

Governor's Transition Briefing Book  
Washington State Department of Transportation

**Agency Responsibilities:**

Background:

- Responsible for developing and maintaining a comprehensive and balanced statewide transportation system.
- Created in the 1977 Legislature to coalesce functions vested previously in the following agencies:
  - State Highway Commission
  - Department of Highways
  - Washington Toll Bridge Authority
  - Aeronautics Commission
  - Canal Commission
  - Planning and Community Affairs (transportation functions)
- Secretary of Transportation is the chief executive head
  - Appointed and guided by the seven-member Washington State Transportation Commission

WSDOT is organized to deliver a comprehensive transportation program. Reporting to the Secretary is the Chief of Staff, Assistant Secretaries for Engineering and Regional Operations, Washington State Ferries, and Finance & Administration.

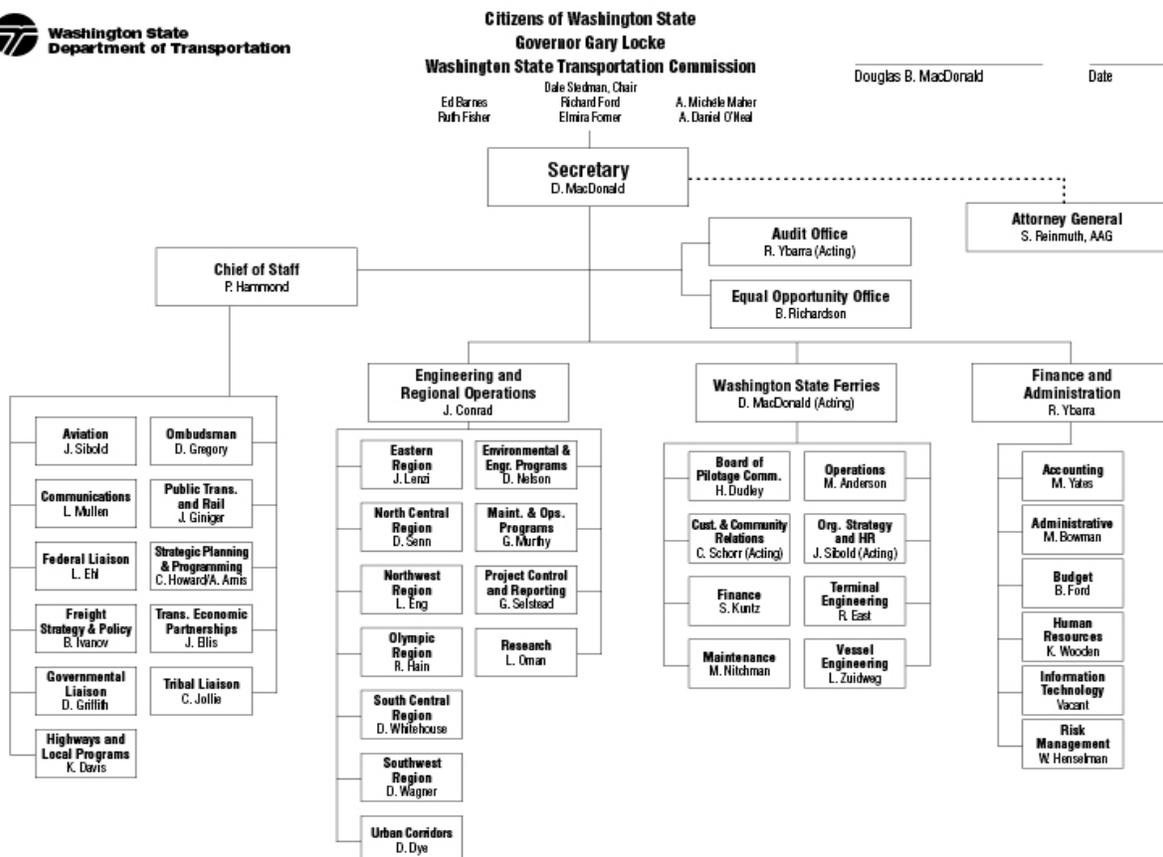
Agency Overview:

- Office of the Secretary
  - Directs WSDOT.
  - Chief of Staff also has direct responsibility for: Communications, Intergovernmental Liaison (State, Federal, Tribal), Freight Strategy and Policy, Aviation, Public Transportation and Rail, Highways and Local Programs, Strategic Planning and Programming (Gray Notebook is prepared by the Strategic Assessment Office, which is part of Strategic Planning and Programming), Office of Equal Opportunity, Ombudsman, and Transportation Economic Partnerships.
- Finance and Administration Division
  - Develops budget.
  - Directs finance, information technology, risk management, administrative and internal audit functions.
- Engineering and Regional Operations Division
  - Provides policy guidance, budget support, and technical expertise in the areas of design engineering, highway construction, maintenance, traffic operations, facilities, equipment and employee health and safety.
  - Implements environmental programs to ensure agency compliance with the Clean Water Act, Endangered Species Act, Clean Air Act and other regulations.
  - Manages the purchase and sale of real estate and related issues for construction projects.
  - Manages transportation research efforts.
  - Provides direction and support to regional offices that implement projects and programs within the following specified areas of the state:
    - ◇ North Central Region - Serves all of Chelan, Douglas, Grant, and Okanogan counties and portions of Adams, Skagit, Kittitas and King counties.
    - ◇ Northwest Region - Serves all of King, Snohomish, Skagit, Whatcom, Island and San Juan counties.

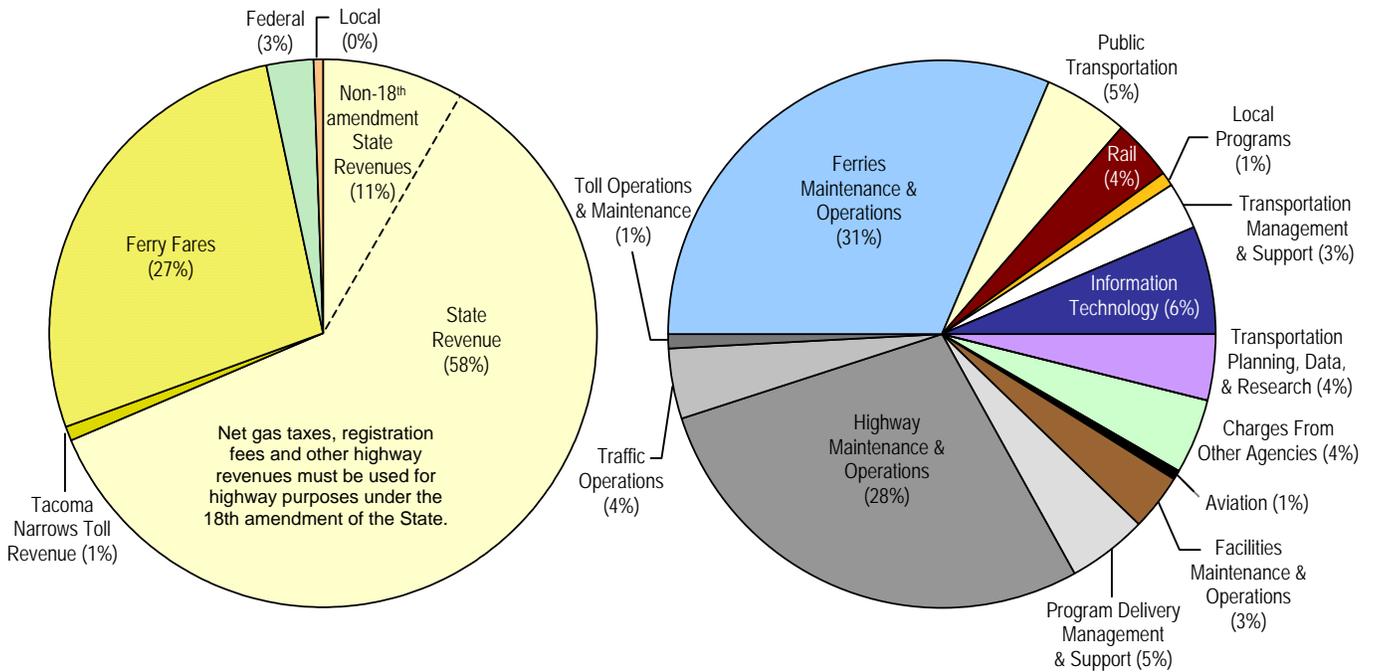
- ◇ Southwest Region - Serves Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania and Wahkiakum counties.
  - ◇ South Central Region - Serves Kittitas, Yakima, Benton, Franklin, Walla Walla, Columbia, Garfield and Asotin counties.
  - ◇ Eastern Region - Serves Adams, Ferry, Lincoln, Pend Oreille, Spokane, Stevens and Whitman counties.
  - ◇ Olympic Region - Serves Pierce, Kitsap, Thurston, Mason, Grays Harbor, Jefferson and Clallam counties.
  - ◇ Urban Corridors - Directs several of the largest urban-area projects in the King County metropolitan area. Funds from the nickel package are advancing environmental work, design, project selection, and some construction. The projects are meant to address the region's most pressing infrastructure, traffic and congestion problems.
- Washington State Ferries
    - Provides ferry transportation service on Puget Sound (largest system in the United States).
    - Performs maintenance and preservation, operations and design and construction oversight of vessel fleet and ferry terminals and facilities.
    - Service complements public transportation systems and the state and regional highway network.

**WSDOT's Table of Organization:**

Note: T/O date effective 11/1/04

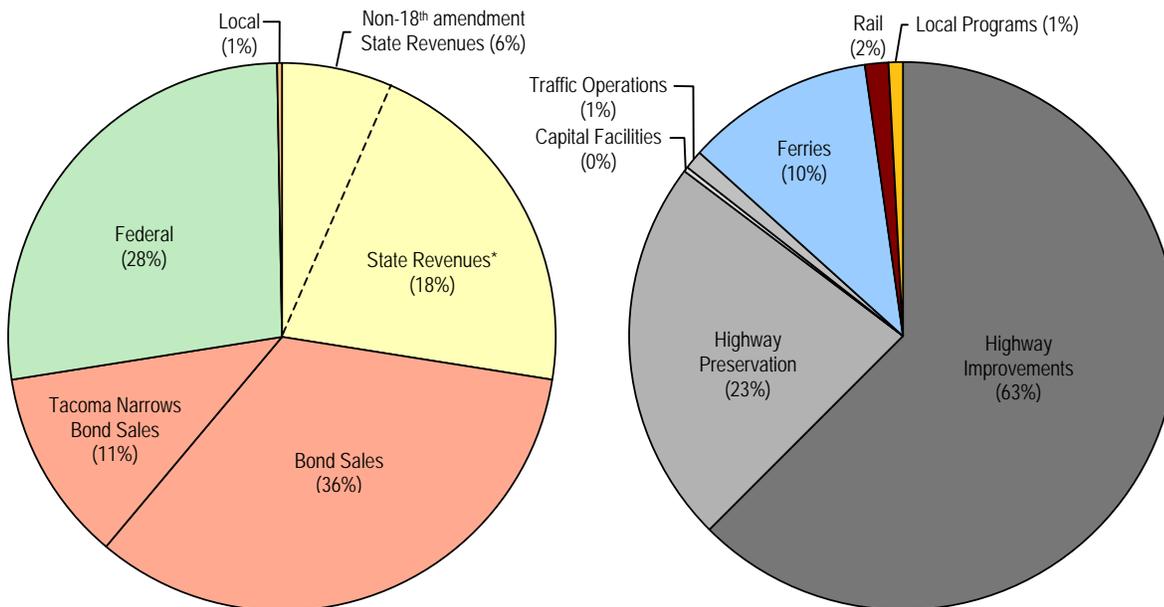


# 2005-07 Current Law Operating Fund Sources & Uses



**TOTAL**  
\$1,061.6 M

# 2005-07 Current Law Capital Fund Sources & Uses



\*Net gas taxes, registration fees and other highway revenues must be used for highway purposes under the 18th amendment of the State Constitution.

**TOTAL**  
\$2,398.8 M

# Operating Budget

Dollars in millions

	2003-05 Budget	2005-07 Carry Forward Adjustments	2005-07 Current Law Proposals	2005-07 Proposed Structure Changes	2005-07 Current Law Proposed Budget	2005-15 Plan
<b>Highways</b>						
Highway Maintenance & Operations	\$291.0	\$1.1	4.7	(\$1.7)	\$295.1	\$1,544.8
Traffic Operations	39.2	2.3	0.0	1.3	42.7	223.2
Toll Operations & Maintenance	-	-	8.6	-	8.6	151.0
<i>Highways Total</i>	<i>\$330.2</i>	<i>\$3.4</i>	<i>13.3</i>	<i>(\$0.4)</i>	<i>\$346.4</i>	<i>\$1,918.9</i>
<b>Ferries</b>						
<i>Ferries Maintenance &amp; Operations</i>	<i>\$318.8</i>	<i>\$1.3</i>	<i>8.5</i>	<i>(\$0.5)</i>	<i>\$328.0</i>	<i>\$1,801.4</i>
<b>Public Transportation &amp; Rail</b>						
Public Transportation	\$49.8	(\$3.5)	5.1	\$0.2	\$51.6	\$298.8
Rail	34.1	(0.8)	5.5	-	38.9	201.4
<i>Public Transportation &amp; Rail Total</i>	<i>\$83.9</i>	<i>(\$4.2)</i>	<i>10.6</i>	<i>\$0.2</i>	<i>\$90.5</i>	<i>\$500.2</i>
<b>Aviation</b>						
<i>Aviation</i>	<i>\$8.0</i>	<i>(\$0.5)</i>	<i>-</i>	<i>\$0.0</i>	<i>\$7.5</i>	<i>\$37.5</i>
<b>Transportation Partnerships</b>						
Transportation Economic Partnerships	\$1.0	\$0.0	-	\$0.0	\$1.0	\$5.3
Local Programs	9.7	(0.3)	-	0.2	9.5	50.0
<i>Transportation Partnerships Total</i>	<i>\$10.7</i>	<i>(\$0.3)</i>	<i>-</i>	<i>\$0.2</i>	<i>\$10.5</i>	<i>\$55.4</i>
<b>Support Services</b>						
Facilities Maintenance & Operations	\$31.1	\$0.1	1.6	\$0.4	\$33.2	\$173.1
Program Delivery Management & Support	49.6	0.8	(1.6)	(0.4)	48.4	253.0
Transportation Management & Support	27.4	0.3	0.2	(1.0)	26.9	140.9
Information Technology	68.9	(4.0)	3.8	(1.6)	67.1	351.2
Transportation Planning, Data, & Research	47.9	(10.3)	-	2.3	40.0	205.4
Charges from Other Agencies	54.7	-	(8.8)	-	46.0	240.5
<i>Support Services Total</i>	<i>\$279.7</i>	<i>(\$13.1)</i>	<i>(4.8)</i>	<i>(\$0.3)</i>	<i>\$261.5</i>	<i>\$1,363.9</i>
Subtotal	\$1,031.3	(\$13.4)	27.5	(\$0.9)	\$1,044.5	\$5,677.3
Compensation Changes	-	-	17.1	-	17.1	101.1
<b>Total</b>	<b>\$1,031.3</b>	<b>(\$13.4)</b>	<b>44.6</b>	<b>(\$0.9)</b>	<b>\$1,061.6</b>	<b>\$5,778.4</b>

# Capital Budget

Dollars in Millions

	2003-05 Budget	2005-07 Current Law Proposed Budget	2005-15 Plan
<b>Highways</b>			
<b>Highway Construction</b>			
Highway Improvements (Pre-Existing Funds)	\$441.1	\$301.9	\$1,093.8
Highway Improvements (2003 Transportation Funding Package)	558.5	922.2	2,648.8
Tacoma Narrows Bridge	604.0	278.7	278.7
<b>Total Highway Improvements</b>	<b>\$1,603.5</b>	<b>\$1,502.8</b>	<b>\$4,021.3</b>
Highway Preservation (Pre-Existing Funds)	\$475.5	\$375.0	\$2,606.5
Highway Preservation (2003 Transportation Funding Package)	2.0	10.3	185.1
Hood Canal (Pre-Existing Funds)	254.3	175.6	175.6
<b>Total Highway Preservation</b>	<b>\$731.8</b>	<b>\$560.9</b>	<b>\$2,967.2</b>
<b>Total Highway Construction</b>	<b>\$2,335.3</b>	<b>\$2,063.6</b>	<b>\$69,885.2</b>
Capital Facilities	\$17.2	\$7.7	\$51.8
Traffic Operations	29.2	27.1	138.1
<i>Highways Total</i>	<i>\$2,381.7</i>	<i>\$2,098.4</i>	<i>\$7,178.4</i>
<b>Ferries</b>			
Ferries Construction (Pre-Existing Funds)	\$180.1	\$199.8	\$1,207.2
Ferries Construction (2003 Transportation Funding Package)	17.5	42.7	284.5
<i>Ferries Construction</i>	<i>\$197.6</i>	<i>\$242.6</i>	<i>\$1,491.7</i>
<b>Rail</b>			
<i>Rail</i>	<i>\$56.5</i>	<i>\$39.4</i>	<i>\$202.1</i>
<b>Local Programs</b>			
<i>Local Programs</i>	<i>\$87.0</i>	<i>\$18.4</i>	<i>\$25.7</i>
<b>Total</b>	<b>\$2,722.7</b>	<b>\$2,398.8</b>	<b>\$8,897.9</b>

## **WSDOT Major Issue #1 - Transportation Safety**

### **Description**

Recent analysis for the Washington Transportation Plan (WTP) update indicates that transportation safety, especially roadway safety, is a major issue in Washington. While significantly improved since the 1980s, roadway accidents still claim over 600 lives per year in Washington. The total annual societal cost of motor vehicle accidents for Washington is estimated at \$5.6 billion, which is about three times the cost of congestion on Washington highways. Significant contributors to accidents are:

- Driver Behavior: The top three contributors in fatal accidents are all related to driver behavior including lane errors, driver impairment (alcohol or drugs), and speeding.
- Young, inexperienced drivers (16-20 years old) have the highest rate of fatal collisions. However, the risk of being involved in a fatal collision is growing in the 71+ age group.
- Washington has attained 94% seatbelt use, but half of all fatalities are of unbelted drivers or passengers.
- Roadways continue to be a safety concern—especially rural roads (state, county, and federal) which have the highest accident rates and are an outstanding problem. The rate of motor vehicle fatalities and disabling injury collisions in Washington per 100 million vehicles traveled is greatest for county roads (12.4). Because of similar characteristics, rural two-lane state highways would be expected to have a similar rate.
- The number of pedestrian deaths (12% of all fatalities in 2002) remains disproportionate to the frequency they are involved in roadway collisions (1.4% of all roadway collisions). A large number of pedestrian accidents take place close to transit stops. The rate of all collisions involving motorcycles is only 1.4%, however, the percent of fatal and disabling collisions involving motorcycles is 12%.
- The biggest safety concern on railroads is trespassers hit by trains (14 fatalities in 2003).
- General aviation safety problems include pilot error and inadequate weather information (about 75 accidents per year and about 15 fatalities on average per year).

(For more information on this topic, please visit WSDOT's WTP website and look for Safety among the nine strategic issues addressed by the WTP: <http://www.wsdot.wa.gov/planning/wtp/>)

### **Controversial Aspects**

Given the huge toll that transportation safety has on Washington citizens, the WTP will be making recommendations on the strategic initiatives and supporting funding needed to address areas that can provide the biggest safety improvement. Approaches range from engineering and enforcement to education solutions and some may be controversial. Responsibilities are shared with the Washington State Patrol, the Traffic Safety Commission, county and local highway departments and law enforcement agencies:

- Behavioral approaches will be significant in addressing impaired driving, seat belt use, speeding, aggressive driving, and other contributing driver behaviors. Some proven strategies found to be effective in other states or countries include maintaining a primary seat belt law, legalizing sobriety check points, and automated photo enforcement for red light running and speeding in school zones.
- Improving roadways—especially on rural two-lane roadways (both state and county)—such as increased enforcement, centerline and edge rumble-strips, and improved shoulders and roadsides. Also, median cable-barriers and rumble-strips on Interstates are proving to be cost-effective solutions.
- Accidents involving pedestrians, bicyclists, and motorcyclists need to be addressed.
- Stepped up efforts to prevent railroad trespassing, such as Operation Lifesaver, are needed.
- Improved weather information access at general aviation airports will help pilots make good flight decisions.
- Better understanding of accident data, e.g. separated by county, should help target safety efforts where they will have the most benefits.

## Key Players

Washington State Transportation Commission sets policy for the transportation system and proposes funding recommendations to the Legislature. Washington State Department of Transportation, cities, counties, and others build safety improvements. Washington Traffic Safety Commission maintains the comprehensive state safety plan and promotes and funds educational programs aimed at improving safer driving behaviors. Washington State Patrol and sheriff and police departments enforce laws designed to improve safety. All these collaborate on finding better ways to understand and address our state's safety problems.

## Urgency/Current Status

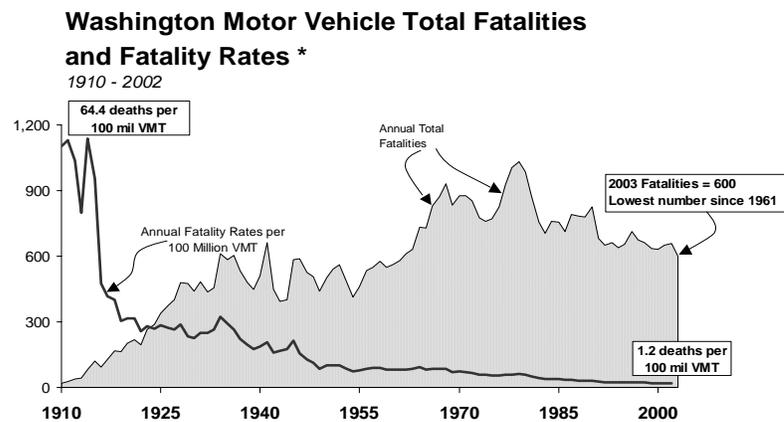
Washington State has made significant progress over the last two decades, but accidents (and especially those resulting in deaths or disabling injuries) are still unacceptably high. Several safety-focused programs and projects are on going in WSDOT and other agencies. Some of these programs are targeted at law enforcement and educational strategies, and others target roadway improvement projects that can reduce accidents and their severity.

## Timeline for Resolution

WSDOT is now working with the Traffic Safety Commission to develop a comprehensive safety plan as part of the Washington Transportation Plan, which will be adopted by the Transportation Commission in fall of 2005. The WTP is intended to include an investment proposal for the 2007 Legislature. Cities, counties, and WSDOT may request increased funding for safety programs during the 2005 session based on analysis of accident patterns now in progress for the WTP.

## Staff Contact(s) with e-mail address and phone number

Toby Rickman, State Traffic Engineer, [rickman@wsdot.wa.gov](mailto:rickman@wsdot.wa.gov), 360.705.7280; Charlie Howard, Planning & Programming Director, [howardc@wsdot.wa.gov](mailto:howardc@wsdot.wa.gov), 360.705.7958; Elizabeth Robbins, Planning Manager (WTP lead), [robbins@wsdot.wa.gov](mailto:robbins@wsdot.wa.gov), 360.705.7371.



## **WSDOT Major Issue # 2 - Transportation Preservation Issues**

### **Issue Description:**

The transportation system in Washington is aging, causing a growing need for preservation investments to keep the system functional and in good shape. WSDOT has placed a priority on system preservation, which has been supported by past Legislatures. The use of pavement, bridge and other asset management systems to identify the elements in need of cost effective rehabilitation or replacement has borne significant results such as improving overall state highway pavement condition, making significant progress on earthquake retrofits for bridges and developing an approach for the elimination of the backlog of pressing bridge preservation needs, and reducing high priority unstable slopes and sewer and water system needs at the state's rest areas. In addition to state highways, local roadways, general aviation airports, transit agencies and state-owned short line railroads are facing growing and significant preservation needs. So are the privately owned Class I railroads (BNSF and UP) who play a critical role in freight movements.

### **Controversial Aspects and Timelines**

During the next 10 years, the cost to rehabilitate or replace these transportation assets will increase as the systems continue to age and new design guidelines for safety and the environment continue to evolve. WSDOT will update the cost to preserve the transportation network in the Washington Transportation Plan. In addition to maintaining the ongoing commitment to system preservation, WSDOT has identified three outstanding funding issues related to preserving the state highway system:

- **Concrete Pavement Rehabilitation or Replacement on key sections of I-5 and I-90:** Concrete pavement lasts a long time, but many of these pavements, located primarily on high traffic Interstate Highways, will need to be replaced during the next ten years. While the 2003 Transportation Funding Package and pre-existing revenues provide a small down payment for this work, most of the need remains unfunded. WSDOT is working to develop a cost estimate, which will include not only the cost of pavement rehabilitation, but also the significant cost to meet modern design and environmental standards for storm water runoff control and noise mitigation. The need is likely to be over \$1 billion or even more depending on the extent that modern design and environmental standards are met.
- **SR 99 – Alaskan Way Viaduct and Seattle Seawall Replacement:** The aging and earthquake damaged Alaskan Way Viaduct and related Seattle Seawall needs to be replaced. WSDOT is working with the City of Seattle on developing a replacement alternative, which can start construction in 2009. The 2003 Transportation Funding Package provided money to keep this design and engineering work going, but an additional increment of funding will be needed by mid-2006 to acquire remaining real estate and complete design in order to start construction. The replacement alternatives being considered cost several billion dollars: an agreement needs to be reached on appropriate cost sharing between the state, City of Seattle, and others (cost range is estimated at \$2.7 billion to \$4.0 billion assuming construction begins in 2008).
- **SR 520 – Evergreen Point Floating Bridge Replacement:** The aging SR 520 floating bridge, which has been damaged by wind and is susceptible to earthquake damage, needs to be replaced. WSDOT is ready to start design on this project in 2005, but the next increment of funding to complete design and purchase right-of-way is needed. The total cost of the bridge replacement will be several billion dollars, which is currently unfunded. Tolling may help cover a portion of the construction cost (cost range is estimated at 1.7 billion to \$2.9 billion assuming construction begins in 2008).

**Key Players:** WSDOT, City of Seattle, cities and counties for local roadway preservation, general aviation airports, short line railroads, transit agencies.

### **Staff Contacts:**

Charlie Howard (Strategic Planning and Programming) – 360 –705-7958; Aaron Butters – 360-705-7153; Dave Dye (Urban Corridors) -206-464-1220

## **WSDOT Major Issue #3 - Freight Movement**

### **Description. Washington freight transportation systems support:**

I. International and National Trade Through Washington Gateways. The state's seaport, airport, border, rail and highway system network serves the U.S. economy and national security needs. In 2002, \$54 billion of imports arrived and \$22 billion was exported through Washington gateways. Another \$20 billion in aircraft exports flew out of Washington on their own power.

II. Washington State's Own Producers and Manufacturers. Washington's regions have built distinct economies based on industry and agriculture, and depend on freight transportation to sustain competitive position. In 2002, Washington farmers produced \$5.6 billion of agricultural products. In 2003, manufacturing Gross Business Revenues in Washington were \$88.3 billion; construction revenues were \$27.1 billion; transportation services were \$9.1 billion.

III. Distribution, Wholesale and Retail. The distribution system delivers food, fuel, retail goods and medicines, picks up refuse, and produces up to 80 percent of truck trips in metro areas. Statewide retail sales were \$91.5 billion and wholesale trade revenues were \$84.4 billion in 2003.

### **Controversial Aspects**

Freight movement within and through Washington is a large economic development issue with many potential partners and interest groups. WSDOT's Washington Transportation Plan (WTP) seeks to engage not only the traditional port, rail and trucking interests, but the many more people who depend on an effective and efficient Washington State freight system, such as: Spokane's regional health care center and manufacturers, Columbia Basin potato and apple shippers, Vancouver hi-tech manufacturers, the industrial base, restaurants and food distributors in Central Puget Sound, the fuel distribution system, and wheat farmers in SE WA. The goal is to develop a statewide strategic freight plan with recommended priorities for funding those projects that will provide the highest benefit to freight movement and the state's economy. There may be controversy with supporters of the FMSIB list of projects that was generated prior to the WTP effort. FMSIB is seeking a dedicated source of funding for these projects from revenues now generally available to a broad range of transportation needs. WSDOT is working with FMSIB's Board to attempt to get a common strategy and plan for future state investments.

### **Key Players**

Washington State Transportation Commission; MPO/RTPOs; Assn. of WA Counties; Assn. of WA Cities; WA Public Ports Assn.; West Coast Corridors Coalition; Washington Manufacturing Services; FMSIB; Chambers of Commerce; CTED; WA State Dept. of Agriculture; WA State Agricultural Presidents Group; WA Assn. of Wheat Growers; WA Perishable Shippers Cooperative Assn.; Agricultural Commissions; Columbia River Channel Coalition; Puget Sound Steamship Operators Assn.; WA Trucking Assns; IMTC; U.S. Customs & Border Protection; Department of Homeland Security; MARAD; PNW Waterways Assn.

### **Urgency/Current Status**

Freight volumes passing through and generated in the state are growing and projections for the future suggest there is much more coming. Capacity barriers on the rail systems and on the highways threaten to become acute. Bottlenecks and constraints exist all over the state: improving the I-5 corridor and completing the freight corridor system, addressing severe weather closures on I-90 at Snoqualmie Pass, establishing a core all-weather county road system, and maintaining the Columbia -Snake River system are key issues. The distribution system produces more trucks, going more places, than any other part of the freight system; I-5 congestion increases business and consumer costs. In addition, the fuel distribution system has safety and capacity issues.

### **Timeline for Resolution**

The Washington State Transportation Commission will adopt the Washington Transportation Plan decision package by September 2005.

### **Staff Contact**

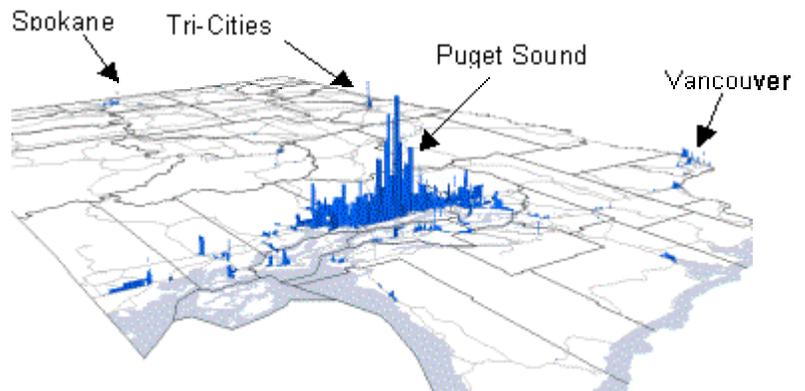
Barbara Ivanov, Director of Freight Strategy & Policy; 360-705-7931; [ivanovb@wsdot.wa.gov](mailto:ivanovb@wsdot.wa.gov)

## WSDOT Major Issue # 4 - Bottlenecks and Chokepoints: Congestion on Washington's Highways

### Description:

In Washington State, the growth in travel demand has far outpaced expansion of transportation system capacity.<sup>1</sup> Additionally there is little evidence that major levels of new investment in transportation capacity will be forthcoming, leaving the state with a backlog of capacity needs now and in the future. This imbalance of demand and capacity occurs in virtually every mode of transportation - at our airports, on our rail lines, and especially on our highway systems.

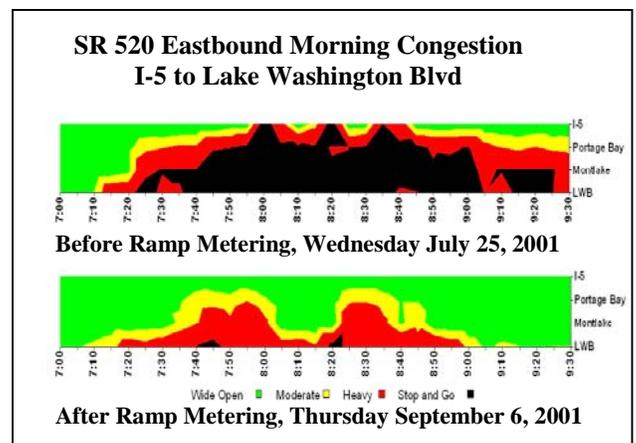
The map of Washington State to the right presents a picture of the average total vehicle hours of delay per lane mile per day. As this map illustrates the delay is not evenly distributed across the state; the greatest delay on the state highway system is found in the Central Puget Sound area. Other areas, Tri-Cities, Vancouver and Spokane in particular, also see significant delay. Scattered through several other areas of the state is delay in much smaller magnitudes. The total delay across the state is estimated to be over 365,000 hours per weekday and represents about \$1.6 billion annually in lost time.



Year 2002, Total Daily Vehicle Hours of Delay Per Lane Mile<sup>2</sup>

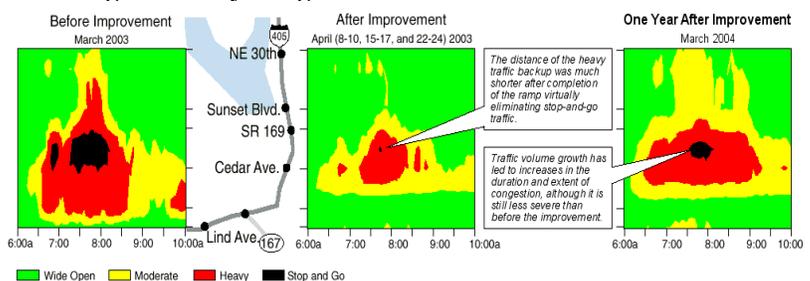
The State currently manages a number of programs to improve the efficiency of our highway system and manage congestion. These programs include both operational measures (this is getting increased attention all across the country and Washington State is acknowledged as a leader) and capital investments in new capacity.

Operational measures contribute to increasing the efficiency of existing lanes. Washington State uses HOV lanes, incident management and ramp metering to improve the maximum throughput of a roadway during congested conditions. Transit service also improves the efficiency of the highway system. This is also the intent of a proposed High Occupancy Toll (HOT) lane pilot project on SR 167. HOT lanes offer the opportunity to make better use of the HOV lanes while keeping the travel time advantage for transit and vanpools. The current operational measures are reaching their limits, new ideas for operational measures and additional capital investments are needed.



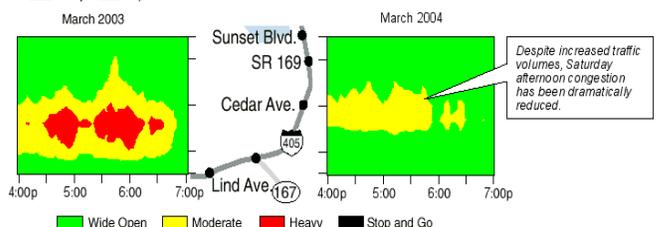
Capital investments have been planned to expand capacity at key bottlenecks and chokepoints, and provide major corridor investments. However, current funding is not available for these projects.

### Average Weekday Congestion I-405 Southbound



<sup>1</sup> In Washington State, from 1980 to 2000 population was up by 43%, job investment in transportation infrastructure has remained flat. Other evidence reduced travel time reliability in cities across the country.

<sup>2</sup> The higher the spike, the greater the delay. This does not include delay on streets or highways that are owned by cities or counties.



Chokepoint and bottleneck type investments, illustrated by the flyover ramp that was built at the intersection of I-405 and SR 167, can greatly reduce delay in a corridor. This is also the approach used in many of the “Nickel” projects funded by the legislature in 2003 such as the I-405 projects in the Bellevue, Kirkland and Renton areas. The RTID proposal includes major corridor investments such as the completion of SR 509 and the I-405 widening.

### **Controversial Aspects:**

The basic problem is the shortfall of funding for the expensive projects that most need to be done -- correcting decades of under attention to the needs. Balanced, integrated investments dedicated to improve highways and transit are needed. WSDOT has been pursuing a practical and balanced strategy which includes operational improvements to get the most out of the existing system and restore lost productivity; completing the HOV network to ensure quick travel for transit; supporting improved transit service in high density corridors and programs that manage demand; and targeting capital investment at chokepoints and bottlenecks to get the largest return for the investment. With foreseeable state funding being targeted at system preservation, safety, and smaller scale improvements, regional funding will probably be needed to augment whatever state funding can be made available for larger scale corridor projects.

### **Timeline for Resolution/Urgency/Current Status**

Implementation of the current “Nickel” funding package is occurring. Efforts to secure more funding include the RTID proposal, which may go to voters in 2005.

### **Key Players:**

WSDOT, Metropolitan Planning Organizations, especially in Puget Sound, Spokane and Vancouver.

### **Staff Contact:**

Michael Cummings, Manager, WSDOT Urban Planning Office, E-mail: [CumminM@wsdot.wa.gov](mailto:CumminM@wsdot.wa.gov)  
Phone: (206) 464-1223.

## **WSDOT Major Issue #5 – System Efficiencies**

### **Description**

System operations is about aligning system efficiency with customer expectations, and getting the highest performance possible out of the existing system – this applies to all modes.

Some things that prevent us from getting the most from our current system include:

Congestion – too much traffic or incidents are an obstacle to the free flow of traffic on our roadway system. Increasing resources to perform ramp metering has been shown to increase throughput, decrease delay, and decrease crashes. Increasing the miles of highway covered by our incident response program together with the Washington State Patrol (WSP) and private tow companies can have a dramatic impact on optimizing the use of highways.

Weather - the condition of the weather plays a significant role in the efficiency of the roadway.

Maintenance activities optimize the use of the existing system and enhance driving conditions through the application of anti-icing chemicals or sand to improve traction. Avalanche crews intentionally trigger avalanches in a controlled setting to help ensure safe and reliable travel over I-90 Snoqualmie and Stevens Passes.

Traffic mix - the percent of trucks vs. RVs vs. buses vs. passenger cars can have an effect on the flow of traffic. Commercial Vehicle Information System Network (CVISN) & Weigh-in-Motion (WIM) sites help keep legally loaded and properly credentialed trucks moving, and ease congestion at weigh stations. There are currently ten CVISN/WIM sites in Washington, with four more sites to be completed by June 2005.

Work Zones - construction efforts and maintenance activities are necessary to increase and maintain the highway system, but traffic delays (i.e. work zone lane closure) can reduce system efficiency during the short-term while construction and maintenance is being completed. We currently experiment with alternative work zone approaches (i.e. one-time complete road closures) to do all construction and

maintenance tasks at once instead of multiple lane closures on different days to do single tasks. We have also increased construction and maintenance work done at night and other non-peak traffic times.

Uncoordinated traffic signals - this results in longer travel times, not to mention increased vehicle emissions, fuel consumption and frustrated motorists. Improving the technology used to coordinate these signals has shown to be an important element in optimizing arterials in complex urban areas where numerous jurisdictions are responsible for the signals.

Driver behavior including frustrated motorists - driving habits by highway users such as driving too fast and/or not paying attention, particularly during inclement weather conditions, may lead to accidents that reduce efficiency of the highway system. Traveler Information systems allow motorists to receive critical time sensitive information to help them make informed decision about using the transportation system and help them to avoid inefficient use of the system due to congestion or roadway conditions.

### **Controversial Aspects**

Considerable monetary investments are made in transportation system maintenance and operation activities and account for more than half of the total budget for Washington State Ferries, transit agencies, and passenger rail systems.

Operational approaches should be viewed as part of a continuum and an integral part of our investment program: a commitment to maintain and operate the system, management techniques to maximize use of the system, and capital investment to expand the system are needed.

We do not believe that operational strategies should be viewed as alternatives to capacity additions. Operational strategies are complementary and a requirement to ensure the maximum utilization of new capacity over time. We know that basic maintenance is essential to getting the most value from our current investment in the roadway system and new technical analysis procedures are needed.

There is some difference of opinion on the state's role in transit operational programs. Specifically the discussion is to determine who pays for the development of park and ride lots; who is responsible for coordinating and supporting transit connections across jurisdictional boundaries within regions; and how to include Transportation Demand Management strategies in highway project planning and construction.

HOV lanes have been used for more than 20 years to increase the efficiency of the roadway system but they are not without controversy on how and when they are used.

Condition pricing is also emerging as one of the primary options to maintain traffic flow. Similar to an electricity rate structure, condition pricing allows the ultimate flexibility in matching roadway capacity to traffic demands.

### **Key Players**

WSDOT Maintenance & Operations, Public Transportation and Rail, Aviation, Rail and Ferries, Transit Agencies, City and County Transportation Agencies

### **Urgency/Current Status**

Preserving existing roadway capacity through operational strategies is taking a higher priority in the WTP update: continued and expanded ITS applications; operational flow improvements; and integration with capital expansion strategies (bottleneck and chokepoints) is compelling directions. As system use becomes more crowded and congested, more sophisticated strategies are needed to maintain vehicle throughput.

Effective transit operations are also critical to system efficiency in congested corridors; a closer tie between transit roadway operations is needed.

The potential of pricing strategies to preserve system capacity needs to be explored and tested.

The focus has been on system efficiency measures – the next frontier is on point-specific applications to improve flow at specific chokepoints (such as truck performance on specific on-ramps). The strategies should be implemented wherever they can produce benefits as part of our obligation to manage the transportation system in as safe and efficient a manner as possible.

**Timeline for Resolution**

Basic maintenance and operational activities are on-going critical activities to ensure the efficiency of the system. The Transportation Commission will adopt the WTP in fall of 2005 and efficiency measures will continue to be explored and listed for funding.

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