44th Annual Western States Highway Equipment Managers Association Conference

Washington State Department of Transportation Presentation

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Washington State Department of Transportation

Equipment Plays a Critical Role in Operating and Maintaining The Highway System

How TEF Works

1. The Transportation Equipment Fund (TEF), is a revolving fund.
2. TEF has been a revolving fund since 1935
3. TEF calculates the biennial cost to fuel, service and maintain all equipment and replace equipment that has reached the end of it's service life.
4. TEF receives expenditure authority from the Legislature
5. The Legislature appropriates funds to WSDOT programs.
6. TEF receives funds by charging WSDOT programs "rent" for the use of vehicles and equipment. The rent collected is equal to the anticipated costs for the biennium.
7. Because it is a revolving fund, cash balances may move across biennial lines.

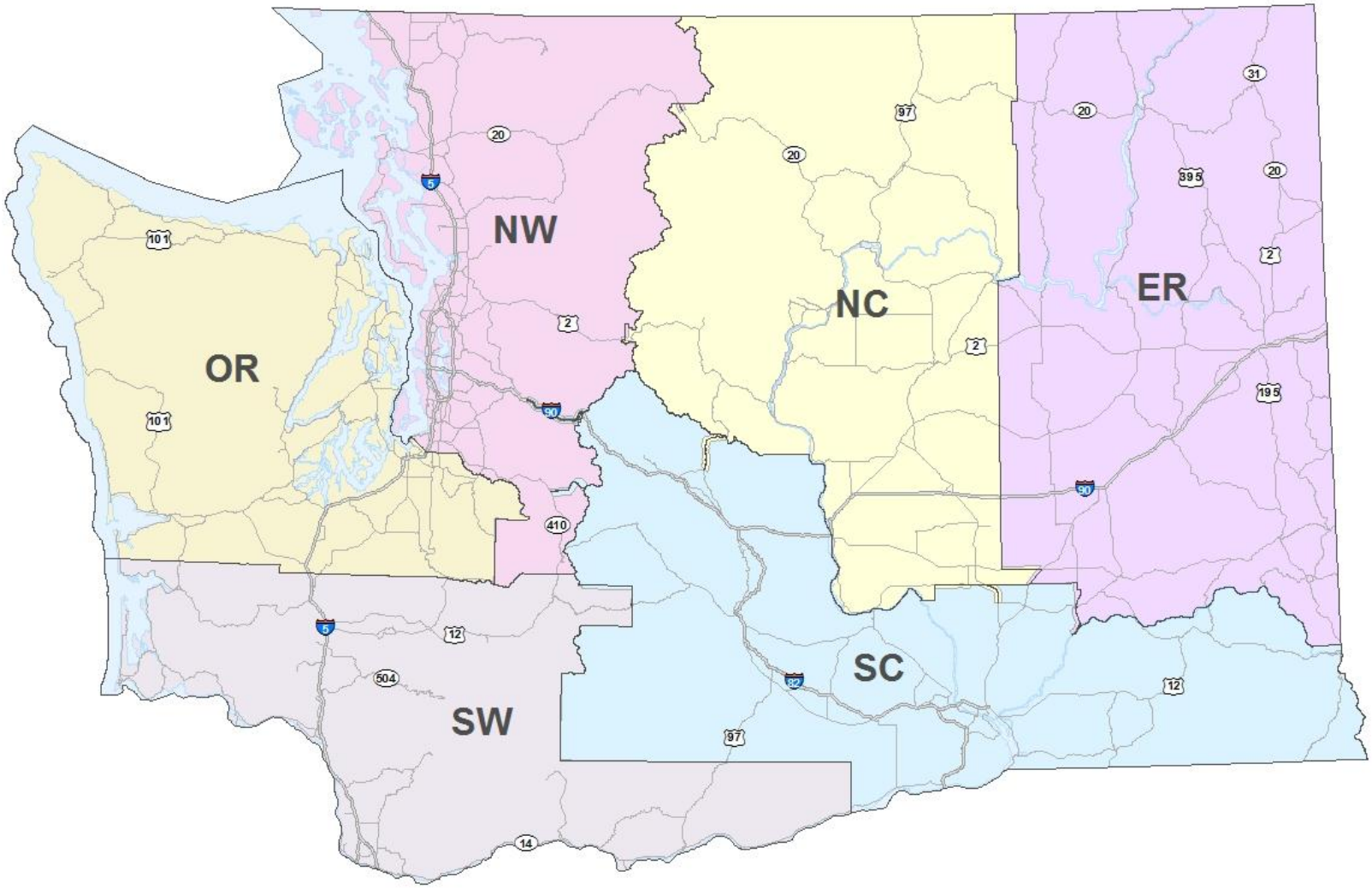
TEF Equipment

4,800 Vehicles & Construction Equipment

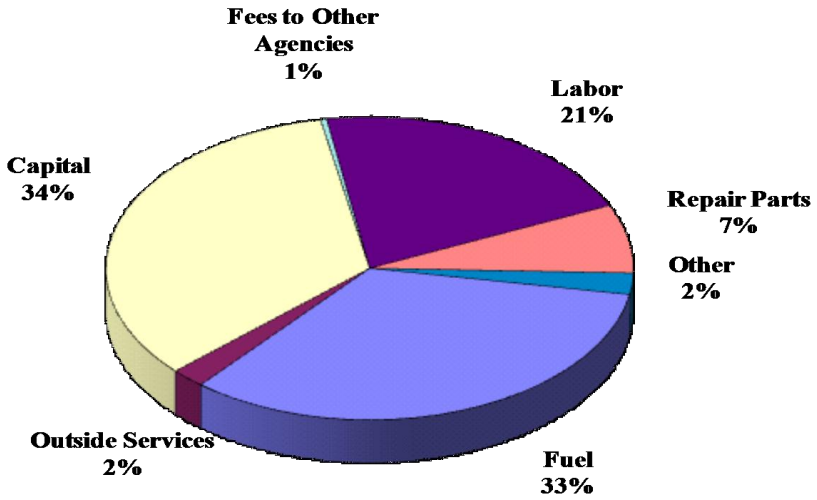
10,000 Pieces of Supporting Equipment

4,500 - Wireless Radio System Components
1,350 - Equipment Attachments (primarily snow and ice)
410 - Fuel System Components and Generators
40 - Reproduction and Photogrammetry Pieces
500 - Field Engineering Survey Equipment
1,700 - Materials Lab Testing Equipment
1,110 - Message Signs and Impact Attenuators
390 - Equipment and Lab Trailers

Washington State Department of Transportation



Expenditures Planned For The 13-15 Biennium
$145.8 Million To Deliver Essential Program Services



(All dollar amounts are in thousands)		
Labor	$30.3	209.3 FTE
Outside Services Includes glass replacement, body work, radio installation, fuel site service and repairs, man lift inspections and repairs and power generation maintenance.	$3.1	
Other Supplies and materials; motor oil and other petroleum products; propane; safety items to include clothing and footwear; laundry; fleet management software and licenses; fuel management software and licenses; towing; tool replacements; travel and per diem.	$3.3	
Fees to other Agencies GA disposal, Attorney General, Risk Management, Department of Licensing	$0.6	
Capital	$49.4	
Fuel	$48.5	
Repair parts	$10.7	
	$145.8	

Work Force

209.3 FTE Authorized

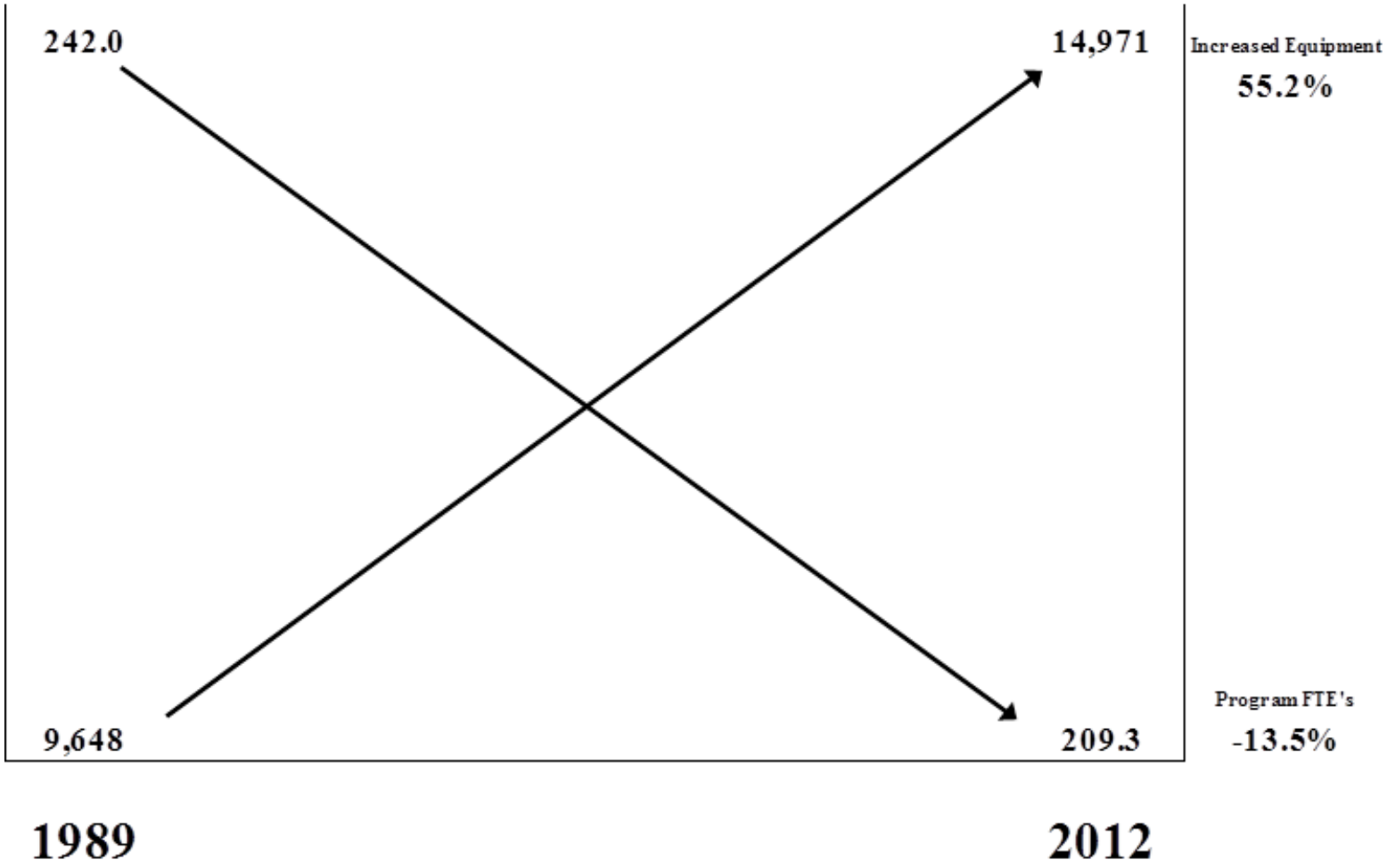
16 Accounting and Administrative Staff

13 Repair Parts Specialists

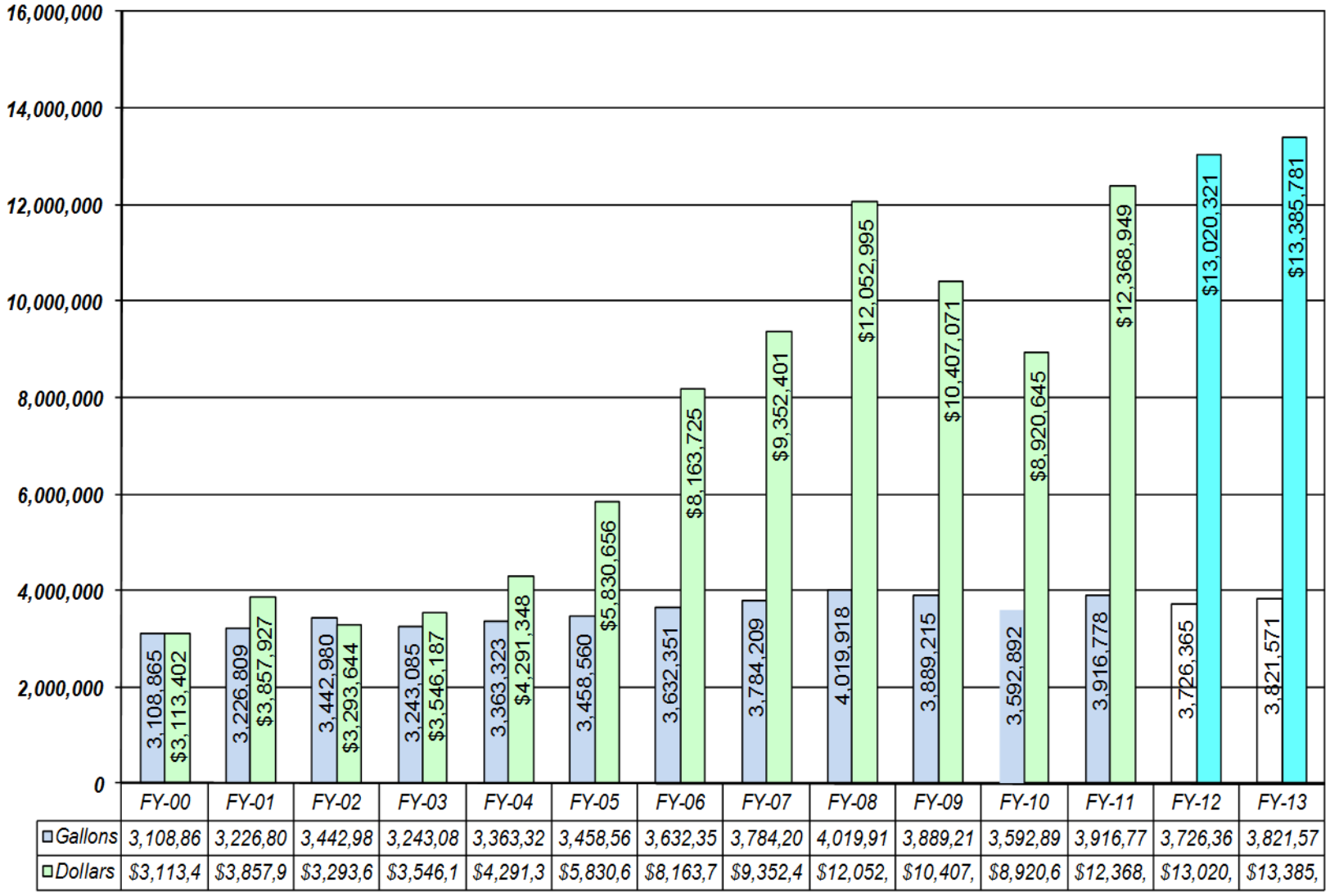
145 Mechanics

15 Radio Technicians

Doing More … With Less



Fuel Usage and Cost



	FY-00	FY-01	FY-02	FY-03	FY-04	FY-05	FY-06	FY-07	FY-08	FY-09	FY-10	FY-11	FY-12	FY-13
Gallons	3,108,86	3,226,80	3,442,98	3,243,08	3,363,32	3,458,56	3,632,35	3,784,20	4,019,91	3,889,21	3,592,89	3,916,77	3,726,36	3,821,57
Dollars	$3,113,4	$3,857,9	$3,293,6	$3,546,1	$4,291,3	$5,830,6	$8,163,7	$9,352,4	$12,052,	$10,407,	$8,920,6	$12,368,	$13,020,	$13,385,

The Fleet is Aging

The program's goal is to maintain the inventory at 50 percent of its economic life, that is, the average age of any particular equipment class should be half of the class' established replacement schedule. A level purchasing methodology is applied to accomplish this goal, whereas the amount of units replaced annually is relatively consistent. For example, an equipment class containing 400 units, on a ten-year replacement schedule, should have 40 units replaced each year to turn the entire class inventory in its ten-year period.

				Average Age of Units in Years					
Vehicle Classification	**2012 Unit Count**	**Avg. Lifecycle (years)**	**Target Avg. Age**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Passenger Vehicles	545	12.0	6.0	4.6	5.1	5.3	6.1	6.0	6.8
Highway Maintenance Work Vans	157	12.0	6.0	4.3	3.7	4.4	5.2	5.8	6.6
Highway Maintenance Work Trucks	1252	11	5.5	4.0	4.2	4.7	5.6	5.8	6.3
Dump Trucks / Snow Plows	476	12	6	5.1	6.0	5.8	5.4	5.3	5.4
Snow Removal Equipment	921	11	5.5	4.8	5.1	5.2	5.2	5.1	5.5
Man lifts / Digger Derricks	106	11	5.5	4.7	4.7	5.1	5.7	6.1	6.4
Specialized Heavy Trucks	271	11	5.5	6.1	6.0	5.9	6.4	6.5	6.6
Highway Construction Drilling Equipment	26	12	6	5.0	4.8	5.4	5.5	6.0	6.0
Equipment Trailers	339	15	7.5	6.7	6.8	7.4	8.1	8.5	8.7
Motor Graders	35	20	10	7.3	7.9	8.2	9.2	10.2	11.2
Excavators	28	15	7.5	9.1	9.0	8.9	9.9	10.2	10.8
Loaders	203	20	10	7.0	7.2	8.2	9.0	9.9	10.9
Rollers	30	20	10	9.3	9.6	10.6	11.6	12.6	12.2
Sweeping Equipment	62	11	5.5	4.8	4.2	5.1	5.9	6.7	6.6
Safety Message Signs	795	10	5	4.4	4.1	3.9	3.5	3.8	4.4
Emergency Generators	197	20	10	6.3	7.2	8.0	8.9	9.8	10.6
Mowing Equipment	235	11	5.5	4.2	4.9	5.3	6.1	6.7	6.9
Misc. Road Maintenance Equipment	504	10	5	5.5	5.9	6.5	7.1	7.7	8.2

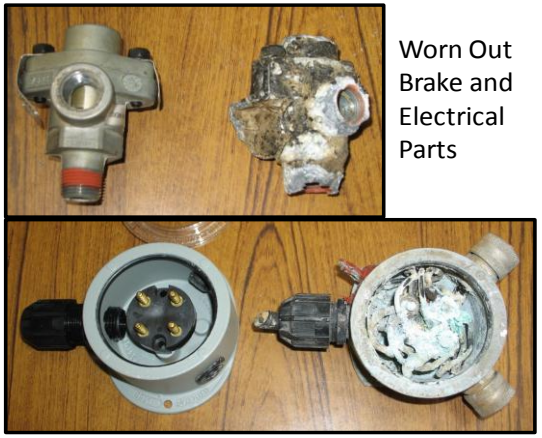
Aging the Fleet

A Tale of Two Trucks

Plow Truck Comparison	Avg. Yearly Repair Costs	Average Labor Hrs	Average DownTime
12 Year Old Plow Truck (Data based on 19 trucks)	$13,616	172	26%
14 Year Old Plow Truck (Data based on 15 trucks)	$21,492	250	44%
Data from Jan.-Dec. 09	($7,876)	(78)	-17%

12 Year Old Plow Truck

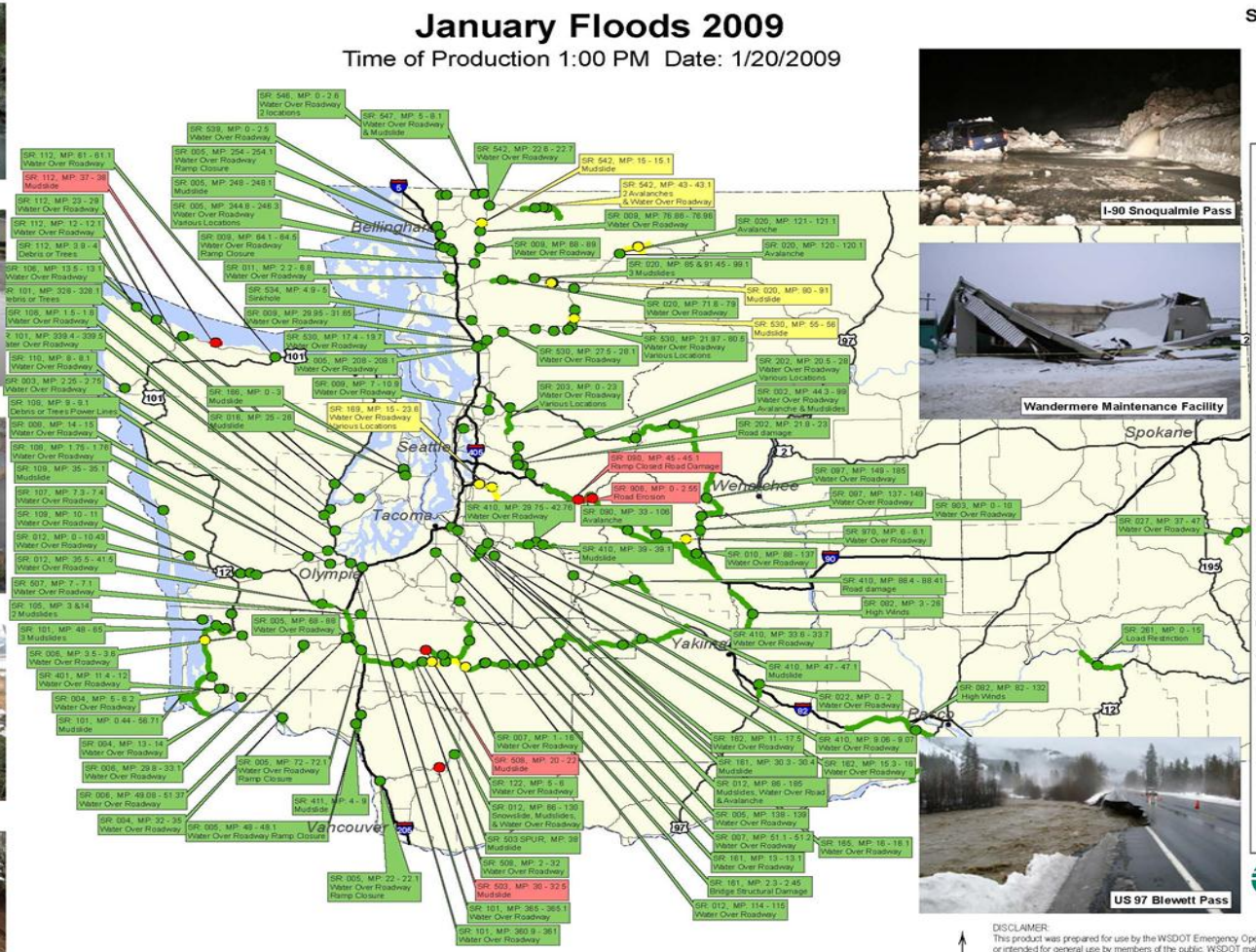
Things You Don't See



Worn Out Brake and Electrical Parts

Risks Associated with Aging the Fleet

- ☑ Equipment availability will go down
- ☑ Longer response times
- ☑ Efficiency decline in day to day operations
- ☑ Unreliable equipment effects the ability of Maintenance and Construction delivering their programs
- ☑ Potential to adversely affect the traveling public and freight mobility



State Route Incident Tracking

- Closed - 5
- Open (Restricted) - 10
- Open - 126

Total Events - 141

During the last two weeks of December, record levels of snow fell in virtually every part of the state. Following the snow, record or near-record levels of rain fell the first week of January, melting the snow and causing significant flooding and creating avalanches and slides around the state

WSDOT responded with over 1250 employees working around the clock, compiling 115,000 hours of regular time and 48,000 hours of overtime, most of it in the last two weeks of January.

During the snow event we placed approximately 44,000 tons of liquid and solid deicers and 32,000 tons of sand on state routes throughout Washington

We sent ten operators and five plow trucks from Olympic Region to Eastern Region to assist Spokane County in their snow fighting efforts.

During the flooding events of early January, 139 state highway segments were closed for some period of time due to a combination of flooding, mudslides, snow slides, rock fall, or wash-outs

At one point during the storm, I-5 between Centralia and Chehalis, the three major passes, and all state routes through Southwest Washington were closed, effectively isolating the Puget Sound Basin from road access by the rest of the state and the country.

We went to extraordinary efforts to keep the travelling public informed of road conditions. We used all resources available to us, including cameras, variable message signs, highway advisory radio, the web, as well as taking and answering hundreds of phone calls.

We communicated with the freight community via the list serve, getting information out to the freight community to minimize impacts to the movement of goods, to the extent possible.

We coordinated communication efforts with Idaho, Oregon and California, providing traveler information about the conditions in Washington that were then communicated through their respective information systems.

Emergency operation centers in five regions and HQ were activated, allowing the effective coordination of information and operational response to occur. We were able to then provide accurate, timely information to County EOCs, the State EOC at Camp Murray, and to the Governor's Office.

Public response has been overwhelmingly positive. We have received many emails, letters, and phone calls thanking us for our efforts despite the challenges that the numerous closures created for the public.

Washington State Department of Transportation

Fuel Additives

- Energy conservation and air quality concerns continue to be significant issues for our agency. Over the years, policies have been developed and implemented to ensure that limited resources are utilized in the most cost-effective, efficient manner possible.

- Therefore, results of third party analysis and testing of new products, devices and technology for fuel savings and emission reductions must be provided by the vendor(s) prior to implementing the use of a new products, devices and technology with regards to the agency's fleet and equipment. Prior to using a new fuel additive or fuel and emission reduction device and technology, testing and product evaluation from the U.S. Environmental Protection Agency's (EPA) "Gas Saving and Emission Reduction Devices Evaluation" program is required. WSDOT will review the evaluation and determine if the product merits field testing.

- The link to the EPA's "Gas Saving and Emission Reduction Devices Evaluation" program is http://www.epa.gov/otaq/consumer/reports.htm.

Questions?

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