

Measures, Markers and Mileposts

Gray Notebook Lite

for the quarter ending September 30, 2005

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

Douglas B. MacDonald Secretary of Transportation



This Gray Notebook Lite is the seventh edition of relevant highlights and performance topics selected from the Gray Notebook. This quarter's edition of the Lite includes a brief excerpt from the annual congestion report, an update on bridge inventory increases, and an update on the Commute Trip Reduction Performance Grant program.

The beige insert contains a quarterly update on "Nickel Project" progress, as well as information on the new schedule milestones reporting.

The full *Gray Notebook* can be found at www.wsdot. Please let us cont.

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.

Dry Mr Grill









Measuring Delay and Congestion: Annual Update

This quarter's *Gray Notebook* contains an annual update on delay and congestion measures. WSDOT has been tracking congestion through multiple measures for several years. Below is an excerpt from this 14page report showing changes in travel times for 20 popular Central Puget Sound commutes. The table to the right contains a miniature table of contents for the full congestion report in the September 30, 2005 Gray Notebook.

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Key Commutes: Travel Time Performance 2002 to 2004

Routes in this table are ranked by the % change column below from the largest percent improvement to the largest percent deterioration.

Percent of "Slow Travel Days": Days When Travel Times **Time Associated**

Exceeded Twice the with Freeflow

Traffic

95% Reliable Travel Time

					minute	es)			Volume	with Free	llow	(in minເ	ıtes)		
Ranking	Route	Route Description	Peak time	Length (Miles)	2002	2004	Change	% Change	% Change since 2002	2002	2004	2002	2004	Change	% Change
1	SR 167	Renton to Auburn	5:20 PM	9.8	20	17	-3	-15%	1%	39%	21%	38	33	-5	-13%
2	I-5	Seattle to SeaTac	4:10 PM	12.9	20	19	-1	-5%	5%	20%	4%	32	25	-7	-22%
3	I-90/I-5	Issaquah to Seattle	7:40 AM	15.5	23	23	0	0%	1%	6%	7%	31	32	1	3%
4	I-5/I-90	Seattle to Issaquah	5:35 PM	15.7	23	23	0	0%	5%	9%	12%	33	35	2	6%
5	I-405/I-90/I-5	Bellevue to Seattle	7:45 AM	10.7	15	15	0	0%	0%	5%	7%	21	23	2	10%
6	SR 520/I-405	Redmond to Bellevue	7:50 AM	7.1	10	10	0	0%	2%	1%	4%	11	13	2	18%
7	I-405/I-90	Bellevue to Issaquah	5:35 PM	9.3	16	16	0	0%	2%	18%	14%	21	21	0	0%
8	I-5/SR 526	Seattle to Everett	4:45 PM	23.7	42	43	1	2%	-1%	26%	28%	62	66	4	6%
9	SR 520/I-5	Redmond to Seattle	7:40 AM	14.8	22	23	1	5%	2%	6%	10%	30	33	3	10%
10	I-90/I-405	Issaquah to Bellevue	7:45 AM	9.5	17	18	1	6%	2%	21%	35%	25	27	2	8%
11	I-5/SR 520/I-405	Seattle to Bellevue	5:35 PM	10.6	17	18	1	6%	0%	18%	29%	26	31	5	19%
12	I-405/I-90	Bellevue to Tukwila	4:30 PM	13.5	26	28	2	8%	0%	33%	59%	36	39	3	8%
13	I-405/SR 520	Bellevue to Redmond	5:45 PM	6.8	13	14	1	8%	-3%	33%	54%	17	22	5	29%
14	I-5	SeaTac to Seattle	7:45 AM	12.9	23	25	2	9%	2%	4%	28%	28	34	6	21%
15	SR 526/I-5	Everett to Seattle	7:20 AM	23.7	44	48	4	9%	1%	35%	52%	66	74	8	12%
16	I-5/SR 520/I-405	Seattle to Bellevue	5:35 PM	10.1	18	20	2	11%	-1%	29%	43%	28	31	3	11%
17	I-405/SR 520/I-5	Bellevue to Seattle	7:50 AM	10.5	17	19	2	12%	-1%	14%	34%	24	27	3	13%
18	I-405	Tukwila to Bellevue	7:45 AM	13.5	32	36	4	13%	-1%	73%	80%	51	52	1	2%
19	SR 167	Auburn to Renton	7:25 AM	9.8	15	17	2	13%	-1%	7%	17%	22	26	4	18%
20	I-5/SR 520	Seattle to Redmond	5:35 PM	14.7	26	30	4	15%	-1%	30%	49%	37	43	6	16%

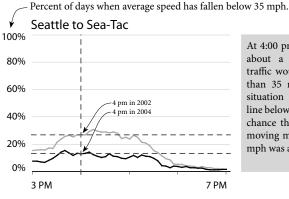
Peak Travel Time (in

Source: WSDOT Traffic Operations and Washington State Transportation Center (TRAC) at the University of Washington

If you regularly drive to work in the Central Puget Sound area, Slow Traffic Days through experience when to leave work to avoid bad congestion, or which alternative route to take in case of an unexpected traffic slow down. But do you know if your commute is better or worse than two years ago? What about the status of alternative routes near your commute? To manage traffic and to answer questions like these, WSDOT collects traffic data through induction loop detectors. The counters record data 24 hours a day. The data serves multiple purposes, providing real-time traffic conditions to motorists through the WSDOT website, managing the elements of the traffic system that control the flow of traffic such as ramp meters, and monitoring long-term traffic patterns. The table above represents 20 key commute routes in the Central Puget Sound area, and compares results from 2002 to 2004 in various measures of travel conditions during A.M. and P.M. peak times.

For more information on this table, see the *Gray Notebook*, pages 58-60.

you generally know how long it takes to commute. You know How has commute speed worsened or improved from 2002 to 2004? The diagram below shows how to read a "stamp graph" of slow traffic days for the Seattle to SeaTac, I-5 afternoon commute. See the stamp graphs on page 61 of the Gray Notebook for answers to this question for the 19 other key Central Puget Sound commutes.



At 4:00 pm in 2002, you had about a 26% chance that traffic would be moving less than 35 mph. In 2004, the situation was better (black line below the gray line); your chance that traffic would be moving more slowly than 35 mph was about 12%.

Asset Management: Bridge Assessment

WSDOT's policy is to maintain 95% of its bridges at a structural condition of at least fair. The assessment in 2005 found that state-owned bridges were within these parameters: just two percent of bridges

showed a condition rating of "poor." No bridge currently rated as "poor" is unsafe for public travel. See pages 50-56 in the *Gray Notebook* to learn more.

WSDOT Bridge Structural Condition Ratings for 2005

	Category	Description	2000	2001	2002	2003	2004	2005
The condition rating data shown at right is based on the structural sufficiency	Good	A range from no problems to some minor deterioration of structural elements.	84%	85%	87%	86%	87%	89%
standards established in the Federal Highway Administration (FHWA) "Record- ing and Coding Guide for the Structural	Fair	All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, cracking, spalling or scour.	11%	11%	10%	11%	10%	9%
Inventory and Appraisal of the Nation's Bridges." This structural rating relates to the evaluation of bridge superstructure, deck, substructure, structural adequacy and waterway adequacy.	Poor	Advanced deficiencies such as section loss, deterioration, cracking, spalling, scour or seriously affected primary structural components. Bridges rated in poor condition may be posted with truck weight restritions.	5%	4%	3%	3%	3%	2%

Underwater Bridge Inspection Team

The Bridge Office Underwater Dive Team, formed in June 2004, enables WSDOT to perform underwater inspections and respond quickly to underwater emergencies. Over the past year the team has completed over 100 production dives in extreme conditions. The dive schedule has resulted in the completion of 32 State and 17 Local Agency bridge inspections. Previously, underwater inspections were contracted out. Initial estimates of annual savings of the dive team to WSDOT were \$100,000. This figure is now being revised upwards to \$150,000. This savings includes all labor and equipment purchases to date.



Darren Nebergall (left) and Shawn Plichta (right) at Port Washington Narrows, Bremerton, WA.

Construction Industry Costs (Excerpt)

The construction industry across the country is buzzing with discussion of price run-ups for construction inputs including materials, fuel, equipment, and labor. Adverse trends had been apparent throughout the last year, especially for steel, cement, and energy (fuel). In the aftermath of Hurricane Katrina (and then, to a lesser extent, Wilma), concerns heightened especially at the prospects of still higher energy prices as well as new demand-side pressure on industry resources from Gulf area re-building.

Trailing Indicators

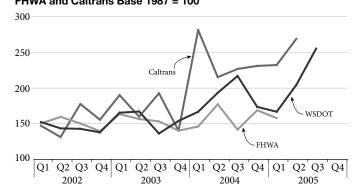
WSDOT prepares its construction cost estimates from the information about market conditions drawn from recent bids, not from a crystal ball of future market conditions. WSDOT accumulates construction cost information into a construction cost index and compares that information against the experience of other states. WSDOT's Construction Cost Index (CCI) is a composite of unit price information from low bids on seven of the most commonly used construction materials. These items reflect a composite cost for a completed item of work and include the cost of labor, equipment and materials.

The graph to the right looks in detail at the most recent 15 quarters of WSDOT's materials costs, plotted against similar types of cost indices maintained by the Federal Highway Administration (FHWA) for the country as a whole and by the California Department of Transportation (CalTrans) for California. (FHWA has not yet released data on the two most recent quarters.) WSDOT will be including Construction Cost Indices for other states in future editions.

The Crystal Ball

In the world of markets, everyone knows by heart the disclaimer in the advertisements for mutual funds: "Past results are not a guarantee of future performance." This is precisely the case when looking

Quarterly Construction Cost Index WSDOT Base 1990 = 110 FHWA and Caltrans Base 1987 = 100



ahead to national and local construction industry pricing, especially when price volatility seems inevitable from the many increasing price trends the industry now faces.

More details on construction materials costs are available in the *Gray Notebook* on pages 43-46.

WSDOT Water Conservation During Summer 2005

The warm winter of 2004-05 brought low snowfall and left low snow pack levels in the mountains. The situation prompted Governor Gregoire to issue a statewide Drought Emergency in March 2005. In response, WSDOT assessed water usage and deployed a water conservation plan during the summer of 2005. By cutting back water use, WSDOT projected an overall water savings of 28% (a 94 million gallon reduction) compared to water use during 2004. Significant water conservation was achieved on highway rest areas, highway roadside landscapes, and WSDOT facilities.

Commute Options: Annual Update

Creating Cost Effective Strategies to Reduce Drive-Alone Commute Vehicle Trips

The Washington State Legislature created the Commute Trip Reduction Performance Grant Program in 2003 to encourage entrepreneurs, private companies, transit system, cities, and non-profit organizations to provide services to employees that result in fewer vehicle trips arriving at worksites. The program paid the grantees for the projected number of trips they reduced. Grant amounts between \$56 and \$460 per daily trip reduced over the course of one year were awarded. Grantees were also eligible to receive up to 50% of the award to cover start-up costs. The balance of the award was based on project performance. The geographic distribution of projects awarded was comprised of 11 (33.3%) from the Puget Sound, 11 (33.3%) areas in Western Washington outside the Puget Sound Region, and 11 (33.3%) elsewhere in the state. More information is available in the most recent *Gray Notebook* on page 78.

CTR Performance Grant Program Results

Of the 33 projects selected, 29 projects were completed:

- 14 exceeded their goal to reduce work site commute trips
- 7 made at least 50% of their goal
- 4 did not meet 50% of their goal
- 4 showed an increase in vehicle trips

The program reduced an actual total of 5,150 daily trips, or an annual total of 1,287,500 vehicle trips for the year calculated as $(5,150 \times 250 \text{ days} = 1,287,500)$. The annualized trip cost was \$241.91. The cost of each individual trip was 97 cents per trip (obtained by calculating the annualized trip cost of \$241.91 per 250 days).

The overall program goal was exceeded by 41%. The total award amount paid was \$1,084,217.10. The total bonus amount paid was \$161,508.20

Amtrak Cascades: Quarterly Update

The months of July, August, and September are the peak ridership months for Amtrak Cascades. This trend continued in 2005, with 121,146 riders taking state-supported Amtrak Cascades trains during the three-month period. This represents an 8.7% increase over the third quarter of 2004. September's ridership was nearly 15% higher than September 2004. This significant increase in ridership was driven by several factors, including higher fuel costs for automobile travel.

Evidence from around the country suggests that more people turned to transit and rail for their local and intercity trips as the average price for a gallon of gasoline reached three dollars. If fuel prices remain high, it is likely that Amtrak Cascades trains will experience ridership increases above the two to three percent annual growth of recent years. For more information about the rail program, see pages 83 - 84 of the latest Gray Notebook.

Washington State Ferries: Quarterly Update

WSDOT Washington State Ferries scheduled 43,901 trips during the first quarter of fiscal year 2006. Of these trips, 109 were cancelled but 23 make-up trips were made. Total completed trips were 43,815 (43,901 - 109 + 23). The chart at the right shows a system-wide average reliability index. Using this index, 0.8 ferry trips may be cancelled during the course of a year for a commuter making 400 trips to work 200 days per year. This suggests an average of 2.0 trips cancelled per thousand. This measure represents a 44% improvement in performance from the preceding quarter, and a 51% improvement from the preceding year's first quarter. The outstanding performance in the first quarter of fiscal year 2006 is the best on record and 35% higher than the previous record of 1.2. Timely and effective safety, maintenance, and operating practices on vessels and terminals are contributing factors to this level of performance. More ferry information is available in the latest *Gray* Notebook on pages 79 - 82.

Average Missed Trip per Commuter

FY 2001	1.6
FY 2002	2.3
FY 2003	1.7
FY 2004	2.2
FY 2005	1.5
FY 2006 Qtr 1	0.8
FY 2006 Qtr 1 ¹	0.3

¹ Without Keystone-Pt. Townsend

A total of 47 trips were cancelled on the Port Townsend - Keystone route due to weather/tides. Excluding trips lost to tidal conditions at Keystone, the ferry system completed 99.91% of all trips and had a reliability index of 0.3. Per legislative direction, the ferry system continues to study alternative in-harbor options at Keystone.

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.

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 September 30, 2005 is available on line at: www. wsdot.wa.gov/accountability/graynotebook.pdf.

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Beige Pages: Project Reporting on the 2003 and 2005 Transportation Funding Packages

For the quarter ending September 30, 2005

WSDOT's website provides regularly updated information on projects at www.wsdot.wa.gov/projects.

Summary of Thirteen Nickel Projects Completed as of September 30, 2005

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

Cumulative Cost to Date \$43,578 \$40,726

Definitions:

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

"On Time Completed": the project was operationally complete within the quarter as planned in the 2003-05 Budget.

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

Project Details:

- ¹Stage 1 complete, Stage 2 under construction
 - ² During excavation for the new lane, a large amount of saturated clay was found; this increased the cost of construction.
 - ³ Correction made, project was advertised early.

NEW: Schedule Milestone Reporting

With this edition of the *Gray Notebook*, WSDOT begins a new Beige Page section that summarizes information for six Project Delivery Milestones for Nickel projects. These milestones compare planned delivery milestone dates for each active Nickel project against the actual completion date for the milestone activity.

Milestones are indicators of progress for a project, but are not in themselves measurements of delivery effectiveness. A slippage of any milestone may not affect the final milestone: the date the project is operationally complete. Should a project encounter milestone delay, WSDOT seeks, if possible, to adjust other activities and to find innovative solutions or alternatives to maintain the overall project schedule.

The table below summarizes the six milestone results for all Nickel projects that had one or more milestone activity in the 2003-05 biennium. In future quarters the current status of project delivery for these six milestones will be reported as shown in the table below for Pre-Existing Fund (PEF) projects and for Transportation Partnership projects.

Schedule Milestone Tracking for Nickel Projects as of September 30, 2005

Milestone Activity	Total # of Projects with this Activity	Projec	ets Early %	Proje	cts On-Time %	Projec	ts Delayed %	Projects for which Activity has Not Yet Begun	Projects for which Activity is Not Applicable
Project Definition	25	0	0%	25	100%	0	0%	4	79
Begin Preliminary Engineering	55	4	7%	47	85%	4	7%	7	46
Environmental Documentation Complete	23	2	9%	18	78%	3	13%	22	63
Right of Way Certification	13	1	8%	9	69%	3	23%	39	56
Advertisement Date	40	15	38%	19	48%	6	15%	68	0
Operationally Complete	14	11	79%	2	14%	1	7%	94	0

[&]quot;Within Scope": the project was completed within the specific functional intent of a project as approved by the Legislature.

[&]quot;On Budget": within \pm 5% of the baseline budget.

Opportunities and Options for Legislative Consideration (Excerpt)

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

This critical corridor has been widened to a modern four-lane highway from Woodinville (Route 9) to Paradise Lake Road. Two sections remain: Paradise Lake Road to Snohomish River Bridge and Snohomish River Bridge to Monroe. The 2003 Legislative Funding Package provided funding for the Snohomish River Bridge to Monroe section and stipulated that the middle section, Paradise Lake Road to Snohomish River Bridge, would be funded through the Regional Transportation Improvement District (RTID) program. RTID funding has not materialized.

The section from Paradise Lake Road to the Snohomish River Bridge (Western Half) was designed and permitted as part of the ongoing construction project. Those permits will expire in 2006-07 if the construction of the Western Half does not move forward. If the current permits expire, additional mitigation and permit conditions will be required to match current criteria which will add considerable cost to the project. WSDOT is requesting that the Legislature shift the funding from Stage 5 and fund the Paradise Lake Road to Snohomish River Bridge and Paradise Lake Road Interchange.

SR 539, Tenmile Road to SR 546

As reported in the June 2005 *Gray Notebook*, the amount designated by the Legislature for this project in 2003 proved to be too low because the rapid rise in right of way costs in this corridor was not adequately taken account of by WSDOT in its cost estimate. To keep the project moving, WSDOT has shifted \$9.8 million in construction funds from 2007-09 and 2009-11 to complete right of way purchases in 2005-07. With the remaining construction funds (about \$58.3 million), WSDOT can proceed with a "Phase 1" construction program taking the widening to about the south city limits of Lynden with the scheduled October 2007 advertisement date.

The remaining work would reside in a "Phase 2" project for which additional funds would be required. Changes in the right of way process are being investigated to allow WSDOT to accelerate the property acquisition process for Phase 2. If these changes cannot be made, then the earliest the right of way for Phase 2 would be acquired could most likely be October 2008.

More information on these Opportunities for Legislative Consideration is available on page 15 of the *Gray Notebook*.

Proposed Adjustments to Delivery Planning (Excerpt) SR 99 - Alaskan Way Viaduct by th

The 2005 Legislature provided \$142 million in Nickel funding in the 2005-07 biennium for preliminary engineering. After the Legislative session, the project received \$231.2 million of new federal SAFETEA-LU funding that will be used for right of way acquisition and early construction. The project team is proposing to shift Nickel funding into a later biennium since the new SAFETEA-LU funds will allow progress at the pace provided for

by the Legislature. WSDOT proposes to move \$83 million of the Nickel funds into the 2007-09 biennium and \$19 million into the 2009-11 biennium, while shifting \$77 million into the right of way phase. This change permits the timing of the Nickel funds to match the needs for state matching of the expected flow of federal fund and also allows earlier than previously expected acquisition of right of way. See the *Gray Notebook* pages 13-14 for more proposed adjustments.

"Watch List" Projects (Excerpt)

I-5, Chehalis River Flood Control

The U.S. Army Corps of Engineers, Lewis County, and WSDOT will develop a comprehensive flood hazard management project that would provide flood relief for communities in the Chehalis River Basin and for I-5. The Corps of Engineers estimates an additional \$70 million is needed to fully fund the project. Due

to the new funding package requirements and the recent storm and flooding in Mississippi, Louisiana, and Texas, it is unlikely that the Corps of Engineers will receive funding. WSDOT is currently evaluating options for this project. For more "Watch List" projects, see pages 17-19 in the *Gray Notebook*.

2003 Nickel Projects Advertised and Awarded To Date

I-5, 2nd St. Bridge – Replace Bridge

I-5, Salmon Creek to I-205

I-5, Pierce County Line to Tukwila - HOV

I-5, South 48th to Pacific Avenue - Core HOV

I-5, NE 175th St. to NE 205th St. - Northbound Lane

I-5, SR 526 to Marine View Dr.

U.S. 12/SR 124 to McNary Pool - Add Lanes

SR 16, 36th St. to Olympic NW - HOV

SR 16/I-5 to Tacoma Narrows Bridge - HOV

SR 18, Covington to Maple Valley Highway

SR 24, I-82 to Keys Road

SR 31, Metaline Falls to International Border

I-90, Pines Road to Sullivan Road - Widen

I-90, Argonne Road to Pines Road – Widen

I-90, Eastbound Ramps to SR 18 - Signal

SR 106, Skobob Creek - Fish Passage

SR 161, 234th Street to 204th St. E

SR 161, 204th to 176th St

SR 161, Jovita Blvd. to South 360th St.

SR 240/I-182 to Richland Y - Add Lanes

SR 240, Richland Y to Columbia Center Interchange

SR 395, NSC - Francis Ave. to Farwell Rd.

SR 527, 132nd St. SE to 112th St. SE

SR 7/SR 507 to SR 512 – Safety

SR 9/SR 522 to 228th St SE - Widening

SR 9, 228th St SE to 212th St SE (SR 524)

Projects Advertised, Pending Award (2)

SR 202, Junction 292nd Ave SE

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

Awarded Projects

The total amount for the 39 awarded projects, including the 13 completed projects, is \$621 million, \$2 million below the pre-bid engineer's estimate of \$623 million. Two projects have been advertised and are pending award. These projects are not included in the engineer's estimate of \$623 million.