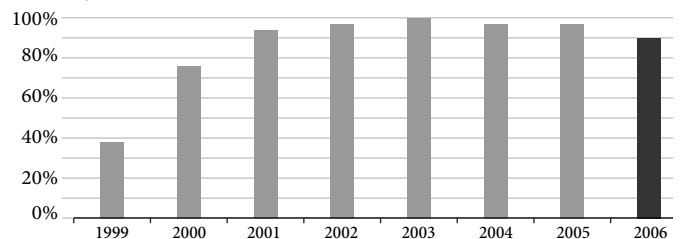
WSDOT's primary measurement of herbicide use is by pounds of active ingredient. Herbicide use has decreased for the third straight year since 2003. In 2006 the agency's statewide herbicide use for roadside maintenance decreased by 42%, from 75,019 pounds in 2005 to 43,892 pounds in 2006. The majority of this reduction is a result of WSDOT's efforts in Eastern Washington to minimize the amount of vegetation-free ground along the edge of pavement. As of 2003, 60% of all WSDOT herbicide use was for maintenance of vegetation at the edges of pavement. In 2006, roadside herbicide applications had decreased to 14,823 pounds from 72,630 pounds in 2003, an 80% reduction from 2003.

For more information on these topics see pages 72-74 of this quarter's *Gray Notebook*.

### Legislatively Funded Targets

1999-2006

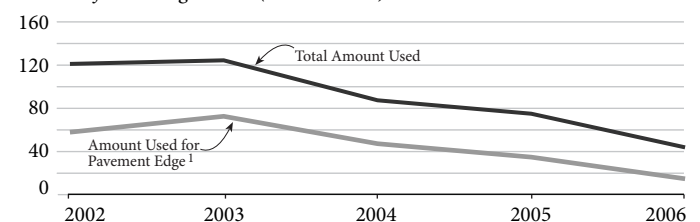
Percentage Achieved



Data Source: WSDOT Maintenance Office

### Statewide Herbicide Use Trends 2002-2006

Pounds of Active Ingredients (In Thousands)



Data Source: WSDOT Maintenance Office

<sup>1</sup>Included in "Total Amount Used" line

# WSDOT'S Capital Project Delivery Programs

## Sixty-Three Projects Completed as of December 31, 2006

*Funded with Nickel and Transportation Partnership (TPA) Accounts, Dollars in Thousands*

	% On-Time Advertised	% On-Time Completed	% Within Scope	Current Legislative Expectation (Baseline)	Current Estimated Cost to Complete (WSDOT)	% of Projects On Budget**	% of Projects On-Time and Budget**†
<b>Totals Current Quarter (December 31, 2006)</b>	100%	75%	100%	\$199,420	\$213,170	38%	38%
<b>8 Nickel Projects</b>	100%	75%	100%	\$199,420	\$213,170	38%	38%
<b>0 TPA Projects</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Totals Biennium to Date (2005-07)</b>	95%	86%	100%	\$391,811	\$400,846	75%	66%
<b>27 Nickel Projects</b>	96%	85%	100%	\$382,418	\$390,703	81%	74%
<b>17 TPA Projects</b>	94%	88%	100%	\$9,393	\$10,143	65%	53%
<b>Totals Cumulative to Date**</b>	97%	91%	100%	\$510,386	\$519,294	79%	73%
<b>46 Nickel Projects</b>	98%	91%	100%	\$500,993	\$509,151	85%	80%
<b>17 TPA Projects</b>	94%	88%	100%	\$9,393	\$10,143	65%	53%

\*\*Based on cost at Operationally Complete milestone; will be updated based on final contract close-out cost, to be reported in future quarters.

†New Measure: Reflects Draft Cabinet Strategic Action Plan Measure

Data Source: WSDOT Project Control and Reporting Office

## Sixty Projects Now in Construction Phase as of December 31, 2006

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

	On-Time Advertised	Award Amount
<b>Totals current Quarter (December 31, 2006)</b>		11,811
<b>8 Nickel Projects</b>	75%	5,228
<b>11 TPA Projects</b>	100%	6,583
<b>Totals Biennium to Date (2005-07)</b>	86%	157,703
<b>30 Nickel Projects</b>	83%	128,423
<b>15 TPA Projects</b>	88%	29,280
<b>Totals Cumulative to Date (Projects Underway)</b>	89%	870,144
<b>42 Nickel Projects</b>	86%	636,864
<b>18 TPA Projects</b>	89%	233,280

Data Source: WSDOT Project Control and Reporting Office

## Forty-One Projects in Delivery Pipeline for December 31, 2006, through June 30, 2007

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

	On Schedule	Current Legislative Expectation (Baseline)	Current Estimated Cost to Complete (WSDOT)
<b>Total (October 1, 2006, through March 31, 2007)</b>	<b>66%</b>	<b>\$540,104</b>	<b>\$573,503</b>
<b>19 Nickel Projects</b>	47%	\$192,132	\$218,413
<b>22 TPA Projects</b>	82%	\$347,972	\$355,090

Data Source: WSDOT Project Control and Reporting Office

Detailed project narratives are available in the December 30, 2006 *Gray Notebook* on pages 16-25.

# WSDOT'S Capital Project Delivery Programs

## Executive Summary: Highway Construction Roll-Up of Performance Information

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

Since PEF projects are budgeted by program for improvement and preservation of the highway system, the delivery of the work included in the 809 PEF projects is reported program-matically six program categories of work. By contrast, each of the 135 Nickel and 183 TPA projects funded in the 2005-07 biennium has a line item budget and is monitored and reported at the individual project level. Program budgets for PEF, Nickel, and TPA in this edition of the *Gray Notebook* are based on the 2006 Supplemental Budget.

Performance Information <i>As of December 31, 2006, Dollars in Thousands</i>	Nickel (2003)	Transportation Partner- ship Account (TPA, 2005)	Combined Nickel & TPA	Pre-Existing Funds
Total Biennial Number of Projects (2005-07)	135	183	318	809
Total Biennial Program (2005-07)	\$821,903	\$370,479	\$1,192,382	\$1,277,138
<b>Schedule, Scope and Budget Summary: Results of Completed Projects</b>				
	See Pages 4-7	See Pages 4-7	See Pages 4-7	NA
<b>Cumulative to Date, 2003 – December 31, 2006</b>				
Total Number of Projects Completed	46	17	63	-
% of Projects Completed Early or On-Time	91%	88%	91%	-
% of Projects Completed Within Scope	100%	100%	100%	-
% of Projects Completed Under or On-Budget	85%	65%	79%	-
% of Projects Completed On-Time and On-Budget†	80%	53%	73%	-
Current Legislative Expectation (Baseline)	\$500,993	\$9,393	\$510,386	-
Current Estimated Cost to Complete (WSDOT)	\$509,151	\$10,143	\$519,294	-
% of Total Program On or Under Budget	98%	93%	91%	-
<b>Biennium to Date, 2005-07</b>				
Total Number of Projects Completed	27	17	44	268
% of Projects Completed Early or On-Time	85%	88%	86%	-
% of Projects Completed Within Scope	100%	100%	100%	-
% of Projects Completed Under or On-Budget	81%	65%	75%	-
% of Projects Completed On-Time and On-Budget	74%	53%	66%	-
Current Legislative Expectation (Baseline)	\$382,418	\$9,393	\$391,811	\$490,947
Current Estimated Cost to Complete (WSDOT)	\$390,703	\$10,143	\$400,846	\$538,391
<b>Advertisement Record: Results of Projects Under Construction or Entering into the Construction Phase</b>				
	See Pages 8-12	See Pages 8-12	See Pages 8-12	See Pages 8-12
<b>Biennium to Date, 2005-07</b>				
Total Advertised	30	16	46	200
% Advertised Early or On-Time	83%	88%	85%	78%
Total Award Amounts to Date	\$128,423	\$29,280	\$157,703	\$313,960
<b>Advertisement Schedule for Projects in the Pipeline:</b>				
Results of Projects Now Being Advertised for Construction or Planned to be Advertised				
	See Pages 13-15	See Pages 13-15	See Pages 13-15	See Pages 13-15
<b>July 1, 2006 through December 31, 2006</b>				
Total in Pipeline	19	22	41	109
% On or Better than Schedule	47%	82%	66%	-
†New Measure: Reflects Draft Cabinet Strategic Action Plan Measure				

## Environmental Programs: Annual Update

### Wetland Replacement Monitoring

Monitoring was initiated on seven new replacement wetlands in 2006, totaling 28 acres. These sites added nine acres of created wetland, ten acres of enhanced wetland, and nine acres of buffer to WSDOT's inventory of replacement acreage. (See chart on the right.)

### Environmental Compliance Assurance

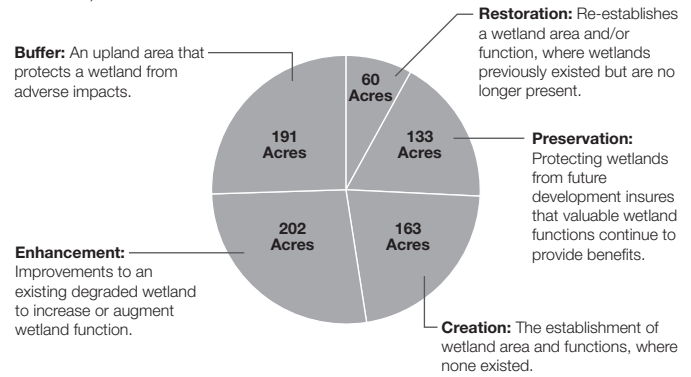
WSDOT self-monitors for "non-compliance events" (events that do not comply with environmental requirements for construction, maintenance, and ferry activities) whether or not such events are considered formal violations by the environmental regulation agencies which monitor WSDOT. In 2006, WSDOT recorded 188 non-compliance events, 62 more than in 2005. Of these events, ten corrective actions were issued from regulatory agencies. It is possible more formal violations could be issued by regulatory agencies in 2007 for events that occurred in 2006. The ten formal environmental violations issued in 2006 were an increase from the four issued in 2005.

For more detail on these topic and other environmental topics such as WSDOT's Environmental Management System (EMS), Erosion Control, Water Quality, and Stormwater Treatment Facilities see page 64-73 in the *Gray Notebook*.

### WSDOT Replacement Wetlands, 1988-2006

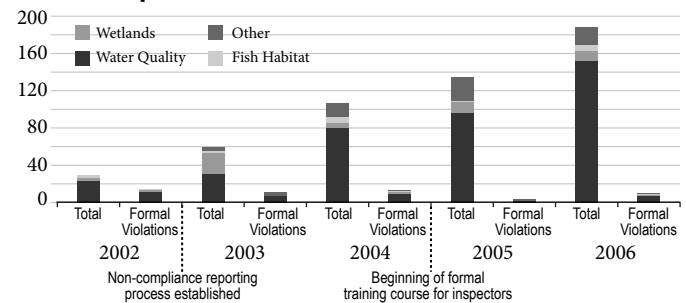
#### Total Acreage of Wetland Projects

137 Sites, 749 Acres



Data Source: WSDOT Environmental Services Office

### Non-Compliance Events 2002-2006



Data Source: WSDOT Environmental Services

## Highway Safety Quarterly Update

### Cable Median Barriers Reduce the Frequency and Severity of Median Cross-Over Collisions

By the end of 2006, WSDOT placed a total of 138 miles of cable barrier in highway medians. Of the 138 miles, a little more than 35 miles have been in place over six months, which is long enough to evaluate before and after collision history for performance. For the 35 miles of cable median barrier evaluated, the frequency of median cross over collisions dropped from 13.3 per year to 4.3 per year after cable barrier was installed in the median. Prior to cable barrier installation, fatal injury median crossover collisions were occurring at a rate of 1.2 per year and disabling injury collisions were also occurring at a rate of 1.2 per year. Note: does not include I-5 in Marysville.

### Increase in Pedestrian and Bicycle Fatalities

Washington's rate among other states for pedestrian and bicycle safety performance fell slightly in 2005 as measured annually by the National Highway Traffic Safety Administration. For pedestrian safety, from 2004 to 2005, pedestrian fatality rates changed from .93 to 1.13 and bicyclist fatality rates changed from 1.13 to 2.07. Washington saw an increase in pedestrian crashes involving both the young and the elderly during 2004 and 2005.

The chart on the right shows the fatal crashes involving the age groups considered most at risk, the young (0-14) and the aging (71+). These age groups experience nearly 45% of all traffic related fatalities involving pedestrians and bicyclist. (This is slightly higher than the national average.)

### Annual Median Crossover Collisions, Before & After Cable Barrier Placement

For 35 miles of Installed Cable Median Barrier in Washington State by 1995

	Before Cable Barrier 1993 to Date of Installation	After Cable Barrier Date of Installation to 2005
All Cross Median Collisions	13.3	4.3
Fatal Cross Median Collisions	1.2	0.0
Disabling Injury Cross Median Collisions	1.2	0.5

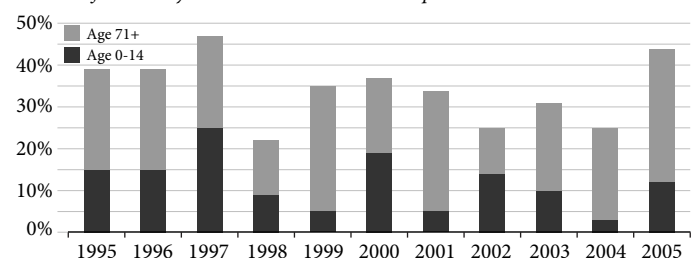
Data Source: WSDOT Design Office

Note: This data does not include the nine miles of cable median barrier on I-5 in Marysville (see p. 60)

### Washington State Pedestrian and Bicycle Fatalities by At-Risk Age

#### 1995-2005

Percent of Total Bicycle and Pedestrian Fatalities per Year



Data Source: WSDOT Highways and Local Programs

For this quarter complete highway safety report see pages 58-63 of the latest *Gray Notebook*.



## Washington State Ferries: Quarterly Update

### Seasonal Weather Affects Trip Reliability

This quarter's update of WSDOT's Ferry System performance looks at several performance measures including customer feedback, capital expenditure performance, and ridership and revenues. This quarter, the Ferry System scheduled 41,759 trips. Of these trips, 307 were cancelled, but 65 make-up trips were made. The total completed trips were 41,517. The table at the right shows the system-wide average reliability index. Using the index, for a commuter making 400 trips annually, 2.3 trips may be cancelled during the course of a year. For the reporting quarter, all of the routes in the ferry system were plagued with worse-than-expected inclement weather. Therefore, the number of canceled trips was higher than a year ago.

### Ridership Improves Beyond Predictions

Ridership for the fiscal year to date is roughly 1% higher than anticipated (124,622 passengers). In fact ridership has been increasing for the first year since the Motor Vehicle Excise Tax (MVET) was repealed by I-695 in 1999. At the time, MVET was a significant source of funding for the ferry system, and its loss created reductions in service across Puget Sound.

For more information on Ferry System performance, please see pages 78-81 of this quarter's *Gray Notebook*.

### Reliability Index

Average annual missed trips per commuter

<b>FY 2001</b>	1.6
<b>FY 2002</b>	2.3
<b>FY 2003</b>	1.7
<b>FY 2004</b>	2.2
<b>FY 2005</b>	1.5
<b>FY 2006</b>	1.2
<b>FY 2007 Q1</b>	1.0
<b>FY 2007 Q2</b>	2.3

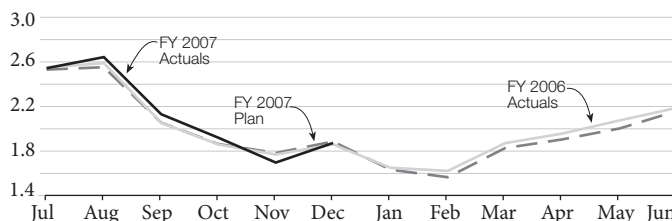
Data Source: WSDOT Ferry System

### Improving Automated Tracking

The Ferry System utilizes an electronic system to record when a vessel leaves its dock in order to track on-time performance. Recently, a software glitch failed to load approximately 1,500 sailings into the ferry systems Automated Operations Support System (AOSS) for the Bremerton-Seattle route. WSF has corrected the problem and will report all trips next quarter.

### Ridership by Month

In Millions



Data Source: WSDOT Ferry System

## Rail: Quarterly Update

### No Growth in 2006

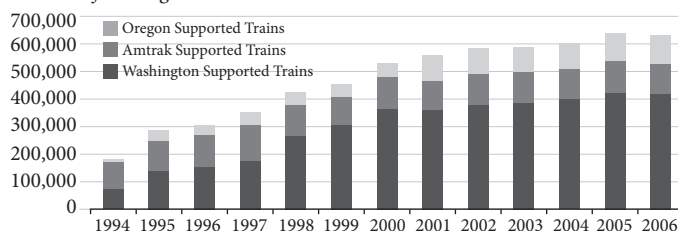
Ridership on all Amtrak *Cascades* trains, including trains financially supported by Amtrak and Oregon, was 629,996 in 2006. This ridership total was 1.1% lower than the ridership total for 2005. For the first time since the state of Washington began investing in intercity passenger rail service, annual ridership failed to surpass the total for the preceding year. This occurred despite the addition of a new daily round trip train between Seattle and Portland in July 2006.

### Grain Train Cars Use Remains Strong

Also included in this edition is an update on Washington's Grain Train program. Use of the grain cars remains strong. Carloads for the fourth quarter of 2006 increased over the already strong mark set in the 2005 fourth quarter. In the fourth quarter of 2006, 353 carloads were shipped compared to 323 in the fourth

### Amtrak *Cascades* Annual Ridership 1994-2006

Number of Passengers



Data Source: Amtrak and WSDOT Rail Office.

quarter of 2005, an increase of 9.3%. An even stronger upward trend can be seen for the year as a whole. In total for 2006, 1,742 carloads were shipped compared to 1,307 carloads in 2005, a 33.3% increase.

For more information on Amtrak *Cascades* and the Grain Train program, please see pages 82 -84 of this quarter's *Gray Notebook*.

## How to Find Performance Information

The electronic subject index gives readers access to current and archived performance information. This 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](http://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, 2006 is available on line at: [www.wsdot.wa.gov/accountability/graynotebook.pdf](http://www.wsdot.wa.gov/accountability/graynotebook.pdf).

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