



The Gray Notebook 45 Lite

Excerpts from *Gray Notebook 45*, WSDOT's quarterly performance report on transportation systems, programs, and department management for the period ending March 31, 2012.

Additional highlights from *Gray Notebook 45*

In addition to the topics in the *Lite*, selected highlights include:

- **Centerline rumble strips in combination with shoulder rumble strips showed a 56% reduction** in fatal and serious injury collisions. (*Highway System Safety Programs Quarterly Focus*; pp. 5-7)
- **Safety rest area facility conditions show a 5% improvement.** Forty-eight safety rest areas were evaluated; the overall statewide average remains in the "fair-mid" (adequate) category. (*Safety Rest Areas Annual Preservation Report*; pp. 12-13)
- **Fourth quarter Amtrak Cascades on-time performance was up 14.6% over the same quarter in 2011.** (*Rail: Amtrak Cascades Quarterly Update*; pp. 18-19)

Other articles in GNB 45 include the travel information annual report, the real estate right of way and consultant use semi-annual reports, and updates on workforce level and training.

"The public expects and deserves a return on the investment they have made in our transportation system, and WSDOT will continue to be transparent and accountable, reporting on the results of the services it provides."

Paula J. Hammond, P. E.
Secretary of Transportation

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Preservation

Eighty-six percent of state ferry terminal systems are in fair or better condition

Eighty-six percent of state ferry terminal systems are now rated in the “good” or “fair” condition category. WSDOT estimates that 16 percent of the value of the terminal systems and 28 percent of the value of the vessel systems will need preservation by the end of the 2011-2013 biennium. Future terminal and vessel preservation needs will compete against operations, maintenance, and preservation needs for the entire transportation system. Compounding this problem is the additional shortfall in ferry operating and maintenance funds.

WSDOT’s Ferries Division operates and is responsible for the preservation of the 19 terminals and a maintenance facility located in Washington, and operates a terminal in Sidney, British Columbia.

Terminal assets currently consist of 756 separate components, called systems or facilities, in the Ferries Life Cycle Cost Model. These systems are grouped as: landing aids (wingwalls and dolphins), vehicle transfer span systems, overhead loading systems, trestles and bulkheads, pavements, buildings, and passenger-only facilities.

The majority of structures rated “poor” or “substandard” consist of:

- Vehicle transfer span systems that have electrical and mechanical components requiring frequent rehabilitation over the years and/or are functionally obsolete,
- Paved areas whose condition ratings have been revised based on a change in methodology, and

- Landing aids (wingwalls and dolphins) that are creosote-soaked wood pilings that are deteriorating due to rot from being immersed in salt water. WSDOT plans to replace timber landing aids with concrete and steel structures to increase their usable life-span and to reduce marine contamination caused by creosote.

WSDOT continues to develop and implement an asset management system for terminals in order to find the optimal approach for protecting assets, facilitating choosing the best alternative for protecting assets, maintenance versus capital preservation and capital rehabilitation versus replacement. See the *Washington State Ferries Vessel and Terminal Preservation Report*, pp. 14-16.



Safety

Rest areas reduce fatigue-related collisions

WSDOT aims for zero traffic fatalities and zero serious injuries by 2030. Safety rest areas (SRAs) are one of the many ways WSDOT is striving to meet the target. The number of fatal and serious injury collisions is dropping as much as 57% in the vicinity of the state’s newest rest areas. Washington state’s latest rest area opened in January 2012 in Elbe along SR 7 on the way to and from Mount Rainier National Park. Fatigue-related collisions in the vicinity of Elbe will be evaluated to measure the impact of this new rest area on highway safety.

WSDOT analyzed fatigue-related collisions occurring in the vicinity of the state’s newest sites, looking at data three years before the site opened compared to three years after. Before and After data for three of the sites is captured on page 9 of *Gray Notebook* 45. Read the *Safety Rest Areas Annual Safety Report* on pp. 9-10.



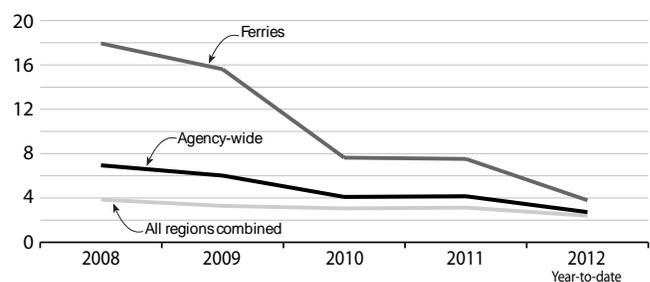
WSDOT worker incident rate decreases 21%

WSDOT introduced two new measures of worker safety: the overall recordable incident rate and the rate of incidents that require days away, restricted activities, or job transfer (DART).

In the first quarter (Q1) of 2012, the incident rate decreased to 4.6 incidents for every 100 full-time employees, a 21% improvement from Q1 2011, when it was 5.8. The Q1 2012 “days away” rate was 2.7, 4% worse than Q1 2011 when it was 2.6. The “days away” rate for ferries improved 79% between 2008 and Q1 2012. See the *Worker Safety Quarterly Update* on pp. 2-4.

WSDOT “days away” rate trends from 2008 to 2012

Number of recordable incidents involving days away, restricted work activities, and/or job transfer for every 100 full-time employees



Data source: WSDOT Safety Office, WSF, Labor and Industries (L&I).

Note: The 2008-2009 Northwest Region DART or “days away” rates include the Urban Corridors Office (UCO) incidents and employee hours; the WSF DART rates are based on data from the Jones Act claims and L&I databases.

Economic Vitality

2011 truck volumes steady, container freight down

Truck volumes in Washington have shown steady, long-term increases over the last decade. For 2011, volumes remained relatively flat compared to 2010. Truck volumes by selected mileposts show the locations with the greatest activity, as well as growth trends in the graph in GNB 45, page 41.

Container volumes were 2% lower in 2011, following a 14.8% increase in 2010 from 2009 volumes. Central Puget Sound seaports, which include the ports of Seattle and Tacoma, are gateways, handling 99.7% of the state's international container traffic. International container traffic decreased 2.8% in the past year compared to a 16.3% decrease for domestic container traffic. Seattle and Tacoma grew at a long-term average annual growth rate of 2.1% from 1998 to 2011.

Washington's rail traffic increased by 12.97% in 2010, the latest year for which data is available. Greater rail traffic passed through Washington, with rail shipments terminating, originating and within Washington all increasing. Farm products continue to be the primary commodity of rail freight in Washington. See *Trucks, Goods and Freight Annual Report*, pp. 38-44.

CVISN technologies save more than \$12 million

WSDOT's Commercial Vehicle Information Systems and Networks (CVISN) program is part of the Intelligent Transportation Systems program, using technologies that enable more targeted inspections of commercial vehicles to improve the efficiency, safety, and security of truck freight movement. CVISN uses weigh-in-motion scales, transponders, and other technologies to electronically screen trucks approaching weigh stations. A truck's weight, credentials, and carrier safety rating are rapidly verified, and if satisfactory, it is given a green light to bypass the station.

WSDOT estimates that 39% of all commercial vehicles moving through the state in 2011 used CVISN transponders, up 9.4% from 2008 and 3.7% more than in 2010. In 2011, transponders saved Washington's trucking industry about 98,000 hours and more than \$12 million. The operating cost savings and diesel fuel savings combined total is \$10.28 per bypass.

CVISN truck transponders were read about 1.9 million times at nine open weigh stations in Washington state in 2011. Learn more about it in the *CVISN Annual Report*, pp. 45-46.

Mobility

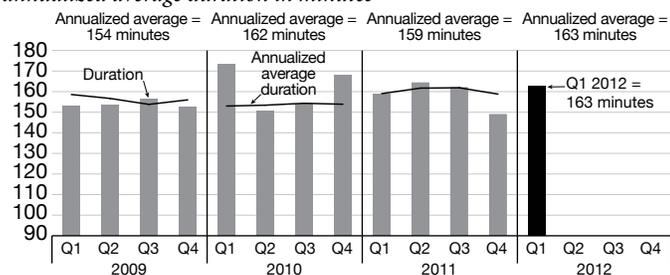
WSDOT Incident Response teams provide economic benefits worth \$10.67 million in 1st quarter

WSDOT's Incident Response (IR) program saved travelers and businesses about \$10.67 million in the first quarter of 2012 by reducing the time and gas they would have wasted in travel delay due to congestion. IR teams responded to 10,588 incidents. The quarterly average statewide incident clearance time was 13.9 minutes.

In GMAP corridors, there were 82 over-90-minute incidents in the Q1, 2012, with an average clearance time of 163 minutes. This is eight minutes slower than the 155-minute goal, 14 minutes slower than last quarter (149 minutes). Twenty out of 82 incidents occurred on January 18 and 19, 2012 during the severe winter weather.

Progress in reducing average clearance times for over-90 minute incidents on nine key western Washington highways

January 1, 2009 – March 31, 2012; number of responses per quarter vs. annualized average duration in minutes



Data source: Washington State Patrol and WSDOT Traffic Office.

Ferries achieve 98% on time performance

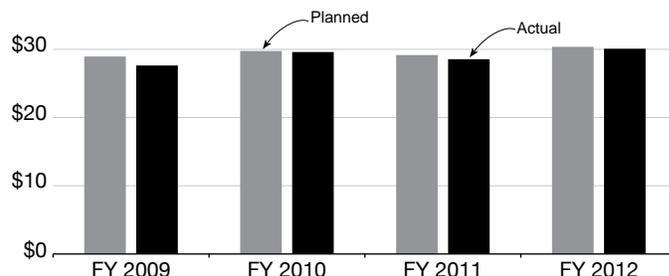
Washington state ferries continues to show strong on-time performance, with 98.1% of trips on time in the quarter ending March 31, 2012. Some 4.6 million trips were taken on the ferry system, about 10,000 (0.2%) above projected levels for the quarter. Washington State Ferries (WSF) served 67,000 (1.5%) more riders compared to the same quarter a year ago.

Farebox revenue was \$279,000 (0.9%) below projected levels for third quarter FY 2012, and about \$1.5 million (5.4%) above revenues from the same quarter last year. Winter storms impacted ridership and farebox numbers, with revenue at \$879,000 (8.9%) below projections.

Average sailing delay was 1.6 minutes for the quarter ending March 31, 2012, a 3% improvement over the same quarter a year ago. See *Washington State Ferries Quarterly Update*, pp. 20-23.

WSF planned and actual farebox revenue levels by fiscal year

Third quarter (January 1 - March 31), fiscal years 2009-2012; dollars in millions



Data source: WSDOT Ferries Division.

Environment

WSDOT on track to meet stormwater outfall permit inventory targets by 2014

WSDOT is required to map all known stormwater outfalls on about 1,660 centerline miles of state highway within WSDOT's 2009 National Pollutant Discharge Elimination System Municipal Stormwater permit area by March 6, 2014. As of April 30, 2012, WSDOT has inventoried and mapped stormwater outfalls on 58% or 964 miles in the permit area. Of the remaining data to be collected, 72% will be completed using existing data sources, while the other 28% will require work to locate outfalls and other features.

WSDOT plans to inventory an average 624 centerline miles in fiscal years 2012 and 2013, and will complete the final 131 miles in the eight months leading up to March 2014. Once the stormwater outfall inventory for the permit area is complete, WSDOT has an on-going permit requirement to map the stormwater conveyance system to outfalls and stormwater management facilities. Read more about it in the *Water Quality Annual Report*, pp. 33-36.

Stormwater outfall inventory progress

Number of miles inventoried each fiscal year, and number of cumulative miles inventoried towards the 1,660 mile goal

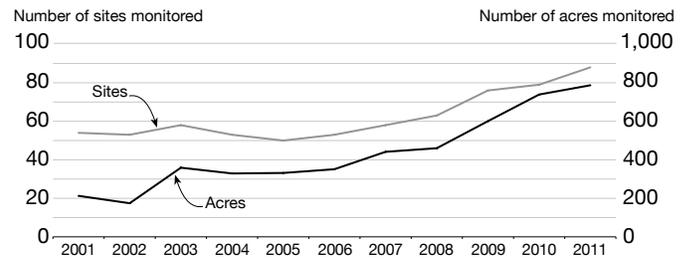
	2011	2012	2013	2014
Miles inventoried each fiscal year	281	624*	624*	131*
Total miles inventoried	281	905*	1529*	1660*

WSDOT's wetland inventory continues to increase

WSDOT creates replacement wetlands to mitigate for transportation projects that result in unavoidable wetland disturbances. WSDOT typically monitors replacement wetlands for ten years after they are constructed to evaluate their progress and for compliance with permit conditions. The graph below illustrates the increased mitigation inventory resulting from projects constructed with the 2003 Nickel and 2005 TPA funding packages. WSDOT staff monitored 88 wetland mitigation areas during 2011, making it the largest monitoring season ever. Read the entire report on pages 30-32.

WSDOT wetland mitigation site monitoring

Number of sites monitored, number of acres monitored



Data source: WSDOT Environmental Services Office.

Stewardship

Mega-project: I-90 Snoqualmie Pass East building new westbound lanes this summer

Interstate 90 (I-90) over Snoqualmie Pass is a vital cross-state route used by thousands of travelers every day. To ensure the continued availability and reliability of this important statewide route, WSDOT is expanding I-90 to meet both the current and future needs of travelers and the freight community. The I-90 Snoqualmie Pass East Project is a 15-mile corridor improvement project that begins at Hyak and ends near Easton.

Construction resumed on the Hyak to Keechelus Dam (Phase 1) project for the fourth season in mid-April. WSDOT is on schedule to open the first three miles from Hyak to the Keechelus Lake Snowshed by 2013. The final two miles from the snowshed to the Keechelus Lake Dam are scheduled to be open to traffic in 2017.

During the 2012 Legislative session, the Legislature advanced construction funding for Phase 2 into the 2012-2015 biennium. This allows WSDOT to move forward with a design package for the first two miles along I-90 from the Keechelus Dam to Stampede Pass interchange (Phase 2a) and will include the first wildlife overpass in the corridor.

Alternative snowshed designs could save money

WSDOT accepted a proposal to replace the existing snowshed with two 1,200 foot bridges instead of a new expanded snowshed. The change will reduce WSDOT maintenance and operation costs

for the next 75 years. Currently, WSDOT and the contractor are preparing a Limited Scope Environmental Impact Statement to evaluate the environmental impact of constructing the bridges instead of the snowshed. See this and other Mega-projects reports: *SR-520 Bridge Replacement and HOV Program and SR 167 Extension*, on pages 63-66.



WSDOT opened the new eastbound lanes at Gold Creek during fall 2011. Crews are building the new westbound lanes this summer, which will open to traffic in the fall.

Highway Construction: Nickel and TPA Project Delivery Performance Overview

WSDOT makes progress in delivery Nickel and TPA projects

To date, WSDOT has completed 325 of the 421 Nickel and TPA projects funded by the 2003 and 2005 transportation tax packages. WSDOT did not completed any Nickel and Transportation Partnership Account (TPA) projects in the quarter ending March 31, 2012.

The 2012 Supplemental Transportation Budget signed into law by Governor Gregoire on March 23, 2012 directs WSDOT to develop and construct a specified list of projects in the course of the biennium. Most of these line-item projects were itemized in the original 2003 and 2005 Nickel and TPA programs.

The *Gray Notebook* shows individual “unbundled” projects from programmatic budget items (such as the Bridges Seismic Retrofit Program), as well as sub-projects within Mega Projects (such as the Alaskan Way Viaduct project). The total combined number of projects in WSDOT’s capital project delivery program is 421.

Cumulative Program - 91% of projects were on budget

The cumulative capital program delivery performance shows that 87% of projects were completed early or on time, 91% were completed on or under budget, and 81% of completed projects were both on time and on budget. The schedule performance and the budget performance are unchanged from December 31, 2011.

Current Legislative Budget - 92% of projects on budget

The current transportation budget contains 244 projects that are operationally complete. They will remain in the budget until all activities have been completed and all expenses have been paid. For these 244 completed projects, 85% were on time, 92% were on budget, and 80% were both on time and on budget for the quarter

Cumulative delivery performance¹ of completed Nickel and TPA projects Through March 31, 2012

Calendar year	2009		2010				2011				2012
Quarter	Q3	Q4	Q1 ²	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Number of projects	215	240	264	272	282	296	300	304	310	325	325
On-time %	88%	88%	89%	89%	90%	91%	90%	89%	89%	87%	87%
On-budget %	87%	88%	91%	92%	93%	93%	92%	91%	91%	91%	91%
On-time and on-budget %	78%	78%	82%	83%	84%	84%	84%	82%	82%	81%	81%

Data source: WSDOT Capital Program Development and Management.

Note: 1 WSDOT defines a project as “on time” if it is operationally complete within the quarter planned in the biennial budget, and “on budget” if the budget is within 5% of the current approved budget. 2 Unbundled project counts started in Q1 2010; total projects increased from 391 to 421.

ending March 31, 2012, unchanged from the previous quarter. More information about budget performance is on page 47.

Outlook for on-time, on-budget performance trends

A total of 96 of the 421 Nickel and TPA projects are not yet operationally complete, and are either in construction or yet to be advertised. These remaining projects are some of the most challenging, and include several portions of the Mega Projects. As a result, the schedule and budget performance may show greater fluctuations toward the end of the Nickel and TPA programs.

Rail and Ferries project delivery performance

Eleven Nickel and seven Transportation Partnership Account (TPA) rail construction projects have been delivered on time and on budget as of March 31, 2011, for \$103.3 million. Four projects (two Nickel-funded, two TPA-funded) in construction have award amounts of \$25.4 million.

To date, Ferries has completed seven Nickel and eight TPA construction projects on time and on budget for \$243.9 million, including the three 64-car vessels, the *Chetzemoka*, the *Salish*, and the *Kennewick*. The *Kennewick* started service in February 2012. Four new construction projects were awarded for \$122.7 million.

SR 167 Extension Project

The SR 167 Extension project will build the remaining four miles of SR 167, completing a long-planned connection to I-5. This project also includes a new connection from SR 509 to I-5. The project will provide two general purpose lanes in each direction and an HOV lane in each direction from I-5 to Puyallup.

WSDOT has acquired about 70% of the properties needed for the new corridor right-of-way. The 2012 Supplemental Transportation Budget restored nearly \$1.8 million for right-of-way acquisition for the remainder of the 2011-2013 biennium. WSDOT has started identifying priority parcels to acquire with this funding. An additional \$188 million is still needed for project right of way. No construction funds have been allocated.

SR 520 Bridge Replacement and HOV Program

WSDOT continues to work with the Legislature to seek additional funding for construction west of the SR 520 floating bridge. During the 2012 session the Legislature passed ESHB 2190, which directed WSDOT to analyze how I-90 tolling could manage traffic and provide funding for portions of the SR 520 program. The Legislature provided \$1.5 million in funding to begin the environmental process and community outreach to study I-90 tolling. WSDOT has applied for a federal Transportation Infrastructure Finance and Innovation Act loan, which would provide funding to construct the north half of the West Approach bridge.

See this and other Mega-Projects reports on pp. 63-66.

Current 2012 Legislative Transportation Budget Performance Dashboard: Highways

Highway construction performance dashboard

As of March 31, 2012; Dollars in thousands

Combined Nickel and TPA programs	Number of projects	Value of program
Projects completed in earlier biennia that <i>are not</i> included in the current Transportation Budget	81	\$373,000
Projects completed that <i>are</i> included in the current Transportation Budget	244	\$4,052,823
<i>Subtotal of completed projects</i>	325	\$4,420,264
Projects included in the current Transportation Budget but not yet completed	96	\$11,919,473
Total number of projects¹ in Improvement & Preservation budget	421	\$16,345,296

Schedule and Budget Summary Nickel & TPA combined: Results of completed projects in the current Legislative Transportation Budget and prior budgets.	Current ² Legislative Budget	Cumulative ² Program
Number of projects completed to date: 2003 – March 31, 2012	244	325
Percent completed early or on time	85%	87%
Percent completed under or on budget	92%	91%
Percent completed on time and on budget	80%	81%
Baseline estimated cost at completion	\$4,052,823	\$4,420,264
Current estimated cost at completion	\$3,999,479	\$4,360,096
Percent of total program over or under budget	1.5% under	1.4% under
Total number of projects completed in 2011-2013 biennium to date	21	
Percent completed early or on time	62%	
Percent completed under or on budget	81%	
Percent completed on time and on budget	57%	
Baseline estimated cost at completion this biennium	\$294,472	
Current estimated cost at completion this biennium	\$284,721	
Percent of total program under or over budget	3.3% Under	

Advertisement Record: Results of projects entering into the construction phase or under construction detailed on pages 51-54.	Combined Nickel & TPA
Total cumulative number of projects in construction phase to date, 2003– March 31, 2012	31
Percent advertised early or on time	74%
Total number of projects advertised for construction in 2011-2013 biennium to date	3
Percent advertised early or on time	100%

Projects To Be Advertised: Results of projects now being advertised for construction or planned to be advertised, detailed on page 55.	Combined Nickel & TPA
Total projects being advertised for construction bids April 1, 2012 - September 30, 2012	12
Percent on or better than anticipated advertisement schedule	83%

Budget status: 2011-2013 biennium Dollars in thousands

Budget amount for 2011-2013 biennium	WSDOT biennial budget
	\$3,770,615
Actual expenditures to date 2011-2013 biennium	\$942,572
Total 2003 Transportation Funding Package (Nickel) expenditure	\$112,958
Total 2005 Transportation Partnership Account (TPA) expenditure	\$365,547
Total Pre-Existing Funds (PEF) expenditure ³	\$464,066

Data source: WSDOT Capital Program Development and Management.

Note: The project total has been updated to show "unbundled" projects which may have been previously reported in programmatic construction program buckets (such as Roadside Safety Improvements or Bridges Seismic Retrofit). See the June 30, 2010, *Gray Notebook* 38, page 55, for more details. 2 See page 49 for definitions of the current Legislative Budget and the Cumulative Program delivery performance metrics. 3 For full details of the PEF program, see pages 70-75.