Washington State
Department of Transportation

Measures, Markers and Mileposts

The Gray Notebook for the quarter ending
September 30, 2002

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

Douglas B. MacDonald
Secretary of Transportation

Measures, Markers and Mileposts

The Gray Notebook for the quarter ending September 30, 2002

7th Edition
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"What gets measured, gets managed."

This periodic report is prepared by WSDOT staff to track a variety of performance and accountability measures for routine review by the Transportation Commission and others. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for internal management use and is subject to correction and clarification.

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Measures, Markers and Mileposts

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7th Edition

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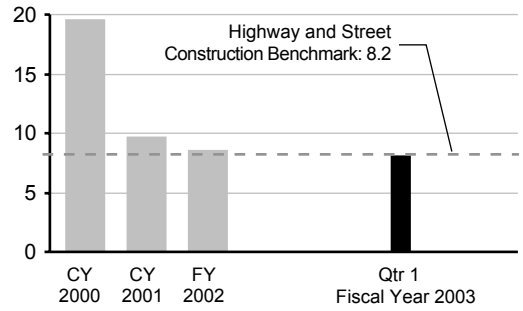
Worker Safety

Continuing updates on *Gray Notebook* safety topics – data is shown for calendar years (CY) 2000 and 2001, fiscal year (FY) 2002, and for fiscal year 2003 by quarter.

WSDOT Highway Maintenance Workers

Recordable Injuries per 100 Workers per Fiscal Year

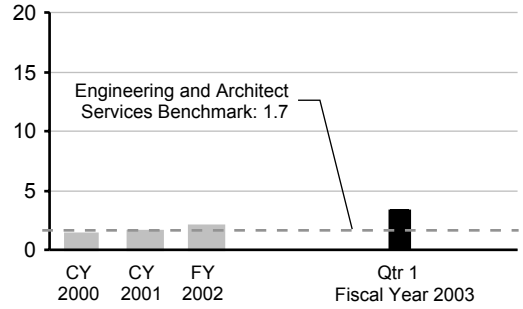


The first quarter recordable injury rate for maintenance workers was 8.11 injuries per 100 workers. A total of 28 recorded injuries, including a fatality caused by a driver leaving the roadway, accounted for 102 lost workdays. Non-powered hand tools caused the most injuries (26%). Sprains were the leading nature of injury. The back continued to be the most frequently injured part of the body (35%).

Sources for all charts: WSDOT

WSDOT Highway Engineer Workers

Recordable Injuries per 100 Workers per Fiscal Year



The first quarter recordable injury rate for engineer workers was 3.44 injuries per 100 workers. A total of 20 recorded injuries resulted in 120 lost workdays. The back was the most frequently injured part of the body and sprains were the most common nature of injury. The most serious injury resulted from a slip and fall down a slope that caused a concussion and 22 lost workdays.

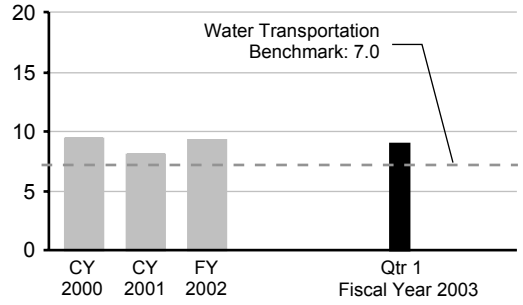
Accident Prevention Activities

First Quarter, Fiscal Year 2003

- All regional safety offices continued training workers in several safety- and health-related subjects needed to minimize job hazards (*see page 2*).
- Conducted two introductory Supervisor Safety Awareness Classes in Headquarters.
- Began an organized effort to define new injured-worker-return-to-work procedures to reduce lost workdays.
- The Southwest Region Maintenance Offices of Chehalis, Morton and Toledo celebrated 185 days free of work-related accidents with a special award breakfast. This noteworthy achievement is the result of a worker-initiated “Safety Buddy” program over the last six months that raised worker awareness of the potential work risks that they face each day.

WSDOT Ferry Vessel Workers

Recordable Injuries per 100 Workers per Fiscal Year



The first quarter recordable injury rate for ferry vessel workers was 8.86 injuries per 100 workers. A total of 23 recorded injuries resulted in 283 lost workdays. An average of 12.3 workdays were lost per recordable injury, for a lost time-incident rate of 109 lost workdays per 100 workers per fiscal year. Strains and sprains accounted for 52% of the injuries and the back was the most frequently injured part of the body (26%).

Reading the Charts

“Recordable injuries and illnesses” is a standard measure that includes all work-related deaths and work-related illnesses and injuries that result in loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid.

The U.S. Bureau of Labor Statistics provided the selected 2000 national average benchmarks.

After discussion with the National Bureau of Labor Statistics, the following benchmarks were selected to provide relevant and consistent benchmarks:

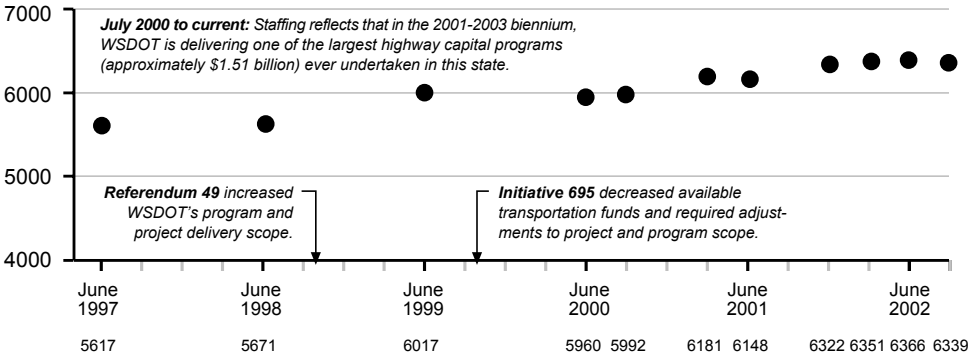
- Maintenance workers: “Highway and Street Construction” Standard Industry Classification (SIC) 161 (rate 8.2).
- Engineering workers: “Engineering and Architect Services” SIC 871 (rate 1.7).
- Ferry vessel workers: “Water Transportation” SIC 44 (rate 7.0).

One worker equals 2,000 hours per year.

WSDOT Workforce Levels

One indicator of the agency's workforce size is the current number of permanent full-time employees on staff. The accompanying chart shows that number at various points since the end of 1996. (The number of "FTEs" [full-time equivalents] will generally exceed the number of full-time employees, since seasonal and part-time work force must also be funded from "FTE" allotments.)

Number of Permanent Full-Time Employees at WSDOT



Source: WSDOT, Office of Human Resources

WSDOT Employee Training Requirements

Maintenance and Safety Training Required by Law

Maintenance trainers and safety managers in each region continue to reduce the backlog of training in legally required courses. Supervisors and trainers plan this important training to fit around the busy summer months and the coming winter snow and ice season. This year, 148 employees each took seven training classes during three Maintenance Academies. The table shows the status of training completed for six of the 13 required safety courses and five of the 12 maintenance courses.

	Number of Maintenance Workers Requiring Training	Total Number of Maintenance Workers Trained to Date	Maintenance Workers Trained 4th Quarter FY02	Maintenance Workers Trained 1st Quarter FY03	Compliance to Date: Target = 90%	Change Since Last Quarter
Safety Courses						
Blood Borne Pathogens	1242	909	257	36	73%	+ 1%
First Aid	1286	1115	334	89	87%	+ 1%
Hearing Conservation	1157	1052	393	0	91%	+ 1%
Personal Protective Equipment	398	196	77	36	49%	+ 10%
Fall Protection	816	276	112	26	34%	+ 3%
Flagging & Traffic Control	1012	939	92	32	93%	+ 1%
Maintenance Courses						
Drug Free Workplace	282	200	103	0	71%	+ 1%
Forklift	1103	919	45	38	83%	+ 1%
Hazardous Materials Awareness	1028	337	207	107	33%	+ 6%
Manlift Operations	601	277	114	0	46%	+ 7%
Excavation, Trenching & Shoring	374	116	0	6	31%	+ 3%

Training for All WSDOT Employees

The following table reflects progress on four important workforce courses. It shows that more emphasis is needed on WSDOT's human resources training. Future *Gray Notebooks* will track improvement in this area.

	Number Requiring Training**	Total Number Trained 1997 to Present	Number Trained 4th Quarter FY02	Number Trained 1st Quarter FY03	Status to Date: Target = 90%
Training Courses					
Violence That Affects the Workplace	7292	5199	2218	671	71%
Valuing Diversity*	7292	1968	0	54	27%
Sexual Harassment*	7292	2499	109	71	34%
Disability Awareness*	7292	1796	0	42	25%

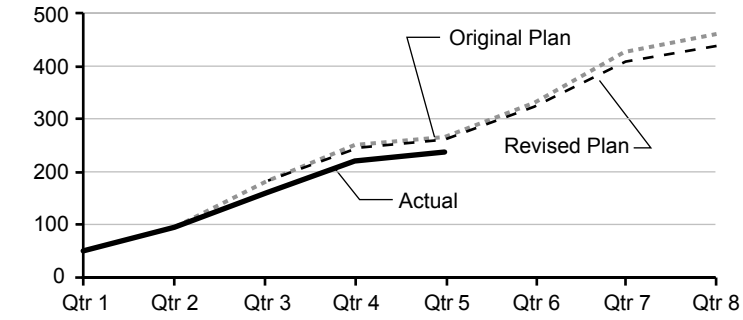
** The diversity training previously offered and completed by 63% of our workforce (1992 to present) has been revised and replaced with three separate courses. These new courses are offered as refresher training and first time training. The goal is to have 90% of our workforce trained as resources and time allow.*
*** These courses are for all permanent full-time, part-time, and temporary employees.* *Source: WSDOT, Office of Human Resources*

Highway Construction Program
Quarterly Update

Meeting WSDOT's Scheduled Advertisement Dates

For the biennium to date, WSDOT has advertised 237 improvement and preservation projects against an original schedule of 269 projects. WSDOT's project delivery schedule, according to the Capital Improvement and Preservation Program (CIPP), is shown on the adjacent chart for the quarter ending September 30, 2002. WSDOT is meeting the planned advertisement date on over 90% of the projects that are being advertised for bids. The chart also shows a revision to the original planned line. This is the result of the $76 million Current Law Budget reduction to the CIPP, from the 2002 Supplemental Budget.

Highway Construction Program Delivery
Planned vs. Actual Number of Projects Advertised
2001-2003 Biennium, Quarter 5 Ending September 30, 2002

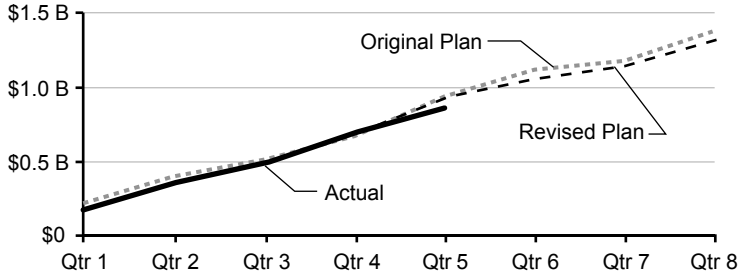


Sources for all charts: WSDOT.

Highway Construction Program Cash Flow

Expenditures through the quarter ending September 30, 2002, are on target, achieving approximately 96% of budgeted cash flow. Historically, WSDOT's cash flow for this program is 92% to 95% of budgeted cash flow. The chart reflects the newly revised plan due to budget cuts as explained above. The expenditure rate now slightly exceeds historical levels and reflects the high delivery rate of projects to advertisement in the highway improvement program.

Highway Construction Program Cash Flow
Planned vs. Actual Expenditures
2001-2003 Biennium, Quarter 5 Ending September 30, 2002
Dollars in Billions



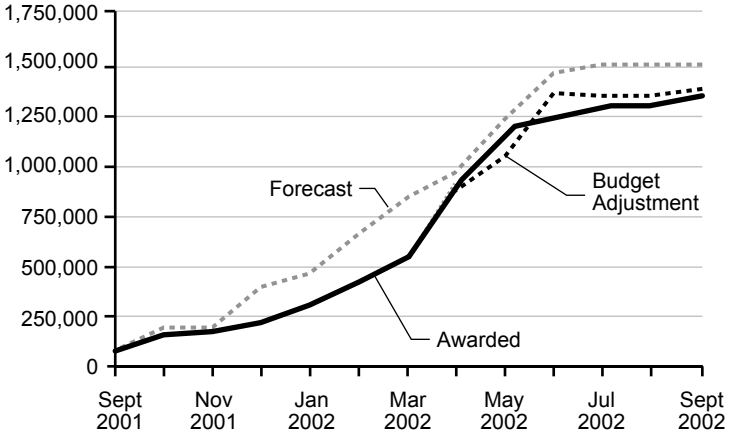
Asphalt Concrete Pavement: Projected and Awarded Tons

In October 2001, WSDOT forecasted that 1,480,415 tons of asphalt concrete pavement (ACP) would be awarded by WSDOT throughout the state between September 2001 and September 2002. At the end of March 2002, the number of tons of ACP awarded lagged behind the projected amount. The major cause of this lag was late advertisement dates and extended advertisement periods.

In March 2002, the Transportation Commission adopted a supplemental budget that eliminated several projects scheduled for award in April and May due to budget cuts. This reduced the original forecast by 106,950 tons, for a revised forecast of 1,373,465 tons.

Since then, the department has closed the gap, awarding nearly half of the total tons in April and May. For the period from September 2001 to September 2002, WSDOT awarded a total of 1,364,021 tons – 99% of the revised forecast.

Asphalt Concrete Pavement
Projected and Awarded Tonnage Delivered
September 2001 to September 2002



Highway Construction Program Delivery Highlights

Construction Project Advertisements *("Ads")*
The "Ad" date is the date the project is publicly advertised for bids from contractors. The "Ad" date begins the advertisement period, which typically lasts from three to six weeks, depending on the size and complexity of the project. The advertisement period ends with the bid opening. After bids are opened and verified as complete and accurate, WSDOT awards the contract to the lowest responsive bidder. Sometimes WSDOT does not award a contract, as in a case where all bids are rejected for being too high.

The numbers of projects advertised, bids opened, and contracts awarded in a given quarter will rarely be the same, since the advertisement and awarding decision periods take several weeks. That means a project may be advertised in one quarter, and the contract awarded the following quarter.

Between July 1 and September 30, WSDOT advertised 19 highway construction projects, opened 18 bids, and awarded 18 highway construction contracts.

Projects Deferred
There were nine projects deferred for scheduled Ad dates in this quarter. One deferral was in response to the budget cuts described on page 3. The remaining eight were caused by delays in the scoping, design and preliminary engineering phases. The most significant of the deferred projects were:

- **Interstate 405, Bellevue Direct Access**. This project was deferred to December 2002 due to a delay in obtaining the right of way necessary to construct it. The City of Bellevue is responsible for acquiring this property.

- **Interstate 90, Division Street Eastbound On-Ramp, Spokane.** This project was deferred to spring 2003 due to the additional time needed to demonstrate and document air quality conformity. With conformity requirements now met, this project is moving through the FHWA Access Point Revision process.

The **Deleted Project** was:

- **U.S. 2, Rock Slopes West of Stevens Pass.** This project was not sufficiently scoped to identify the extent of environmental impact. Design details revealed increased impacts that lengthened the schedule and increased the cost to the extent that the project was deleted.

Construction Projects Bid Openings and Awards
Examples of awarded projects include:

- **Germany Creek Rockfall Stabilization on State Route 4** (Cowlitz County). This project installs flexible debris flow fence and does safety rock scaling. *Award amount: $498,867*

- **Hillsboro Street Interchange on U.S. 395** (north of Pasco). This safety project constructs a new reinforced concrete bridge and bridge approach slabs. *Award amount: $6,028,176*

- **Federal Way Weigh Station on I-5**. Automatic weigh-in-motion truck scales will be installed, as well as dowel bars to smooth pavement. *Award amount: $616,830*

- **Evergreen Parkway Slide Repairs on U.S. 101** (Olympia). Safety and general improvements. *Award amount: $83,586*

- **Interstate Sign Support Structures on I-5** (Clark County). Sign structure, permanent signing, and traffic control. *Award amount: $77,777*

- **Satsop River Bridge Seismic Retrofit on U.S. 12** (Grays Harbor County). Retrofits two bridges for better seismic stability. *Award amount: $193,359*

Projects Advertised
Two of the projects advertised were:

- **State Route 525 / SR 99 to SR 526, Mukilteo southerly**. This 5.5 mile project increases capacity by widening the roadway to four lanes. Storm drains, retaining walls, noise barriers, and traffic signals are included. *Estimated at $15.6 million.*

- **State Route 28, Rock Island Dam Talus Slope** (12 miles east of Wenatchee). Large rocks from the talus slopes fall onto the highway in this section, and slope stabilization will consist of installing cable net and wire mesh slope protection. *Estimated at $4.10 million.*

Highway Safety Projects

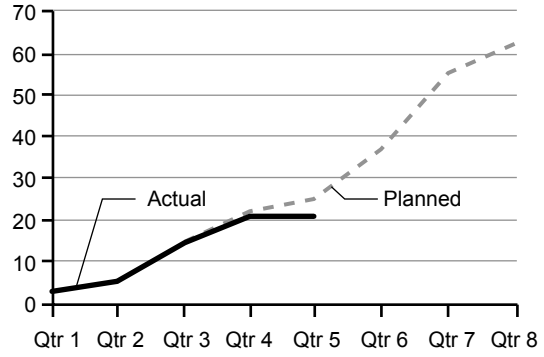
WSDOT continues to deliver safety improvement projects on highways across the state.

Sample of Safety Projects Completed This Quarter

Highway	*Project / Improvement*
I-5	Hill Ditch Bridge to Skagit Bridge, near Mount Vernon *Install lighting and guardrail. Flatten slopes.*
I-5	North Lake Samish Road to 36th Street, Bellingham *Install lighting and guardrail.*
SR 20	Zylstra Road, south of Oak Harbor *Widen lanes, install turn lanes, and straighten curves.*
SR 20	Deception and Canoe Pass Bridges, Whidbey Island *Construct pedestrian crossing.*
SR 20	Best Road Vicinity, west of Burlington *Install traffic signal.*
SR 522	NE 145th St. Vicinity to NE 155th St., Lake Forest Park *Construct pedestrian island in median.*
SR 525	Junction Bayview Road, near Langley *Install traffic signal and construct turn lane.*
SR 99	Vicinity 65th Avenue East to Porter Way, Fife *Construct two-way left turn lane.*
SR 109	Railroad Grade Crossings, Hoquiam *Straighten curves at railroad crossings.*
SR 162	Bowman Hilton Rd. E. to 149th Street E., near Sumner, *Install traffic signal.*

Safety Improvement Program Delivery

Planned vs. Actual Number of Projects Advertised
2001-2003 Biennium



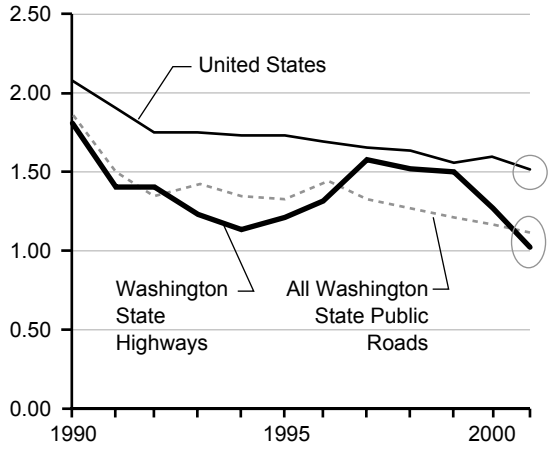
No safety projects were advertised for construction bids in the fifth quarter. Four projects in total have not been advertised as scheduled this biennium (seven projects were not advertised and three others were advanced). Projects were delayed due to several factors, including revisions to electrical plans, right-of-way acquisition issues, unobtained environmental permits, and reductions in funding.

Washington State Highway Safety

Charts of this type were first published a year ago in the *Gray Notebook* (September 30, 2001). The new data for 2001 is circled on the charts below. 2001 proved to be another year of progress for Washington on highway safety performance. State officials track highway fatalities and the causes of accidents to help determine strategies for enforcement and for highway improvements, as well as to reinforce "safe driving" messages for the public.

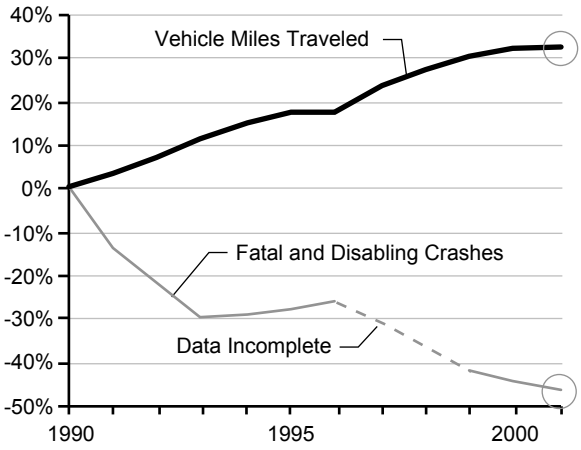
Traffic Fatality Rates Compared to U.S.

All Washington Public Roads and Washington State Highways
Fatalities per 100 Million Vehicle Miles



Fatal and Disabling Crashes and Vehicle Miles Traveled (VMT)

Percent Change – Washington State



Sources: WSDOT, U.S. Department of Transportation, and Washington Traffic Safety Commission

Click-It or Ticket

Washington's *Click-It or Ticket* campaign – to increase seat belt use – began in May 2002. The campaign relied heavily on television advertisements and high visibility WSP enforcement. WSDOT's contribution included installing 212 *Click-It or Ticket* signs along state highways and posting *Click-It or Ticket* messages on 60 variable message signs. The message signs, according to WSP, have been a significant contribution to the effectiveness of enforcement initiatives.

The Washington State Traffic Commission conducted a survey on seat belt use from April to August 2002. The purpose of the survey was to establish a *Click-It or Ticket* baseline and post-enforcement rate for Washington. Information from the survey showed a dramatic increase in seat belt use over the life of the campaign, hitting a high mark of 92.6%.

State by State Comparison of Shoulder Belt Use

Rank	*State*	*2001 Percent**	*2002 Percent***
1	California	91.1	na
2	New Mexico	87.8	na
3	Oregon	87.0	88.0
4	North Carolina	83.0	na
5	Maryland	82.9	na
6	**Washington**	82.6	92.6
	U.S. Average	75.0	na

** Source: U.S. Department of Transportation*

*** Sources: Washington Traffic Safety Commission. The* "Click-It or Ticket" *survey reported an increase for Washington from 80.8% to 92.6% over a four-month period. Compared to the 2001 national seat belt use statistics, Washington state is now among the highest in the nation in seat belt use. A future* Gray Notebook *will publish the 2002 national comparisons, which will be released in January 2003 (Oregon and Washington data came in early).*

Reducing Alcohol-Related Crashes

Washington adopted the .08 driving under the influence (DUI) law in 1999 following enactment by Congressional legislation requiring states to adopt this standard as a condition of eligibility for federal highway grants. Washington has a long way to go in reducing alcohol-related fatalities. In 2001, Washington ranked 30th in comparison to other states in the percentage of motor vehicle fatalities involving high blood alcohol concentration. This was an improvement since 1995, but still, at 37%, a worse record than the national average of 35%.

In total, 72% of highway fatalities in Washington state involve excessive speed and/or driver impairment. More information on speed and/or alcohol-related fatalities and the state's efforts through education and enforcement to reduce them is available from the Washington State Patrol and the Washington Traffic Safety Commission.

Motor Vehicle Fatalities Involving High Blood Alcohol Concentration

(BAC >= 0.08 grams per deciliter): 2001

Rank	*State*	*Percent*
1	Utah	19
2	Arkansas	25
3	Kentucky	25
4	New York	26
5	Iowa	28
6	Georgia	29
7	North Carolina	30
8	Indiana	31
9	Virginia	31
10	Maine	31
11	California	32
12	Mississippi	32
13	Oregon	32
14	Nebraska	32
15	West Virginia	32
16	Michigan	33
17	New Jersey	33
18	Idaho	33
19	Alabama	34
20	Kansas	34
21	Minnesota	34
22	Oklahoma	34
23	Vermont	35
	U.S. AVERAGE	35
24	Hawaii	36
25	Florida	36
26	Maryland	36
27	Nevada	36
28	Ohio	37
29	Tennessee	37
30	**Washington**	**37**
31	Wyoming	38
32	Colorado	38
33	Pennsylvania	38
34	Illinois	38
35	New Hampshire	39
36	New Mexico	39
37	Arizona	40
38	Louisiana	40
39	Missouri	40
40	Delaware	42
41	Montana	42
42	North Dakota	42
43	Massachusetts	43
44	Texas	43
45	Wisconsin	43
46	South Dakota	44
47	Connecticut	45
48	Alaska	46
49	Rhode Island	49
50	South Carolina	49

Source: U.S. Department of Transportation

Incident Response: Quarterly Update

Operational Strategies and Efficiencies

A key WSDOT strategy for safer highways and less congestion is to respond to and clear incidents in less time. The State Legislature approved a significant, but cost-effective, expansion of WSDOT's Incident Response (IR) program effective July 1, 2002. WSDOT now operates and contracts a total of 44 IR units statewide (29 trucks operate in a "roving" mode during peak traffic periods, four are "call-out" units, five tow trucks currently rove the SR 520 and I-90 floating bridges and the Seattle I-5 Express Lane area, and six units are on contract).

New tow and Incident Response patrol trucks on display at July 1 roll out.

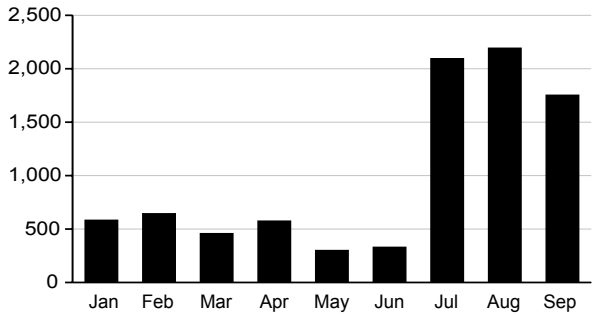
More Responses and Shorter Incidents Mean Safer Highways and Less Congestion

The number of incidents WSDOT IR teams respond to in a month has increased dramatically since WSDOT implemented the legislatively-approved addition of 19 additional IR units, and emphasized roving operations. Prior to July 2002, WSDOT responded to about 500 incidents a month. Now IR trucks are able to respond to four times or more as many incidents. The key benefits of increased contacts are motorist safety and reduced congestion. (See next page – *"Service Actions Taken."*) The program depends upon coordination between WSDOT, Washington State Patrol (WSP), Department of Ecology, fire services, and tow operators. System coordination and communication improvements include:

- WSP Communication Centers notify WSDOT IR vehicles of incidents using mobile radios.
- WSP Communication Centers and WSDOT Transportation Management Centers communicate by sharing facilities, computer-aided dispatch, and direct phone lines.
- WSP is providing incident command, communication, driving, and safety training for WSDOT.
- WSDOT, WSP, Department of Ecology, tow operators, and fire services have trained together.
- WSP cadets assist WSDOT by patrolling during peak hours in Tacoma and Seattle.
- WSDOT staff visit WSP Communication Centers to learn communication procedures.
- WSDOT Incident Response trucks are equipped with WSP mobile radios.
- WSP has begun to use WSDOT-financed photogrammetry to document accident investigations for many serious accidents, a technology that saves time and clears accidents faster.

Total Number of Responses by Month

January to September, 2002



More roving units – more responses. *The period from July to September 2002 saw a significant increase in contacts. Much of the new volume of contacts was to render assistance to individual stopped or disabled vehicles. In the future, this chart will also include responses provided by six units (three WSP and three private tow operators) contracted with WSDOT.*

Measuring Clearance Time

WSP and WSDOT are standardizing a measure of clearance time. Clearance time will be from the time when WSP is notified to when all traffic is cleared and all response vehicles have left the scene.

With 2,000 or more responses a month versus 500 before July, WSDOT is creating a new clearance time baseline to capture experience with the types of situations that offer the greatest opportunity for improvements in response.

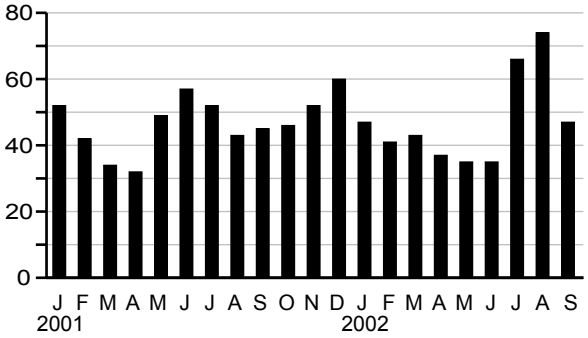
Additional information on measuring and managing clearance time will be included in a future *Gray Notebook.*

Setting Goals – Clearing Incidents Within 90 Minutes

WSDOT signed the "Joint Operations Policy Statement" (JOPS) with the Washington State Patrol on February 13, 2002, and adopted the following joint performance goal: "WSP and WSDOT will collaborate to respond to incidents and coordinate all public and private resources in this effort to work toward clearing incidents within 90 minutes."

Incidents With Clearance Times Over 90 Minutes

January 2001 to September 2002



The growth of "plus 90-minute" incidents in July, August, and September may reflect better recognition and measurement of incidents as a result of increased roving IR operations.

Examples of Incidents Over 90 Minutes

The following five incidents had the longest clearance times for July 1, 2002, to September 30, 2002:

- **July 20** – A non-injury collision occurred on I-5 in Everett in the vicinity of the Pacific Avenue bridge. A dump truck with a pup trailer hit a jersey barrier and spilled its load. It took 11 hours and 5 minutes to clear the incident.
- **July 30** – Debris blocked the southbound on-ramp of I-5 in south Bellingham. A semi-truck driver fell asleep, crashed into the guardrail, rolled, and dumped his load of plywood. It took 9 hours and 15 minutes to clear the scene.
- **August 12** – A fire occurred along SR 432 near Longview, resulting in a total closure. IR performed traffic control by setting up a detour. It took 14 hours and 8 minutes to clear the incident.
- **August 15** – A fire occurred along U.S. 97A near its junction with SR 150 in Chelan. It took 8 hours to clear the incident.
- **September 15** – Debris blocked lanes in both directions of SR 20 in the vicinity of Monroe Landing Road on Whidbey Island. A power pole was knocked into the highway. It took 11 hours and 20 minutes to clear the scene.

Incident Response Team Locations

Service Actions Taken

Stopped vehicles on freeways and major highways – in a travel lane or even on a shoulder – distract approaching drivers, delay traffic, cause back-ups, and pose safety hazards for approaching traffic and for the occupants of the stopped vehicles. Problems on the roadway that lead to stopped vehicles range from major pile-ups to minor stalls. Incident response is a continual task that WSDOT provides with the Washington State Patrol, local fire departments, and others. Every incident response helps limit delay and increase safety. *"Helping drivers, clearing roads,"* the motto of incident response, is a cost-effective highway management strategy – and WSDOT's routine efforts also free up WSP resources for enforcement activities uniquely in its competence.

Snapshot of Response Types and Related Actions for September 2002

Total Incident Responses = 1,754

- 187 Collisions
- 1,567 Non-Collisions

Reasons for Non-Collision Responses

Disabled Vehicles	905
Abandoned Vehicles	235
Blocking Debris	212
Blocking Disabled Vehicle	78
Fire	10
Hazardous Materials	7
Other	120

Service Actions Taken for Non-Collision Responses

Traffic Control	39
Provided Fuel	111
Changed Flat Tire	122
Minor Repair	68
Pushed Vehicle	46
Tow	7
Cleared Debris	223
Other*	951

More than one type of service action may have been provided for a single response.

**Other actions may include marking abandoned vehicles, providing brief traveler assistance, and directing stopped vehicles to move off the shoulder.*

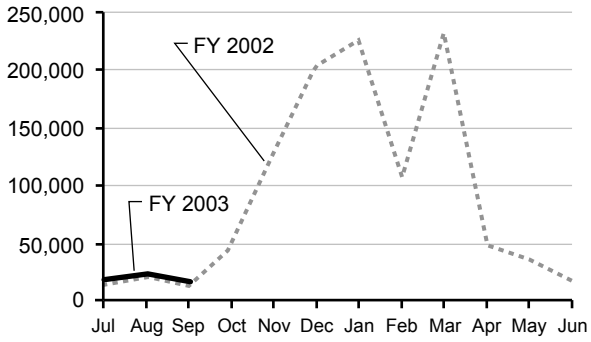
Traveler Information

Traveler information serves taxpayers' convenience and safety and also can play a major part in transportation system efficiency by informing travel choices in light of congestion, incidents, and delays. WSDOT has been a national leader in providing traveler information systems, including:

- 91 variable message signboards on urban freeways and the major mountain passes that convey information on roadway conditions and incidents.
- 36 permanent and 24 proposed Highway Advisory Radio local transmitters that broadcast traffic engineers' messages to motorists on AM 530 and AM 1610.
- 1-800-695-ROAD, a dial-up telephone service with a menu of current travel information. 511 dialing is also available to some wireless phone users and will be available to other users in summer 2003.
- Media feeds of WSDOT-sourced traffic and travel information, picked up and used in newscasts and traffic reports by television and radio stations across the state.
- Roadway information, ferry schedules, and mountain pass reports provided on the internet to users directly through WSDOT's web site as well as via uncounted links and search engines. WSDOT has a total of 375 closed-circuit TV cameras to help detect and respond to incidents around the state. Many of those camera images are available for the public to access on the web. Real-time travel times for major commuting routes are also available on the web, as are flow maps depicting whether traffic flows on roadway segments are light, medium, or heavy.

Number of Calls to 1-800-695-ROAD

Fiscal Years 2002 and 2003



The volume of calls on 1-800-695-ROAD spikes in winter months. WSDOT is one of the first states in the nation to inaugurate simpler dialing to 511 for travel and traffic information.

Over the Air

WSDOT feeds travel and ferry traffic information to major media outlets all over the state. In the Seattle market, these include:

And in Spokane:

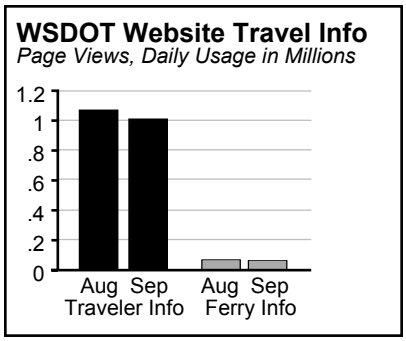
Most radio stations in the Seattle market have traffic and weather reports every 10 minutes during the daily commutes. Real-time travel times for several Puget Sound commutes are broadcast on Washington television channels. Several hundred thousand television viewers receive WSDOT traveler information via the news media each day.

In the Seattle area, the Shell Oil Company approached Fisher Broadcasting's KOMO (1000 AM) and sister station KPLZ (Star 101.5 FM) about a 22-week pilot partnership to sponsor an incident response vehicle. The IR driver calls in and provides traffic reports to the radio stations and highlights WSDOT's traveler information. For WSDOT, this is an experiment to determine whether such an arrangement is a helpful means of reaching drivers with roadway information. In exchange, Shell and KOMO/KPLZ logos are painted on the IR truck.

On the Web

Nine servers support WSDOT's extensive web-based information services. The complexity of WSDOT's website architecture and the myriad of paths by which web-based traveler information now reach the public presents a significant challenge to precise tallying and assessment of web use by customers and taxpayers.

New web measurement and assessment services supplied by digiMine, a Bellevue-based website analysis company, have recently been implemented to assist WSDOT in tracking web usage and assessing the benefits and costs of additional investment in web-based traveler information systems. Baseline tracking data is now being assembled.



Traffic Cameras

Traffic cameras have become one of the major attractions on the WSDOT home page. The busiest day this past quarter was Friday, August 9, when the Hood Canal Floating Bridge on SR 104 was stuck open for four hours. There was a total of 1.76 million page views on the entire WSDOT website that day.

The 10 most popular camera sites for September:

- State Route (SR) 520 at 148th Avenue NE, Bellevue
- SR 520 at West Lake Sammamish Parkway, Redmond
- SR 520 at Bellevue Way NE, Bellevue
- SR 520 at the Evergreen Point Floating Bridge east highrise, Bellevue
- SR 520 at 124th Avenue NE, Bellevue
- U.S. 97 at Blewett Pass
- U.S. 12 at White Pass
- Interstate 405 at NE 85th Street, Kirkland
- Interstate 90 at Snoqualmie Pass, Hyak West
- Interstate 90 at Snoqualmie Pass, West Summit

Referring Websites

About 80% of WSDOT's web usage reaches WSDOT's site either through the WSDOT home page *www.wsdot.wa.gov* or by bookmarking the pages for individual cameras. The balance arrives through referring websites that offer links to traveler information pages. The top ten referring domains* in September were:

- portal.starbucks.net *(Starbucks Intranet)*
- www.google.com
- search.msn.com
- seattlepi.nwsource.com
- search.yahoo.com
- www.seattleinsider.com
- access.wa.gov
- www.king5.com
- www.komotv.com
- seattletimes.nwsource.com

** WSDOT uses the web domain definition because these referring domains may not offer links directly to our website. (Instead, especially in the case of news media websites, the traffic and travel information generated from our servers is displayed on their sites. Even though the information is offered on the media website, WSDOT servers process the information.)*

www.wsdot.wa.gov *serves up images like this one on I-405 and the West Valley Highway near Tukwila. Images automatically update every 1.5 minutes. Earlier this year, live video footage for several Puget Sound area cameras was added as another web feature.*

When winter comes, mountain pass cameras become one of WSDOT's most popular and valuable traveler information services.

Real-time traffic flow maps help web users to spot congestion and back-ups, and also to pick routes that offer smoother flowing traffic.

Ferry positioning and arrival/departure information on the web help passengers improve the reliability of their trip planning.

Highway Maintenance: Quarterly Update

Winter Preparation: WSDOT Gets Ready for Snow and Ice

This time of year, WSDOT maintenance crews put away highway patching and mowing equipment and prepare the snow plows for work! To win the battle of keeping the high elevation mountain pass highways and other roadways open during winter conditions, WSDOT readies fleets of equipment, sophisticated weather detection devices, plows, snow blowers, sand, anti-icing chemicals, and avalanche control explosives. When winter strikes, maintenance employees brew up thermoses of coffee and are ready for long hours and difficult conditions.

Here are some of the resources WSDOT is now preparing for its winter maintenance arsenal:

- 387,000 tons of sand in more than 500 sand stockpile sites statewide
- 25,000 tons of anti-icing chemicals
- 500 trucks more or less (snow plows, sand, and anti-ice trucks)
- 24 heavy duty snow blowers

Improved Roadway Conditions

One of the best strategies to keep the snow and ice cleared from the road is to keep it from accumulating by anti-icing with chemicals. These chemicals, either liquid or solid, stop ice crystals from bonding with the road surface to prevent frost, black ice, and compact snow. While anti-icing chemicals are not a cure-all for hazardous winter road conditions, they are an important tool for use in addition to or in combination with plow-and-sand techniques traditionally employed by highway maintenance crews. WSDOT closely monitors and evaluates the contents and specifications of anti-icing products for environmental considerations. Over the last few years, anti-icing has resulted in fewer and less severe wintertime collisions and road closures. Bare pavement may also reduce the need for studded tires. (*See page 24 for information about WSDOT's automated anti-icing systems*.)

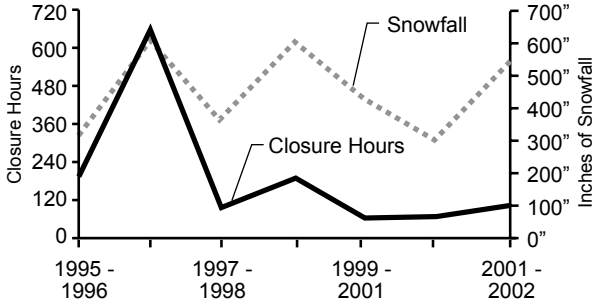
For more information on **studded tires**, *visit www.wsdot.gov/traveler/wintertravel/default.htm#tires*

Keeping Mountain Pass Highway Closures to a Minimum

Mountain passes are far more subject to winter roadway closures than any other highway locations in Washington. While WSDOT cannot control the weather, personnel management practices, better communication, and advanced technologies help keep traffic moving. The record for the past few years is shown below.

Snoqualmie Pass Winter Closure Hours

Accumulated Annual Hours and Inches of Snowfall
Interstate 90 Winter Seasons, 1995 to 2002

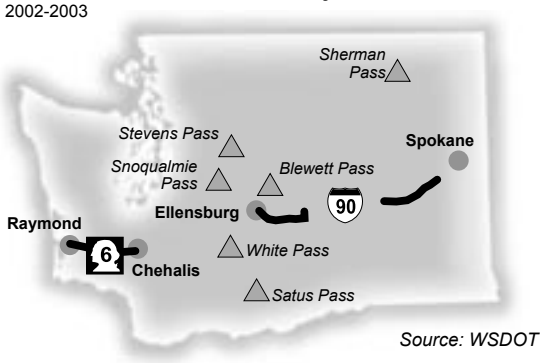


Source: WSDOT

Salt Pilot Project

Over the last 15 years, manufacturing methods and salt application techniques have become more sophisticated. Application techniques that reduce the amount of salt, the use of epoxy-coated rebar and sealed concrete decks on bridges, and corrosion-resistant vehicles help lessen the impacts of salt. During the coming winter, WSDOT will test the potential reintegration of salt (last used by WSDOT in the late 1980s) to control snow and ice on selected parts of Interstate 90 in eastern Washington and State Route 6 between Chehalis and Raymond. The projects will be closely monitored and analyzed throughout the winter.

Locations of Salt Research Projects
2002-2003



Source: WSDOT

Tracking Performance

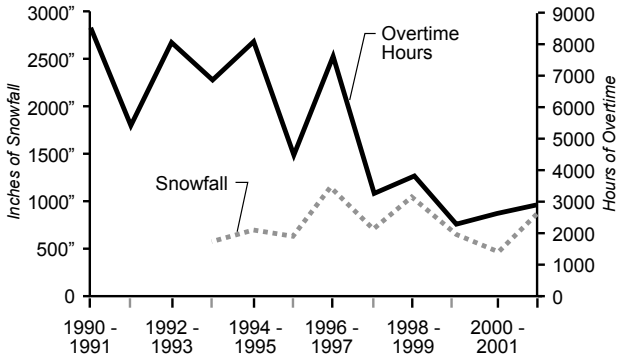
In order to provide more sophisticated performance and tracking measures, WSDOT this winter will record and report in greater detail than last year. Measures may include:

- Roadway surface conditions
- Overtime hours
- Hours of pass closures
- Costs per lane mile for winter operations

An example of future reporting is shown in the chart below comparing overtime use to snowfall levels in one maintenance area of one WSDOT region.

Overtime Hours: North Central Region Experience

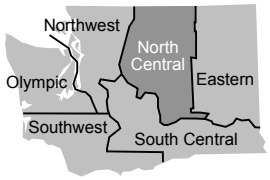
Overtime Hours per Snowfall Amount
North Central Region, Wenatchee Maintenance Area
Winter Seasons, 1990 to 2002



Source: WSDOT

Storm Management: "Snow Room" Operations Center for North Central Region

This winter, during major storms, snow and ice operations will be coordinated from "Snow Rooms" located in Wenatchee, Okanogan, Ephrata, and Electric City. These are North Central Region locations where winter weather, road conditions, and available WSDOT staff and equipment are evaluated to determine the most effective deployment of resources. Weather and road conditions are received via radio messages from plow truck drivers, on-line electronic roadway weather information systems, cameras, and weather forecasts. All routes are prioritized based on traffic volumes and speed limits, with a special goal of assuring that Interstate 90 and sections of U.S. 2 are storm management priorities.



New Technology for Snow and Ice Control

Look (from a safe distance, of course) for some of the latest improvements in WSDOT equipment while traveling on state highways this winter.

Wing Plows: This coming winter, several ice control trucks will be equipped with a second snow plow blade. These side-mounted plows, combined with the traditional front-mounted plows, clear more of the roadway at a pass than a traditional snow plow.

Pre-Wet Kits: Wet sand is more effective than dry sand when applied to a frozen road surface. As sand is released from the dump truck, pre-wet kits spray a liquid solution to the sand so it will adhere to ice on the road surface. This provides better and longer-lasting traction.

Ground Speed Control Units: Ground speed control units accelerate the release speed of sand or de-icing material to match the truck's speed. This allows the truck to drive at a safer and faster speed but still drop materials in the right place.

Surface/Air Thermometers: For effective anti-icing chemical applications, many maintenance trucks are equipped with thermometers that measure both air and pavement surface temperatures.

Roadside Materials Recycling

WSDOT and its road construction and revegetation contractors use approximately 20 percent of the compost produced and sold commercially in Washington State.

Compost applied to roadsides on highway projects restores disturbed soils, supports healthy plant growth, and at the same time helps both to minimize stormwater runoff quantities and to improve stormwater runoff quality. Compost use, therefore, reduces highway maintenance costs and enhances environmental quality. Compost use also complies with an important recycling mandate in state law (RCW 43.19A.050) which requires compost to constitute no less than 80 percent of any soil amendment.

Compost and Biosolids

The state Department of Ecology* sets strict quality standards for the two types of compost used by WSDOT. *Type AA* may be used in any WSDOT location. *Type A* may be used in any location except within 30 feet of streams, rivers, or wetlands. Standards for each compost type meet or exceed federal regulations limiting the presence of potentially harmful pathogens or the concentrations of heavy metals like cadmium, lead, copper, or zinc that at excessive levels can present risks to human health or the environment.

Class A biosolids from sewage plants that meet the strictest regulatory standards set by Ecology and the U.S. Environmental Protection Agency may be used in compost up to no more than 35 percent by volume. Tests by producers (and occasionally by WSDOT) monitor biosolids and compost quality in accordance with state and federal monitoring requirements. Local health departments enforce regulatory requirements.

Erosion Control – A New Use for Compost

Construction site erosion control is an important and potentially costly environmental requirement to protect water quality in streams, wetlands, and other water bodies.

Compost was applied in 2000 on a section of State Route 971 roadside near Chelan. A year later, the slope with compost was successfully stabilized with native grasses. The slope without compost experienced erosion problems and crews applied more compost in November 2002.

New techniques of placing compost berms for site erosion control rather than using traditional silt fences appear to provide superior benefits for filtering and trapping dirt and silt from site runoff. The cost savings in the use of compost berms appears to be about $3.85 per yard of silt fence avoided. Compost can also control surface erosion in place of plastic sheeting or erosion control blankets. Following construction, the compost berms then can be spread on-site to create a beneficial soil amendment.

** The state Department of Ecology is the contact for statewide requirements. The link to the interim guidelines for compost quality is www.ecy.wa.gov/pubs/94038.pdf. Local county health departments permit, monitor, and enforce the production of compost.*

Recycling Aluminum Signs

Faded, damaged, or outdated WSDOT highway signs are taken down, stripped, cut, and repainted in order to almost eliminate the need to purchase new aluminum signs. Signs for recycling are sent to Yakima County corrections crews who sort and package the old signs. Inmates at the Walla Walla penitentiary then clean and cut the sheets. WSDOT pays labor costs to the Department of Corrections. The recycled aluminum is then sent to the Sign Shop at WSDOT's South Central Region in Union Gap to make new signs like this one. WSDOT, over the past three years, has salvaged 144,527 square feet of aluminum sheets, at a fraction of the cost of new aluminum sheets. About $91,000 has been paid to correctional institutions for their work in the program. During this period, the recycling program saved $291,000 from the cost of purchasing new aluminum sheets.

Commute Trip Reduction: Quarterly Update

WSDOT's efforts to optimize the efficiency of highway systems include:

- High-occupancy-vehicle (HOV) lane construction and operation
- Park and ride lots and freeway direct-access ramps
- Vanpooling and commute trip reduction to reduce drive-alone travel

More information is available at *www.wsdot.wa.gov/TDM/Tripreduction*

Nearly six miles of new HOV lanes opened between Kent and Federal Way on southbound Interstate 5 on September 19, 2002.

Vanpools in the Puget Sound Region

In 2001, the Puget Sound vanpool system expanded in every month but October. By contrast, to date in 2002, the system has grown in only two months. Through August, 182 new vanpool groups have formed, but more than 200 have folded. Overall there has been a 1.4 percent decline in the number of vanpools since January.

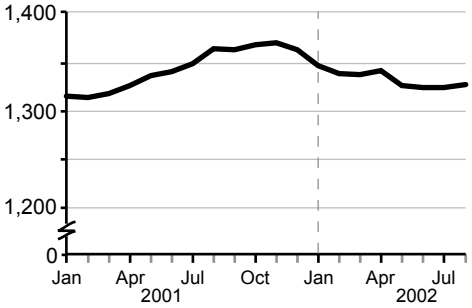
The decline appears principally to reflect regional employment conditions. At Boeing, for example, which last year accounted for about 30 percent of the regional vanpools, there were nearly 70 fewer vanpools operating in August 2002 than there were last year.

Puget Sound Vanpool Providers:

Kitsap Transit
King County Metro
Pierce Transit
Community Transit
Intercity Transit
Island Transit

Puget Sound Vanpool Trends

Number of Operating Vans
January 2001 to August 2002



Source: WSDOT Transportation Demand Management Office

Quarterly Regional Vanpool Highlights

- Pierce Transit will begin expanding its vanpool fleet at a rate consistent with its pre-Initiative 695 plans, by virtue of a recent sales tax increase.
- King County added ride-matching service into the *RideshareOnline.com* website for those traveling to events. Increased ridesharing will help mitigate congestion at Mariner, Seahawk, and Husky games, as well as other popular events in the region.
- The joint efforts of the vanpool operators and Washington State Ferries to mitigate the closures for repairs at Fauntleroy and Southworth were well received. Jim Kluge, member of vanpool group #1420, said, *"Our vanpool members … want to thank you for your assistance in making our commute during [the closure] much easier than it would have been. With King County Metro's efforts, and that of the WSF, we can say the commute via Colman Dock went well under the circumstances."*
- WSDOT has rented to operators 79% of its vanpool rental fleet to meet the short-term needs of the vanpool operators.

New Insights on Commuting Patterns and Gasoline Use in Washington State

Two recent sets of statistics related to transportation efficiency show that Washington ranks better than many other states.

Commuting Drive-Alone Rates

An increasing drive-alone rate would tend to indicate that a state is falling behind on the path to more efficient utilization of scarce highway capacity during commuting hours. "Long form" data from the 2000 U.S. Census is now available for states to assess change in their drive-alone characteristics over the course of the 1990s decade. (The last *Gray Notebook* and some newspaper reports earlier presented some general data from preliminary census releases.)

Across the nation, almost every state had an increase in drive-alone commuting rates during the 1990s. Washington, however, bucked the national trend by registering a very small *decrease* in the drive-alone rate. The state's workforce grew 21% in the same decade. The commuting trend, therefore, was that the number of workers car- and vanpooling, using public transportation, bicycling, or working at home grew at a higher rate – just barely – than the increase in workers. As the table below shows, the number of carpools grew by over 26% and the number of public transportation riders by over 30%. Together, these two groups are almost 18% of commuters. Oregon was the only other state in the country to see a decrease in the drive-alone rate.

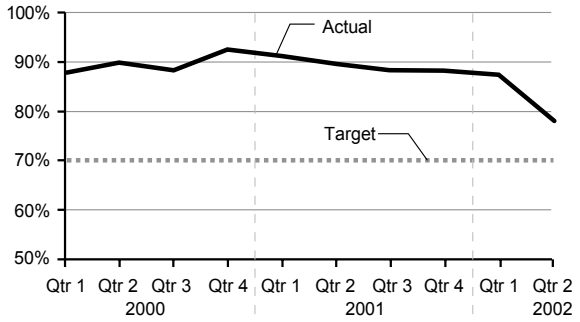
Per Capita Gasoline Consumption

In its latest indicator report, *Fueling Up: Gasoline Consumption in the Pacific Northwest*, Northwest Environment Watch (NEW) reported that per capita gasoline consumption fell by about 2% in Washington State from 1992 to 2002. Apparently this placed state residents' gas consumption (436.8 gallons per capita) below the national average for the first time. (The state's total consumption, however, rose by 17% based on pressure from overall population growth.) NEW credits growth management as a primary factor in the reduction in per capita consumption. In contrast, per capita gas consumption rose significantly in British Columbia and Idaho during this period, and declined in Oregon by half the rate of decline in Washington.

Park and Ride Lot Occupancy at WSDOT-Owned Sites in King County

During the second quarter of 2002, automobiles used 78% of the almost 8,000 parking spaces in 31 WSDOT lots in King County – a significant decline from the previous quarter. This decline was paralleled in other parts of the commute network: Puget Sound vanpools were down (see previous page), and for the first five months of 2002, transit ridership on King County Metro was down about 4.5% compared to the same period in 2001.

WSDOT-Owned King County Park and Ride Lots
*Percent of Capacity Used: 1999-2002**



Source: WSDOT

About 58% of WSDOT's park and ride lots in King County were more than 70% full during the quarter, down from 65% last quarter.

Parked cars exceeded maximum capacity at eight lots, up from seven lots over capacity last quarter. Despite the overall decrease in park and ride occupancy, the most popular park and ride lots remain popular, and continue to lack enough parking supply to meet demand.

**Data availability has a lag of three months to allow the transit systems to collect and analyze the data. Data for the third quarter of 2002 will be available in the next* Gray Notebook.

Washington State Commuting Patterns

Workers 16 and Over, 1990 and 2000

	1990 Census		*2000 Census*		*Change 1990 to 2000*	
Commute Mode	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Drive Alone	**1,700,872**	**73.9**	**2,040,833**	**73.3**	**339,961**	**20.0**
Carpool	282,240	12.3	357,742	12.8	75,502	26.8
Public Transportation	104,403	4.5	136,278	4.9	31,875	30.5
Motorcycle	7,985	0.3	4,353	0.2	- 3,632	- 45.5
Bicycle	13,170	0.6	16,205	0.6	3,035	23.0
Walked	91,475	4.0	89,739	3.2	- 1,736	- 1.9
Other means	16,144	0.7	19,499	0.7	3,355	20.8
Worked at Home	86,377	3.8	120,830	4.3	34,453	39.9
Total	2,302,666	100.0	2,785,479	100.0	482,813	21.0

Source: U.S. Census Bureau

Washington State Ferries: Quarterly Update

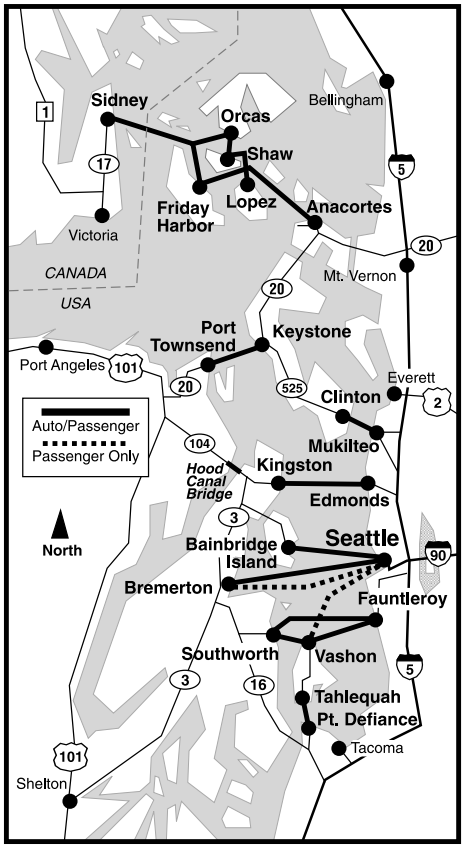
Washington State Ferries (WSF) collects customer complaints, compliments, comments, and suggestions. This information is recorded in the Automated Operating Support System (AOSS) database for measurement and action, based on data base cross tabulation and analysis.

The charts show trends in the data for the last four fiscal years and the first quarter of fiscal year 2003 (July 1 – September 30, 2002).

Although customer complaints were up 29 percent from the preceding quarter, complaints were down 10 percent from the same period last year.

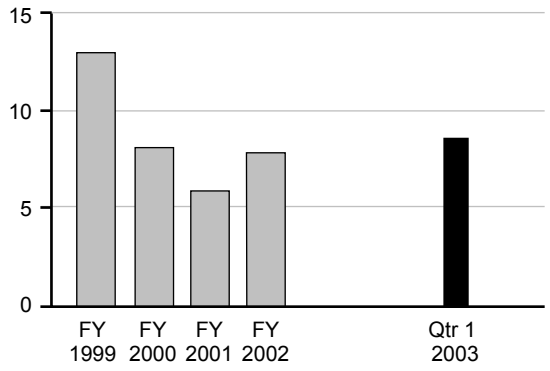
WSF received 162 food service related complaints during the quarter, a very significant increase. Over a nine-day period, 134 complaints were received on the Fauntleroy/Vashon/Southworth route following the notification by WSF's food service concessionaire, Sodexho USA, that food service hours were to be significantly reduced. Sodexho has subsequently reversed its decision on the service hour reduction.

Schedule-related complaints were up significantly this quarter (45 total complaints). During this time, WSF was proposing and discussing schedule changes at Bainbridge to address on-time performance issues (see next page). A total of 33 complaints were received in a three-day period following the public meetings and survey distribution.



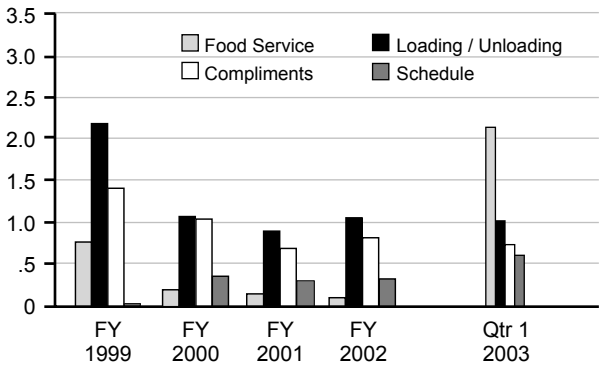
Total Customer Complaints

*Complaints per 100,000 Customers**



Most Common Customer Comments

Top Four Comment Types per 100,000 Customers
Fiscal Year 2003, First Quarter



**Does not include compliments or suggestions.*

Source for all charts: WSDOT

On-Time Performance

WSF has been collecting on-time performance data since June 2001. The table below compares WSF on-time performance across the system for the first quarters of fiscal year 2002 and 2003. Overall, performance was very similar to the preceding year. New, more stringent, Immigration and Naturalization Service regulations on the international route caused a marked deterioration in on-time performance for that route. Construction activity on the Fauntleroy/Vashon/Southworth routes also impacted performance during the quarter.

On-Time Performance Delivery

Route	First Quarter Fiscal Year 2002 Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time	First Quarter Fiscal Year 2003 Number of Trips	Percent of Trips Within 10 Minutes of Schedule	All Trips Average Delay From Scheduled Sailing Time
San Juan Domestic	7,172	71%	8.5 minutes	6,990	75%	4.4 minutes
International Route	337	87%	4.4 minutes	328	79%	7.0 minutes
Edmonds/Kingston	4,453	85%	5.3 minutes	4,370	89%	4.2 minutes
Passenger-Only: Seattle/Bremerton	1,584	98%	3.1 minutes	1,635	96%	2.8 minutes
Passenger-Only: Seattle/Vashon	992	97%	3.0 minutes	1,014	96%	1.7 minutes
Fauntleroy/Vashon/Southworth	10,331	88%	4.3 minutes	9,108	82%	5.1 minutes
Keystone/Port Townsend	2,479	85%	4.8 minutes	2,431	80%	6.5 minutes
Mukilteo/Clinton	6,756	96%	2.6 minutes	6,311	95%	3.1 minutes
Point Defiance/Tahlequah	3,062	92%	3.7 minutes	2,796	89%	4.7 minutes
Seattle/Bainbridge Island	4,133	85%	5.5 minutes	3,843	84%	5.6 minutes
Seattle/Bremerton	2,522	97%	3.0 minutes	2,438	98%	2.6 minutes
Total	43,821	87%	4.8 minutes	41,264	86%	4.7 minutes

A trip is considered to be on time if it departs within ten minutes of the published scheduled sailing time. Missed trips are not reported in this measure. They are included in the following measure (Trip Reliability).

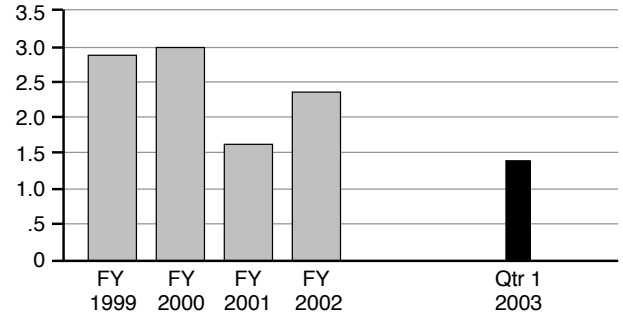
Trip Reliability

WSF scheduled 45,954 trips during the 1st quarter of fiscal year 2003. Of these trips, 152 were cancelled.

The chart below shows a system-wide average reliability index. Assuming that a commuter worked 200 days per year and made 400 trips on WSF, the statistical likelihood is that 1.3 ferry trips would be cancelled. This rating represents a 44% improved reliability rating from the preceding quarter and a 34% improvement over the same period last year.

Trip Reliability Index

Missed Trips per 400 Sailings

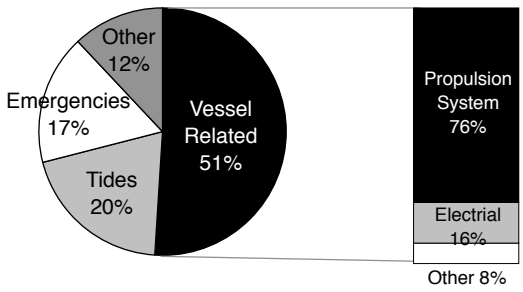


On the morning of August 22, 2002, the Quinault *ran aground at the narrow entrance to Keystone Harbor on Whidbey Island during a period of dense fog and a strong ebb tidal current. The crew's decisive actions just prior to, and following, ground contact minimized damage and hazard to the vessel and passengers. While the grounding inconvenienced passengers stuck aboard the vessel for 5.5 hours and shut down the Port Townsend/ Keystone run (20 missed trips), there were no injuries and no damage as a result. The* Quinault *returned to service later that afternoon.*

Source: WSDOT

Most Common Trip Cancellation Causes

First Quarter, Fiscal Year 2003



Of the 67 vessel-related trip cancellations on the Fauntleroy/Vashon/ Southworth run, 35 of them (52%) were due to mechanical failures on the Tillikum. *The* Tillikum *returned to the run in mid-August after a nine-month shipyard preservation contract which included replacement of the problematic Ross-Hill propulsion control system. The failures experienced were associated with anomalies discovered after the vessel's sea trials following the long lay-up period.*

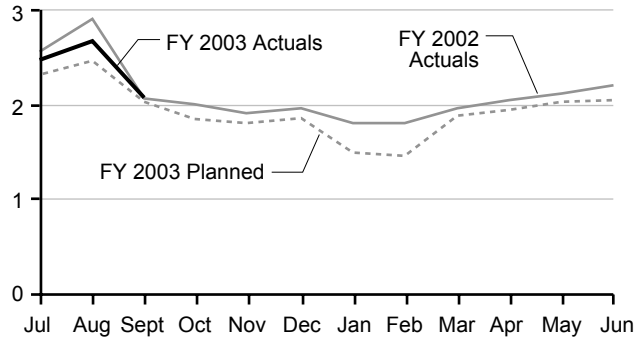
Ridership and Revenues

The Legislature's Joint Task Force on Ferries (JTFF), comprised of legislators, citizens, ferry management, and ferry workers was formed in 2000. The Task Force reviewed the workings of the WSF system and made recommendations including tariff increases designed to raise the farebox recovery rate to 80 percent of operating costs over six years. The Transportation Commission instituted this recommendation and approved tariff increases of 20 percent in June 2001 and 12.5 percent in May 2002.

New tariffs have been designed to recover higher total revenues even though the number of riders may fall slightly when the price of the trip goes up. As shown above, WSF anticipates ridership will fall from the previous year because of the fare increase, but that the value of total fares will go up. However, repeating the pattern from fiscal year 2002 through the first quarter of fiscal year 2003, WSF has experienced higher than projected ridership *and* revenues.

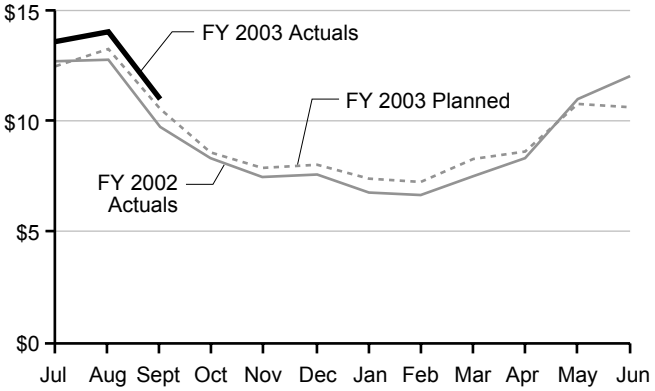
Ferries Ridership by Month

In Millions



Ferries Farebox Revenues by Month

Dollars in Millions



Capital Expenditure Performance

WSDOT makes capital investments in the Ferry System through the Washington State Ferries (WSF) Construction Program. The program preserves existing and builds new ferry terminals and vessels. This infrastructure program supports the Ferry System delivery of responsible and reliable marine transportation services to customers.

At the end of the fifth quarter of the 2001-2003 Biennium, the program spent $96.8 million (81%) compared to its plan of $119.2 million. WSF has under spent to date due to vessel construction contract complications, difficulties acquiring parts, and terminal construction/ preservation project delays.

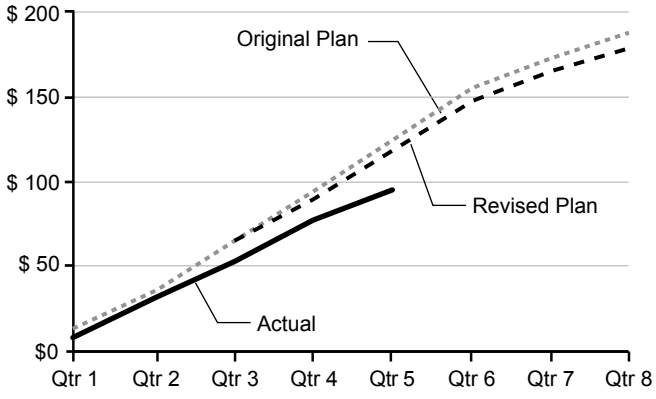
"Original Funds Available" are based on the Capital Improvement and Preservation Program adopted by the Transportation Commission in October 2001.

"Planned Biennial Expenditures" reflect a $10 million appropriation reduction enacted by the 2002 Legislature.

WSF Construction Program Expenditures

2001-2003 Biennium, Quarter 5, Ending September 30, 2002

Planned vs. Actual



Program expenditures are grouped into spending on terminal construction, vessel construction, and emergency repairs of terminals and vessels.

Sources for all charts: WSDOT

State-Supported Amtrak *Cascades* Service: Update

Ridership

Ridership on state-supported Amtrak *Cascades* trains was 105,691 for the third quarter of 2002. This represents a 2.3 percent increase over the same period in 2001. Total ridership through the first nine months of the year was 288,224, which exceeds the 2001 total for the same period by 5.5 percent. Amtrak *Cascades* trains between Seattle and Vancouver, BC, continued to show ridership increases. One likely explanation for this trend is that more intercity travelers are taking the train as a way to avoid long roadway delays at U.S. and Canadian border crossings.

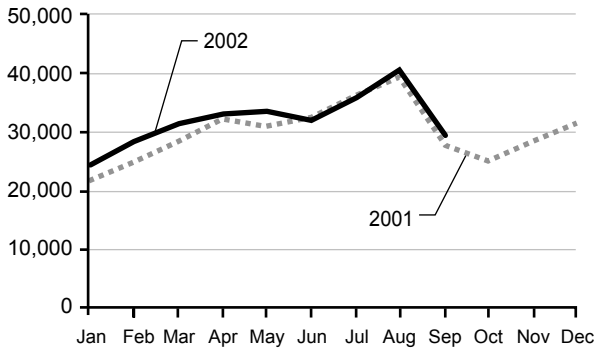
On-Time Performance

The on-time performance goal for the Amtrak *Cascades* is 80 percent. A train is considered on time if it arrives at its final destination within ten minutes or less of the scheduled arrival time. On-time performance for state-supported Amtrak *Cascades* service averaged 68.4 percent in July, 69.2 percent in August, and 64.2 percent in September 2002. The three-month average was 67.3 percent, which was almost 6 percent lower than the same period in 2001. Significantly contributing to the delays was an increase in freight rail congestion between Seattle and Portland and slow orders issued by the BNSF in areas where regular maintenance work and *Sounder* commuter rail construction work was taking place.

Customer Satisfaction

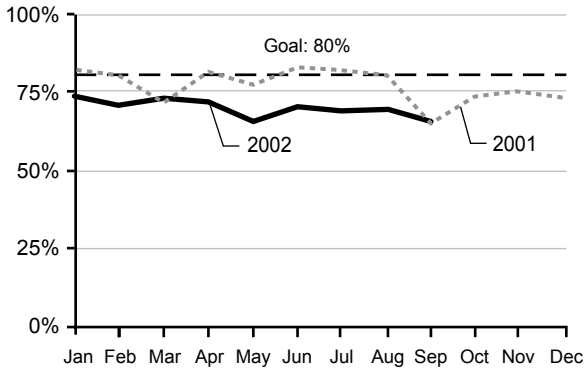
Amtrak's Customer Satisfaction Index (CSI) is based on surveys of riders using the service. The scores are three-month rolling averages. The CSI goal for the Amtrak *Cascades* is a score of 92 or better. For trains north of Seattle, the score was 95, compared to 92 for the previous year. For trains south of Seattle, the score was 91, which was equal to the score for the same period in 2001. Highlights included increased satisfaction with Amtrak's provision of information on problems and delays, and the

State-Supported Amtrak *Cascades*
Monthly Ridership
Number of Passengers



Source: Amtrak and WSDOT

State-Supported Amtrak *Cascades*
On-Time Performance
2002 vs. 2001 Percent On-Time
2001 Average: 76.29%



The on-time performance goal for the Amtrak Cascades is 80%. A train is considered on-time if it arrives at its final destination within 10 minutes or less of the scheduled arrival time.

Source: Amtrak and WSDOT

helpfulness and friendliness of train crew and Bistro Car personnel. The most frequent complaint dealt with on-time performance between Seattle and Eugene. WSDOT, Amtrak, and the Oregon Department of Transportation anticipate that completion of track repairs by the Union Pacific Railroad south of Portland will reduce customer dissatisfaction with on-time performance.

What's Happening with Amtrak?

Congress and the Bush Administration are in the process of developing the federal budget for fiscal year 2003, which was set to begin on October 1. Amtrak has indicated that the railroad will need $1.2 billion in 2003 to continue to operate their national network, make needed track improvements, and maintain and repair rolling stock. As of press time, the federal government has not come to agreement on Amtrak's role in the nation's transportation network and the level of funding Amtrak should receive.

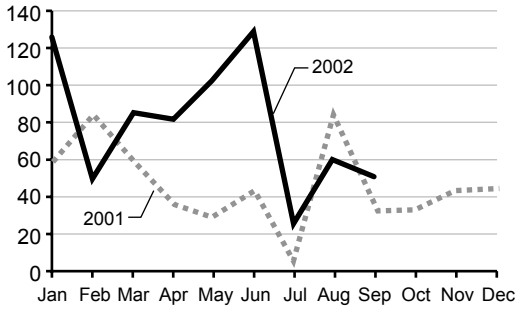
On September 25, new Amtrak President David Gunn visited with key legislators and WSDOT management in Olympia. Mr. Gunn was touring the west coast to get a first hand look at intercity passenger rail service and to learn more from state DOTs that provide direct capital and operating support. Mr. Gunn was impressed by the Amtrak *Cascades* service, and has since indicated to several groups that the WSDOT/ Amtrak funding and management partnership model may become the template used across the country in the years ahead.

Washington Grain Train Update

In the third quarter of 2002, the state-owned Grain Train carried 89 carloads of Washington grain to Columbia River ports. This represents a 24 percent increase over the same quarter in 2001. The total number of Grain Train carloads – including cars owned by the Port of Walla Walla – was 135 for the third quarter of 2002, a 12.5 percent increase over third quarter 2001.

Washington Grain Train Carloads

Carloads Per Month, 2001 vs. 2002



Source: WSDOT Rail Office

In September 2002, WSDOT initiated the acquisition of a third Grain Train. The train will serve grain cooperatives on the 82-mile long Palouse and Lewiston branch line in Spokane and Whitman Counties. Funds generated by the grain trains currently in operation would support the purchase of as many as 29 additional cars. Like its predecessors, the third Washington Grain Train would help alleviate the state's shortage of grain cars, help Washington farmers get their products to market, and help preserve the short line rail network in eastern Washington.

Washington Fruit Express Update

Amtrak President David Gunn has announced that Amtrak will discontinue its existing express freight services over the next year. WSDOT is exploring alternatives to provide similar, possibly expanded rail perishable express service from both Wenatchee and the Tri-Cities (Richland, Kennewick, and Pasco). An update on the status of the Washington Fruit Express will appear in a future *Gray Notebook*.

Highlights of Program Activities
Quarter Ending September 30, 2002

Project Starts, Completions, or Updates

- Tacoma's Chihuly Bridge of Glass, also known as the Interstate 705 (I-705) Pedestrian Bridge, was opened. WSDOT administered the $4.3 million project, as a partner with the City of Tacoma. The overpass connects the Union Station Historic District with the Thea Foss Waterway and the Chihuly Museum of Glass.

- In response to safety concerns, WSDOT crews restriped the eastbound I-90 exit to State Route (SR) 900 to increase storage capacity of the ramp and decrease backups on I-90. The exit was restriped from two 12-foot lanes to three 11-foot lanes by reducing shoulder widths.

- The Tonasket-Bonaparte Creek Bridge Deck project on U.S. 97 in Okanogan County was completed five days early and 17.6 percent under budget.

- A project on SR 20 / SR 213 in Okanogan County to repair or replace guardrail along 88 miles of SR 20 was completed on time and under budget. The contract allowed 60 working days; the contractor completed the project in 40 working days. The contract was completed for $445,661 just under the original bid amount of $450,633.

- Crews completed an $11.5 million project to add a third lane in each direction of I-5 between 93rd Avenue south of Tumwater and the Maytown interchange in Thurston County. The new lanes, constructed in the freeway median and separated by concrete barrier, were completed on time and on budget.

- Crews activated new traffic signals at the Boblett Street intersection with SR 543, a high accident intersection in Blaine near a school complex, fulfilling a promise to the community to complete the work before the school year began.

- An important link in the Puget Sound High-occupancy-vehicle (HOV) lane system opened in September to traffic on I-5 between Kent and Federal Way. When the $46.6 million project got underway in March 2001, it was projected for completion in October 2003. Some work remains, which will occur mostly off the freeway, including final installation of hardware to expand WSDOT's traffic camera and flow map coverage on both directions of I-5 to South 320th Street. The new lane can carry 1,800 to 2,000 vehicles an hour, reducing congestion at one of the region's worst bottlenecks. WSDOT traffic analysis shows that the lane could shave up to 10 minutes off HOV users' evening commute.

- WSDOT completed improvements to SR 290 / Trent Avenue from Mission Avenue to Sullivan Road near Spokane. This six-mile project consisted of a full-length pavement overlay from Mission Avenue to Sullivan Road plus a new center-turn lane between Fancher Road and Sullivan Road. The work was completed on time and under budget.

- Repaving of both Indian John Hill rest areas on I-90, approximately six miles east of Cle Elum, was completed ahead of schedule. The westbound rest area work was completed two days ahead of schedule; the eastbound rest area was completed three days early.

- The Loup Loup Summit culvert repair project on SR 20 in Okanogan County was considered a major success, even though it was not completed on time or on budget. The $73,000 project relined a failing culvert near the Loup Loup summit between Twisp and Okanogan rather than replace it. Engineers revised an existing plan and shortened the project time, reduced impacts to traffic, met environmental requirements and significantly lowered the higher level of project costs that had preceded the re-thinking of the project.

- A landslide occurred on SR 202 at the Tokul Creek Slope Stabilization project near Snoqualmie Falls. About 5,000 cubic yards of debris from a previous landslide broke free. Crews were on-site and unharmed, although the slide pushed a large excavator about 30 feet into shoring above Tokul Creek. All "Best Management Practices" were in place and greatly minimized the amount of material that reached the creek. WSDOT experts decided that SR 202 could remain open to traffic and they revised the project design and work sequence.

Savings and Efficiencies

- The *2001 Traffic Flow Map for the Annual Traffic Report* was improved by reducing the number of color separations. This change improved the quality of the map and cut printing costs from $4,000 per year to $2,000 per year.

- Thanks to observant WSDOT maintenance personnel, good testing by Materials Laboratory staff, and cooperation from the Office of State Procurement, WSDOT successfully recouped $449,038 from a vendor who delivered a roadway de-icer product last winter that did not meet WSDOT's corrosion specifications.

Innovations and Awards

- WSDOT's Twisp River Bridge project was awarded the *Precast Concrete Institute's 2002 PCI Design Award* for outstanding design in precast, prestressed concrete bridges. WSDOT used deep girder sections and high-performance-concrete in this 197 foot-long, single-span bridge. The girders were delivered to the job site in three precast, pretensioned segments, erected on falsework bents, and post-tensioned together after the roadway deck was placed.

The project was designed by WSDOT, the girder manufacturer was Concrete Technology Corporation of Tacoma, the general contractor was OneWay Construction Inc. of Sedro-Woolley, and the post-tensioning subcontractor was Avon Construction Systems, Inc. from California. An exhaustive technical account of the project, authored by John Van Lund, P.E., and Paul Kinderman, P.E., of WSDOT and Stephen Seguirant, P.E., of Concrete Technology Corporation appeared in the *PCI Journal*, v. 47, no. 2 (March/April 2002).

- WSDOT's Bridge Office, with Washington State University, prepared an emergency system for the support of structures damaged by seismic events, with details provided for prestressed girder, reinforced concrete box, and steel plate girder bridges. The system was well received by bridge engineers in other states, and several intend to implement it.

- WSDOT's Technology Transfer Center was recognized by the National Local Technical Assistant Program Association as one of three outstanding technology transfer centers in the country. The Center was praised for innovation, technology leadership, and its newsletter *"WST2,"* which can be found at *www.wsdot.wa.gov/TA/T2Center/T2Bulletin-archives/T2Bulletin.html*

- During the *2002 Pacific Northwest Transportation Technology Exposition*, bridge maintenance crews from across the state participated in "Bailey Bridge Construction Training." They assembled two 50-foot single-single approach spans that ramped up to one 40-foot double-single main span. The demonstration trained maintenance personnel to build Bailey Bridges during an emergency, and showed the state's ability to respond to disasters in a timely, efficient manner, opening routes that may be closed due to natural disasters. New features in the Bailey construction were an open steel grid deck and towers at three bridge piers. The new system speeded construction and eliminated three layers of the old Bailey deck system.

New WSDOT Information Sources

- WSDOT posted the "*Project Investment Record 1991-2002*," a 12-year retrospective on how WSDOT spent funding on capital projects. Information is organized by project type and includes descriptions of corridor and interchange improvements, the HOV system, safety projects, paving and rehabilitation jobs, bridges, ferries, and passenger and freight rail projects. The page is at *www.wsdot.wa.gov/accountability/lately/default.htm*

- To inform motorists of traffic flow through a high-impact construction project, crews activated a traffic camera at the east end of the U.S. 2 / Hewitt Avenue trestle near Everett. Using eastbound and westbound views of trestle traffic, motorists could decide whether to use alternate routes.

- WSDOT unveiled a new resource website for local agencies. The site highlights designs and interdisciplinary techniques to develop transportation facilities that fit physical surroundings and preserve scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility. The website is *www.wsdot.wa.gov/TA/PAandI/CommPart/ContextSensitive.html*

- New on-line highway "rural bicycle touring route" maps were posted on WSDOT's website. The maps provide links, information about the roadways and related services such as paths, trails, wildlife viewing areas, campsites, parks, accommodations, and bike shops. Users also get visual information about riding conditions. The website is *www.wsdot.wa.gov/TA/PAandI/Bike-Ped/routes/*

Grants Received and Grants Awarded

- Washington State Ferries (WSF) received two grants for operational security: (1) $50,000 from the Federal Transit Administration for two emergency exercises; and (2) $110,000 from the federal Transportation Security Administration to establish protocols and agreements between hazardous materials responders and enhancing WSF's ability to respond to a chemical, biological, or radiological release.

- The Meeker Southern Railroad used a portion of WSDOT's $400,000 loan to purchase a used 1,500 horsepower locomotive. The locomotive, in conjunction with over $300,000 in track repairs, helps the small railroad remain economically viable and preserves rail service to businesses between Meeker and Puyallup.

Special Events

- WSDOT participated in the *Flight Across America* aviation event organized by Washington pilot Molly Peebles to honor the memory of those killed in the 9/11/01 terrorist attacks and to celebrate the spirit and freedom of aviation.

- WSDOT's Aviation Division held its annual *Mountain Flying Clinic* for 107 pilots. This free clinic taught pilots techniques for flying through mountainous regions. It also offered safety seminars on survival training, flying companions, and backcountry flying.

Special Feature

Automated Anti-Icing Systems

In 2001, WSDOT installed two automated anti-icing (and de-icing) systems on Interstate 90 near Vantage and at the intersection of State Route 17 and State Route 26 near Othello. These systems detect dangerous winter road conditions and spray anti-icing chemicals on the roadway using built-in sprinklers.

The steep, downhill grade and sharp bend of I-90 on the eastern bank of the Columbia River, combined with severe winter weather conditions, create an ideal location for an automatic anti-icing system. The basic elements of this system are:

- A Remote Weather Information System (RWIS) that automatically and continuously monitors and reports local meteorological and pavement conditions.
- A liquid chemical storage tank and a computerized control unit connected to the RWIS.
- Supply lines between the storage tank, pumps, and the highway.
- Flush-mounted nozzle systems in the road that apply the chemicals.

Supply lines installed along the concrete bridge barrier connect the chemical storage tank, control unit, and pumps to the nozzle systems built into the road.

Gray Notebook Subject Index

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Americans with Disabilities Act (ADA) Information

Persons with disabilities may request this information be prepared and supplied in alternate formats by calling the Washington State Department of Transportation ADA Accommodation Hotline collect (206) 389-2839. Persons with hearing impairments may access Washington State Telecommunications Relay Service at TTY 1-800-833-6388, Tele-Braille 1-800-833-6385, Voice 1-800-833-6384, and ask to be connected to (360) 705-7097.

Civil Rights Act of 1964, Title VI Statement to Public

Washington State Department of Transportation (WSDOT) hereby gives public notice that it is the policy of the department to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities. Persons wishing information may call the WSDOT Office of Equal Opportunity at (360) 705-7098.

Other WSDOT Information Available

The Washington State Department of Transportation has a vast amount of traveler information available (including Puget Sound area traffic, mountain pass reports, highway closures, ferry schedules, and more). Call the WSDOT statewide toll-free number: *1-800-695-ROAD.* In the Seattle area: (206) DOT-HIWY [368-4499].

For additional information about highway traffic flow and cameras, ferry routes and schedules, Amtrak *Cascades* rail, and other transportation operations, as well as WSDOT programs and projects, visit *www.wsdot.wa.gov*

For this or a previous edition of the *Gray Notebook*, visit *www.wsdot.wa.gov/accountability*

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