



**Washington State  
Department of Transportation**

# Measures, Markers and Mileposts

## ***Gray Notebook Lite***

for the quarter ending June 30, 2007

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

This *Gray Notebook Lite* is the fourteenth edition of relevant highlights and performance topics selected from the *Gray Notebook*. This quarter's edition of the *Lite* includes excerpts from the annual reports on Bridge Condition, WSDOT Facilities, Highway Safety, Construction Contracts, and Environmental, along with the biannual update on Travel Information. Also included is an update on the Commercial Vehicle Information Systems and Network program.

The beige insert contains a quarterly summarized roll-up of WSDOT's Capital Project Delivery Program and updates on some of the departments Cross Cutting Management Issues.

The full *Gray Notebook* can be found at <http://www.wsdot.wa.gov/Accountability/GrayNotebook/default.htm>.

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

*P. J. Hammond*



## Asset Management: Bridge Condition Annual Assessment

### 97% of WSDOT Bridges are in Good or Fair Condition

The Governor's Cabinet Strategic Action Plan goal is to maintain 97% of all bridges statewide at a condition rating of good or satisfactory (fair). This measure is consistent with data provided in the Comprehensive Annual Financial Report (CAFR), which groups together the number of bridges, ferry terminal structures, and culverts. Less than three percent of bridge structures (2.6%) had a condition rating of "poor". No bridge that is currently rated as "poor" is unsafe for public travel. Bridges determined to be unsafe are closed to traffic.

### Bridge Structural Condition Ratings

Condition Ratings by Fiscal Year (Based on the Number of Bridges)

Category	2002	2003	2004	2005	2006	2007
Good	87%	86%	87%	89%	88%	88%
Fair	10%	11%	10%	9%	9%	9%
Poor	3%	3%	3%	2%	3%	3%

Source: WSDOT Bridge Office. Data as of June 30 of each calendar year

## Highway Safety: Annual Update

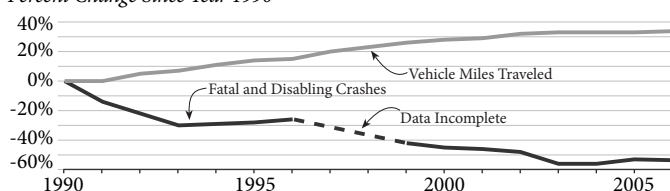
### 3% Decrease in Traffic Fatalities Since 2005

Over the past decade, there has been a general downward trend in traffic fatalities on Washington State's highways, city streets, county roads, and other public roadways. Washington experienced a low point in fatalities in 2003 and 2004, with 600 and 567 deaths, respectively. In 2005, fatalities spiked to 654, which is the highest number since 2001. However in 2006, total fatalities on Washington's public roads decreased 3% from 654 in 2005 to 632.

### Fatal and Disabling Crashes and Vehicle Miles Traveled (VMT)

#### Washington State Highways (State Routes and Interstates)

Percent Change Since Year 1990



Data Source: WSDOT Traffic Data Office

The WSDOT bridge condition ratings reported in the *Gray Notebook* focus on the superstructure and substructure when evaluating the number of bridges in "Good", "Fair", or "Poor" condition based on federal standards. FHWA condition ratings for the superstructure, substructure, and deck range from 0 (failed condition) to 9 (excellent condition). Condition ratings of 4 and below indicate poor or worse conditions and result in structural deficiencies. No WSDOT bridge has a condition rating of less than 3 (serious condition). If any bridge has a condition rating of 2 or less, it is closed to traffic.

WSDOT inspects nearly one-half of all traffic bridges every year and the complete inventory every two years. Bridge engineers also inspect floating bridge cables, tunnels, ferry terminal structures, and sign bridges, and they provide immediate bridge inspection responses if any bridge has been damaged by a vehicle or vessel.

For the complete 2006-2007 Bridge Condition Assessment see pages 59-65 of this quarter's *Gray Notebook*.

## Washington State Tops the Nation for Seat Belt Usage

In 2006, Washington State came in first in the national ranking for seat belt usage with a 96.3% usage rate, which is up a little over 1% since 2005. This is the highest rate ever reported by a state. Washington's seat belt usage rate has shown a steady improvement of about 1% per year since 2004, and has been above 90% since 2002.

For the complete Highway Safety Annual Update see pages 69-74 of this quarter's *Gray Notebook*.

### Percent of Seat Belt Usage Nationally: Top Six States

Top Six Ranking States and Territories for 2006, 2005, and 2004

Rank	State	2006	2005 <sup>1</sup>	2004 <sup>1</sup>
1	Washington	96.3%	95.2%	94.2%
2	Michigan	94.3%	92.9%	90.5%
3	Oregon	94.1%	93.3%	92.6%
4	California	93.4%	92.5%	90.4%
5	Puerto Rico	92.7%	92.5%	90.1%
6	Hawaii	92.5%	95.3%	95.1%

Source: Traffic Safety Facts: Research Note DOT HS 810 690 (US DOT NHTSA)

<sup>1</sup>Not in ranking order, provided for comparison purpose only.

## Asset Management: Capital Facilities Annual Update

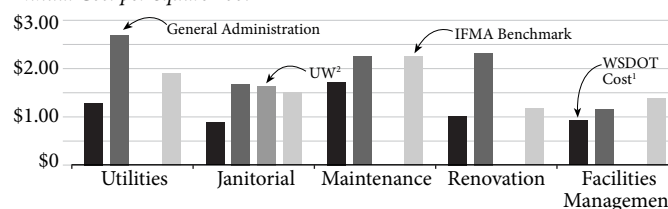
### WSDOT Outperforms Benchmarks

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

WSDOT spends less per square foot than the IFMA's benchmark average, GA, and UW. Funding constraints in the janitorial, maintenance, and renovations expenses areas are causing increases in WSDOT's facilities deferred maintenance backlog.

### 2005-2007 Biennium Benchmarks

Annual Cost per Square Foot



Data Source: WSDOT Facilities Office

<sup>1</sup>This data does not include WSDOT's Safety Rest Areas. For more information on Safety Rest Areas, see the March 31, 2007 *Gray Notebook*.

<sup>2</sup>Data from the University of Washington (UW) was unavailable for all categories except Janitorial.

For the complete Capital Facilities Annual Update see pages 66-68 of this quarter's *Gray Notebook*.

# 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 on 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 828 PEF projects is reported programmatically in six categories of work. By contrast, each of the 136 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. Updates to incorporate the 2007-2009 Biennial Transportation Budget will be made in a later *Gray Notebook*.

Performance Information <i>As of June 30, 2007, Dollars in Thousands</i>	Nickel (2003)	Transportation Partnership Account (TPA, 2005)	Combined Nickel & TPA	Pre-Existing Funds
Total Cumulative Number of Projects	155	233	388	N/A
Total Cumulative Program Value	\$4,910,241	\$10,026,517	\$14,936,758	N/A
<b>Schedule, Scope and Budget Summary: Results of Completed Projects</b>				
<b>Cumulative to Date, 2003 – June 30, 2007</b>	See Pages 5-10	See Pages 5-10	See Pages 5-10	N/A
Total Number of Projects Completed	69	23	92	-
% of Projects Completed Early or On-Time	91%	91%	91%	-
% of Projects Completed Within Scope	100%	100%	100%	-
% of Projects Completed Under or On-Budget	88%	70%	84%	-
% of Projects Completed On-Time and On-Budget	81%	61%	76%	-
Current Legislative Expectation (Baseline)	\$754,642	\$14,919	\$769,561	-
Current Estimated Cost to Complete (WSDOT)	\$757,444	\$15,191	\$772,635	-
% of Total Program On or Under Budget	99.6%	98.2%	99.6%	-
<b>Biennium to Date, 2005-07</b>				
Total Number of Projects Completed	50	23	73	320
% of Projects Completed Early or On-Time	88%	91%	89%	-
% of Projects Completed Within Scope	100%	100%	100%	-
% of Projects Completed Under or On-Budget	88%	70%	82%	-
% of Projects Completed On-Time and On-Budget	78%	61%	73%	-
Current Legislative Expectation (Baseline)	\$636,067	\$14,919	\$650,986	\$497,650
Current Estimated Cost to Complete (WSDOT)	\$638,994	\$15,191	\$654,185	\$564,385
<b>Advertisement Record: Results of Projects Advertised During 2005-07 and Currently in the Construction Phase</b>				
<b>Biennium to Date, 2005-07</b>	See Pages 11-15	See Pages 11-15	See Pages 11-15	See Pages 33-35
Total Advertised	32	27	59	309
% Advertised Early or On-Time	56%	74%	64%	73%
Total Award Amounts to Date	\$276,097	\$334,351	\$610,448	N/A
<b>Advertisement Schedule for Projects in the Pipeline:</b>				
Results of Projects Now Being Advertised for Construction or Planned to be Advertised				
<b>July 1, 2007 through December 31, 2007</b>	See Pages 16-17	See Pages 16-17	See Pages 16-17	NA
Total Projects Being Advertised for Construction	7	16	23	54
% On or Better than Schedule	86%	38%	52%	-

Data Source: WSDOT Project Control and Reporting

# WSDOT'S Capital Project Delivery Programs

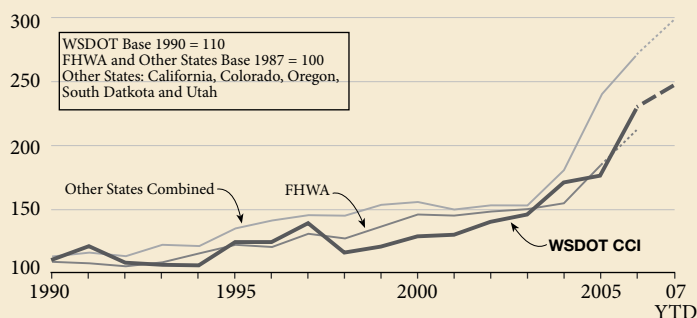
## Construction Material Cost Trends

### Construction Cost Index Increases by 7% in the First Half of 2007

The construction industry has been experiencing price spikes for materials such as steel, asphalt and concrete and fuel. This is evident in the continuing increase in WSDOT's CCI. The CCI has increased 7% in the first two quarters of 2007 over the annual average for 2006, from 228 to 245. The average annual growth rate of the CCI held steady at about 1.5% per year from 1990 through 2001. Beginning in 2002 and continuing through 2005, the growth rate increased to 8% per year. In 2006, WSDOT's CCI increased 30% over 2005.

For more information on Construction Cost Material Cost Trends see pages 44-47 of this quarter's *Gray Notebook*.

### Construction Cost Indices Washington State, FHWA, and Other States



Sources: WSDOT Construction Office, Federal Highway Administration (FHWA)  
Note: WSDOT 2007 Index is for Quarters 1 and 2; FHWA 2006 Data is for Quarters 1, 2 and 3; Other States 2007 Data is for the First Quarter.  
Note: 2003 and 2004 WSDOT CCI data points adjusted to correct for spiking bid prices on structural steel.

## Right of Way

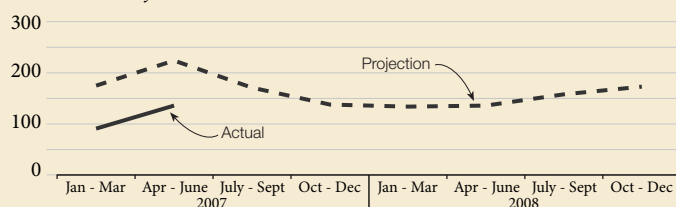
### Acquisitions Less than Projected

In the December 31, 2006 edition of the *Gray Notebook*, WSDOT projected the average number of parcels acquired per month from January through June 2007 would almost double from approximately 40 per month to approximately 80 per month. The actual acquisitions for the first six months of 2007 were much closer to the previous two biennium's average of approximately 43 parcels per month (227 parcels, or 37 per month). There were no projects delayed due to right of way processes for the third and fourth quarters of fiscal year 2007.

For more information on Right of Way see page 41 of this quarter's *Gray Notebook*.

### Acquisitions for All PEF, TPA and Nickel Projects January 1, 2007 - December 31, 2008

#### Actuals and Projections



Data Source: WSDOT Real Estate Services.

## Fifty-Nine Projects Now in Construction Phase as of June 30, 2007

Nickel and Transportation partnership Account (TPA) Projects

Dollars in Thousands

<b>Totals Current Quarter June 30, 2007)</b>	<b>47%</b>	<b>49,061</b>
10 Nickel Project	40%	7,668
9 TPA Projects	56%	41,393
<b>Totals Biennium to Date (2005-07)</b>	<b>64%</b>	<b>610,448</b>
32 Nickel Projects	56%	276,097
27 TPA Projects	74%	334,351
<b>Totals Cumulative to Date (Projects Underway)</b>	<b>68%</b>	<b>1,204,754</b>
40 Nickel Projects	63%	666,403
29 TPA Projects	76%	538,351

Data Source: WSDOT Project Control and Reporting Office

## Twenty-Three Projects in Delivery Pipeline for July 1, 2007 Through December 31, 2007

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

Dollars in Thousands

<b>Total (July 1 2007 through December 31 2007)</b>	<b>52%</b>	<b>\$458,265</b>	<b>\$472,665</b>
7 Nickel Projects	86%	\$232,415	\$297,531
17 TPA Projects	38%	\$225,850	\$175,134

Data Source: WSDOT Project Control and Reporting Office

Detailed project narratives are available on pages 18-27 of this quarter's *Gray Notebook*.

## Construction Contracts: Annual Update

### 138 Construction Contracts Awarded within 1.2% of Engineer's Estimate in FY 2007

WSDOT awarded 138 highway construction contracts between July 1, 2006 and June 30, 2007 (FY 2007). The 138 contracts awarded in FY 2007 represents a 16.9% increase from the number of contracts awarded (118 total) for FY 2006.

For every contract awarded, WSDOT tracks the difference between the contract award amounts and the engineer's estimate. The total award amount of all contracts for FY 2007 totaled \$531,708,985, which was 1.2% above the total engineer's estimate of \$525,491,874. The awarded total represents a 47.1% increase from FY 2006 (total value: \$361, 514,031) in the value of contract awards.

### 119 Construction Contracts Completed in FY 2007

WSDOT completed 119 highway construction contracts in FY 2007, representing a 4.3% increase from the number of contracts completed in FY 2006 (114 contracts). For every completed contract, WSDOT tracks final construction costs compared to the original engineer's estimate and the award amount. WSDOT's goal is for the final construction costs to be less than 10% above the award amount.

## Commercial Vehicle Information Systems and Networks (CVISN) Update

CVISN uses weigh-in-motion scales to electronically screen trucks as they approach a weigh station. As of 2006, 20% of all trucks moving through the state had CVISN transponders. This is a voluntary program requiring a one-time fee of \$30 for a transponder that can be used to bypass weigh stations in Washington and other states.

Trucks equipped with CVISN transponders were pre-cleared and received over 948,000 green lights to bypass Washington weigh stations in 2006. This is an increase of 11.5% over 2005. WSDOT estimates that an average stop at a weigh station is five minutes.

## Travel Information: Biannual Update

### WSDOT's 5-1-1 System Provides Users with "Real-Time" Travel and Traffic Information

Between January 1, 2007 and June 30, 2007, there were 744,188 calls made to WSDOT's 5-1-1 Travel Information System. Of those calls, 628,631 (84%) were made by March 31. The majority of calls were made in the beginning of the year due to adverse weather conditions in the mountain passes.

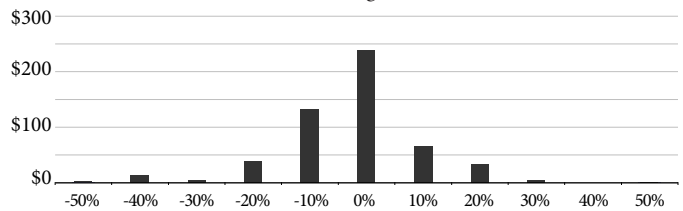
In January 2007, WSDOT added a new computer server in order to handle large call volumes during severe weather conditions. The 5-1-1 system can now handle 192 simultaneous calls, up 37% from the system's previous capacity of 140 simultaneous calls.

### WSDOT Provides Traffic Data to Mobile Devices

A traffic site for mobile devices was created for the Puget Sound area to allow users to use mobile devices to access the latest flow map and to view WSDOT cameras. The site is located at [www.wsdot.wa.gov/traffic/seattle/small/](http://www.wsdot.wa.gov/traffic/seattle/small/), and continues to gain popularity as cell phones become more sophisticated and more models have Internet access.

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

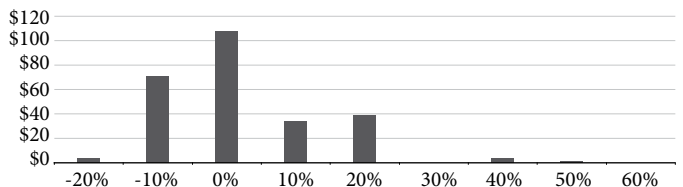
Percent Award Amount Above or Below Engineer's Estimate, Dollars in Millions



Data Source: WSDOT Construction Office

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

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



Data Source: WSDOT Construction Office

For the complete 2006-2007 Construction Contracts Annual Update, see pages 56-58 of this quarter's *Gray Notebook*.

## Percent of Trucks With Transponders and Percent of Transponder-Equipped Trucks Bypassing Weigh Stations, 2004-2006

	Total Number of Trucks with Transponders	Percent With Transponders	Percent Bypassed
2004	915,486	13.33%	85.96%
2005	1,058,843	18.72%	81.83%
2006	1,155,255	20.24%	82.12%

Data Source: WSDOT CVISN Office

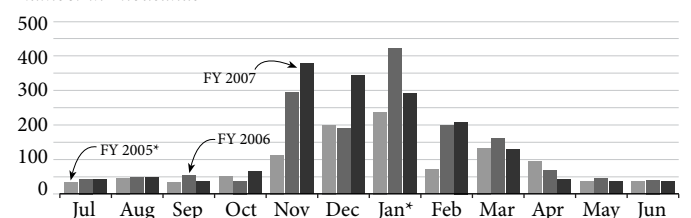
With an estimated operating cost of \$1.25 per minute, the 2006 savings to the trucking industry were approximately 79,000 hours of travel time, and just under \$6 million. For the complete CVISN Update, see page 80 of this quarter's *Gray Notebook*.

## Total Calls to Travel Information<sup>1</sup>

(5-1-1, 1-800-695-ROAD, 206-DOT-HWY)

3-Year Trend: FY 2005-FY2007

Number in Thousands



Data Source: BCMS, Traffic Office.

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

The site had 41,211 page views when launched in October 2006, which grew to 381,174 page views in June 2007.

For more information on the Travel Information Biannual Update see page 79 of this quarter's *Gray Notebook*.



## Environmental Programs: Annual Update

**Improved Fish Passage Remains as a Important Program**  
WSDOT and the Washington State Department of Fish and Wildlife (WDFW) have had a joint agreement since 1991 to inventory culverts across the state highway system in order to identify locations that require improvements or culvert replacements to improve fish passage. In the last year, WSDOT and WDFW have increased their inventory of culverts from 56% to 87%, or roughly 6,300 of the 7,045 miles of state owned highway. More than 20 culverts were replaced in FY 2007, and an additional seven projects will go to construction in the remainder of the calendar year.



**BEFORE:** SR 142 near Goldendale and Bowman Creek. A 9 foot box culvert was a velocity barrier during high flows and prevented fish passage.



**AFTER:** A new 60 foot bridge restored fish passage for coho salmon, steelhead, bull and resident cutthroat trout.

## Incident Response: Quarterly Update

### Average Response Time Remains Steady

In the second quarter of 2007, the WSDOT Incident Response Program responded to 13,487 traffic incidents. This is an increase of 0.4% from last quarter. However, this is a decrease of 7% from the same quarter last year. The average response time was 16.0 minutes this quarter, as compared to the 16.3 minute average response time measured last quarter. The 16.0 minutes represents a decrease of 0.5% from the same quarter last year.

This quarter's performance results were consistent with trends from past quarters. For the quarter, 8,262 (61.3%) of the 13,487 responses were resolved in under 15 minutes, 4,235 (31.4%) took 15 to 90 minutes to resolve, and 187 (1.4%) took 90 minutes or longer to clear. The remaining 803 (5.9%) were IR truck dispatches that were unable to locate the incident.

## 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: <http://www.wsdot.wa.gov/Accountability/GrayNotebook/SubjectIndex.htm>

## Air Quality Improvements Are Making a Difference

WSDOT has been working to tackle fugitive dust generated by highway construction projects in order to minimize air quality problems for neighboring communities. In addition, WSDOT is continuing to test alternative, lower emission fuels for its Ferry System. The low sulfur diesels currently in use have reduced particulates by 30%, or 75 tons in one year of use compared with (conventional) diesel fuels.

## Noise Walls Continue to Grow With the Highway System

WSDOT continues to meet federal requirements governing the mitigation of noise in freeway adjacent communities. Six additional miles of noise barrier walls were constructed by the end of 2006, for a statewide total of 79.3 miles. WSDOT continues to refine its method of determining where and what type of noise barriers it will construct in order to meet noise quality standards.

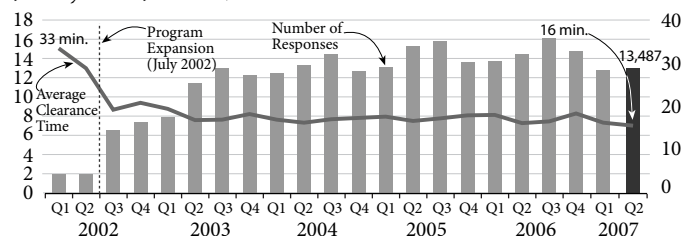
## Quiet Pavement Another Tool to Fight Noise Pollution

Since over 70% of roadway noise comes from tires on pavement when vehicles travel at high speeds, WSDOT is measuring tire-pavement noise on various pavement types to see what noise levels they produce. Three locations in the state were selected to feature test-quiet pavement surfaces made of enhanced rubber and polymer. In the I-5 Lynwood test section, lanes paved with the new quieter surfaces have recordable reductions of up to three decibels (dBA) compared with a conventional pavement like Hot Mix Asphalt. Additional testing and analysis will be required to evaluate the long-term feasibility of quieter pavements.

For more information on the Environmental Programs Annual Update, see pages 83-87 of this quarter's *Gray Notebook*.

## Number of Responses and Overall Average Clearance Time for All Incidents

January 2002 - June 2007, Number in Thousands



Data Source: WSDOT Incident Response Tracking System.

Note: Program-wide data is available since January 2002. Prior to Q3 of 2003, number of responses by IRT are shown. From Q3-2003, responses by Registered Tow Truck Operators and WSP Cadets have been reported in the total. Average Clearance Time does not include "Unable-to-Locate" responses into calculation.

For more information on the Incident Response Quarterly Update see pages 75-78 of this quarter's *Gray Notebook*.

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 June 30, 2007 is available on line at: <http://www.wsdot.wa.gov/Accountability/GrayNotebook/default.htm>

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