

# PROPOSED

## Transportation Progress Report: The State of Washington's Transportation System

---

Washington State Transportation Goals, Objectives  
and Performance Measures

2007 Baseline Report  
January 2008

Draft for Review by Legislature



**Office of Financial  
Management**

STATE OF WASHINGTON

# Transportation Progress Report:

## The State of Washington's Transportation System

---

### 2007 Baseline Report

#### Table of Contents

Message from Governor Gregoire	1
Washington State Transportation System Overview	2
Purpose of Transportation Progress Reports	3
Summary of Initial Objectives and Performance Measures	4
Performance Measures by Washington Transportation Goal	
1. Safety	6
2. Preservation	8
3. Mobility	13
4. Environment	23
5. Stewardship	26
Appendix (Key Terms, Agencies and References)	27

---

#### Authority

RCW 47.01.071(5) requires the Office of Financial Management (OFM) to submit initial objectives and performance measures for the state's transportation system to the Legislature in December 2007. OFM is also required to submit a baseline report on the state's transportation system (also referred to as an "attainment report") to the Governor and Legislature for review during the 2008 legislative session. This report meets both requirements.

#### Contributors

The report was developed by OFM Budget Division with assistance and input from many individuals and agencies, including the Washington State Department of Transportation Strategic Assessment Office, state transportation-related agencies, the Governor's Policy Office, Senate and House Transportation committee staff. Transportation-related agencies that contributed to this report include:

- County Road Administration Board
- Department of Ecology
- Department of Licensing
- Freight Mobility Strategic Investment Board
- Metropolitan and Regional Transportation planning organizations
- Ports of Seattle, Tacoma and Vancouver
- Puget Sound Regional Council
- Transportation Improvement Board
- Washington Public Ports Association
- Washington State Department of Transportation
- Washington State Patrol
- Washington State Transportation Commission
- Washington Traffic Safety Commission

# Message from Governor Gregoire

---

Dear Legislators and Interested Readers,

I am pleased to submit this proposed baseline progress report on the state's transportation system. Washington's economy and quality of life depend on a transportation system that functions well. Efficient, safe and secure transportation helps support and drive our diverse economy. More than \$145 billion in international imports and exports traveled through our state in 2006. Washington producers and manufacturers contributed \$87 billion in gross state products; wholesale and retail trade contributed about \$40 billion in gross state products in 2006. Without an effective and efficient transportation system, our livelihoods and economy would be severely degraded.

In 2007, the Legislature established overarching goals for the transportation system on safety, mobility/congestion, preservation, environment and stewardship. These long-term goals, while challenging, are crucial to the future of Washington. This baseline report identifies key objectives and performance measures that will help us measure progress toward these goals. The report is not a report card on individual agencies, but on the transportation system. Over time, this report will assist us in analyzing and understanding the performance of the transportation system and all transportation modes to reliably and safely move people and freight on the ground, in the air and on the water.

This baseline report reflects both good news and challenges. The good news is:

- The number and rate of traffic fatalities is decreasing.
- Most state highways, county roads, city streets, and state and local bridges are in good condition.
- Clearance time for major incidents on our highways is decreasing.
- Ferry on-time performance is outstanding.
- Fish passages are being improved.
- Air quality is improving.
- By mid-2008, more than half of the new highway construction projects promised as part of recent gas tax increases will be complete or under way.

Along with this good news, we have challenges ahead:

- The demands on our transportation system are growing and affecting preservation and maintenance.
- Our robust economy and population growth are compounding congestion on our highways.
- Transportation is the largest contributor to global warming.
- The global economy is causing large unexpected increases in construction costs, affecting our ability to afford the preservation of our transportation assets.

We can step up to these challenges by working together and using the right data to make the right decisions. A healthy transportation system is necessary for maintaining the quality of life that makes Washington one of the best places to live and work in the world.

I look forward to continuing to work with the Legislature, federal, regional, tribal and local governments, the freight community, ports, and transit and other partners to make sure we are making the improvements wisely and efficiently.

Sincerely,

Governor Chris Gregoire

# Washington State Transportation System Overview

*The state's transportation system provides for the mobility of people and products.* Washington's population of 6.38 million, including 3.1 million employed, is served by 134,717\* lane miles of state highways, county roads and city streets, with 56 billion vehicle miles traveled per year.

## A network to move people and products

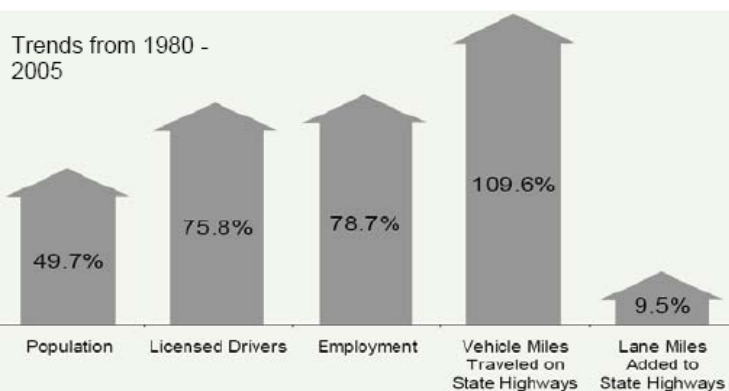
The Washington state transportation system is owned and operated by numerous entities, including local, regional, tribal, state and federal governments; transit agencies; ports and private owners. The system is a network of transportation facilities and services.

Highways and bridges are key elements of Washington's transportation infrastructure, which also includes roads, airports, marine ports, railroads, bicycle and pedestrian facilities, and ferry and transit systems. Transportation services include transit, passenger rail, ferry service, and air travel, as well as other modes.

## Pressures on the system

Washington's population has increased 50 percent since 1980, totaling more than 6.38 million today. More people are living here, generating more jobs and increasing pressure on the transportation system.

## Demands on the system are growing



Source: WSDOT 2007

\*There are an additional 39,305 lane miles of other roads in the state which includes state and national parks, private, ports and tribal roads. These roads carry about 1.3 percent of the traffic each day.

## Key Facts\*

### On the ground

- 6,375,600 population
- 3,132,600 employed
- 4,790,864 licensed drivers
- 4,061,852 registered passenger vehicles
- 6,580,325 total registered vehicles
- 56 billion vehicle miles traveled per year
- 563 gallons of fuel consumed per vehicle on average
- 17.06 miles per gallon on average
- 9,601 miles per vehicle on average
- 2,148,666 trucks on the road per year
- 18,389 state highway lane miles
- 80,777 county road lane miles
- 35,548 city road lane miles
- 42.5% of traffic carried on county roads and city streets
- 56.2% of traffic carried on state highways
- 8,690 bridges statewide
- 195 miles of HOV miles complete
- 132 Park and Ride lots
- 2,176 vanpools
- 17,964 vanpool riders daily
- 28 transit systems
- 180 million transit passenger trips
- 630,000 Amtrak passengers
- 109 million tons of freight carried by rail
- 283 million tons of freight carried by truck (2002 data)

### In the air

- 16 state-owned airports
- 139 airports
- 601,435 tons of air cargo passing through airports (2005 LATS Study)

### On the water

- 28 ferries, largest in the nation
- 167,355 scheduled ferry sailings per year
- 24 million passengers carried on ferries
- 10.8 million vehicles carried on ferries
- 20 terminals
- 75 port districts
- 3.97 million twenty-foot container equivalent units through Seattle and Tacoma ports
- \$150 billion of cargo passing through ports per year
- \*2006 figures unless otherwise noted Source: WSDOT 2008

# Purpose of Transportation Progress Reports

---

Washington state is developing its first transportation progress report to provide a high-level assessment of the state's progress in achieving its transportation goals using key performance measures and data. The first biennial transportation progress report is due October 2008, in time for the 2009 legislative session. This 2007 report establishes the baseline.

## Transportation Goals

In 2007, the Washington State Legislature amended RCW 47.04.280 to establish five statewide transportation policy goals to guide the planning, operation, performance of, and investment in the state's transportation system. They are not prioritized.

- **Preservation:** To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.
- **Safety:** To provide for and improve the safety and security of transportation customers and the transportation system.
- **Mobility (addressing congestion):** To improve the predictable movement of goods and people throughout Washington state.
- **Environment:** To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.
- **Stewardship:** To continuously improve the quality, effectiveness and efficiency of the transportation system.

## Biennial Transportation Progress Reports

The Office of Financial Management is responsible for establishing objectives and performance measures for each of the five legislatively adopted goals, and for preparing a biennial progress report (also referred to as an "attainment report") for the Legislature and Governor. (RCW 47.01.071(5)) The first progress report is due to the Legislature October 2008 with subsequent reports due on a biennial basis.

## 2007 Baseline Report

This report is being submitted as an initial baseline report to the 2008 Legislature to provide sufficient opportunity for legislators to review and provide feedback. OFM will work with the Legislature and transportation providers to incorporate their feedback, and to refine the data and performance measures for the first biennial progress report to be completed by October 2008.

This report contains the proposed objectives and performance measures that best assess progress toward the goals and contribute to the overall performance of the transportation system. Rather than report on agency-specific performance, this baseline report and the subsequent biennial reports will focus on overall system performance. A resource list is provided in the appendix to provide access to related data and measures, many of which are being used to make investment decisions, develop strategies and programs, provide accountability and for internal management.

The report uses existing performance measures and relies heavily on data from state agencies. Future reports will contain more data from other sources, which may include federal, regional, tribal and local government data as well as freight, port and transit data. Not all of the measures lend themselves to specific targets. Targets that were developed through the Governor's Priorities of Government budget process, Government Management Accountability & Performance program, and the state's Strategic Highway Safety Plan are noted. In several cases, specific measures have yet to be developed, but the issues are important so they are shown as "placeholders." All of the measures are expected to evolve as we continue to make progress in assessing the performance of the multifaceted components of the state's transportation system.

# Proposed Initial Objectives and Performance Measures

## Goal 1. Safety: To provide for and improve the safety and security of transportation customers and the transportation system.

- Objectives:
- Reduce fatalities and serious injury collisions
  - Reduce risks and ensure security

### Measure

### Current Status

#### Measure 1.1 Traffic Fatalities

Number and rate of traffic fatalities per 100 million vehicle miles traveled

The number and rate of traffic fatalities are decreasing. In 2006, there were 633 traffic fatalities or 1.12 fatalities per 100 million vehicle miles traveled. Preliminary data for 2007 shows 547 traffic fatalities. The state is aggressively pursuing the goal of zero traffic deaths by the year 2030.

#### Measure 1.2 Collision Reduction

Percent reduction in injury and damage before and after safety improvements

Investments in safety improvements yield results. For 60 construction projects with specific safety improvements, there was a 12%-16% reduction in collisions, and 30%-37% reduction in injuries, when measured for several years before and after the construction.

## Goal 2. Preservation: To maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

- Objective:
- Extend the useful life of existing facilities, systems and equipment

#### Measure 2.1 State Highway Pavement

Percent of state highway pavement in fair or better condition

As of 2007, 93.5% of state highway lane miles were in fair or better condition, above the target of 90%. Both the state and local governments preserve pavement at the lowest life-cycle cost. However, the concrete pavement is deteriorating and will be costly to replace.

#### Measure 2.2 Local Roadway Pavement

Percent of city and county roadway pavement in fair or better condition

As of 2007, a majority of city and county center line miles are in fair or better condition. Local agencies focus their resources on maintaining the pavement in good condition, which is more cost-effective than replacing pavement in failing condition.

#### Measure 2.3 Bridges

Percent of state, city and county bridges in fair or better condition

In 2007, more than 90% of all state, city, and county bridges were in fair or better condition. In particular, state-maintained bridges met the target of 97%. However, a number of major bridges need to be replaced in the near future, including SR 520, the Alaskan Way Viaduct, the Columbia River Crossing and Deception Pass.

#### Measure 2.4 State Highway Maintenance

Percent of targets met for state highway maintenance levels

The state's performance in meeting its targets for state highway maintenance is falling. In 2007, 52% of the targets were met, down from 85% in 2006. Cost increases and new facilities are stretching maintenance resources.

#### Measure 2.5 Ferry Vessels and Terminals

Percent of state ferry terminals in fair or better condition

As of 2007, 87% of state ferry terminals were in fair or better condition. Future reports will include data on county terminals, and state and county vessels.

## Goal 3. Mobility (addressing congestion): To improve the predictable movement of goods and people throughout the state.

- Objectives:
- Address congestion
  - Maximize operational performance and capacity of existing systems
  - Increase the reliability of travel for goods and people
  - Reduce bottlenecks and chokepoints

#### Measure 3.1 Travel Times

Travel times on the most-congested state highways

Between 2004 and 2006, average travel times increased on 32 of the 38 most-congested commute routes around Puget Sound.

#### Measure 3.2 Hours of Delay

Hours of delay on the most-congested state highways

Drivers on major Puget Sound corridors were delayed about 43,000 hours daily in 2006.

# Proposed Initial Objectives and Performance Measures (cont.)

<b>Goal 3. Mobility</b> (addressing congestion) <u>continued</u>	
<b>Measure</b>	<b>Current Status</b>
<b>Measure 3.3 Trip Reliability</b> Reliable travel times on the most-congested highways around Puget Sound	Data is available for individual routes in the Puget Sound region. We are working on the best way to roll the data up to a higher level.
<b>Measure 3.4 Commute Modes</b> Percentage of commute trips taken while driving alone	In 2006, 75% of Washington commuters drove alone. Commute trip reduction and vanpool programs reduce the number of drive-alone trips that would otherwise have passed through the region's major traffic chokepoints during peak travel periods.
<b>Measure 3.5 Incident Response Times</b> Average length to clear major incidents lasting more than 90 minutes on key highway segments	Clearance times for major incidents, which are key contributors to traffic delays, are decreasing, in part due to work with counties and the towing industry. As of December 2007, average clearance time was 161 minutes, 7% below FY2006, and 2% below the Governor's target of 165 minutes.
<b>Measure 3.6 Freight</b> placeholder – still being developed	Mobility measures 3.1-3.4 can be used as baseline measures of freight mobility. However, we are also working to develop a specific measure to best assess how well freight is moving through the state's transportation system.
<b>Measure 3.7 Ferries</b> Percent of trips on time and ridership	On-time performance is excellent and ridership is making slight improvements. On average, more than 90 percent of state ferry trips were on time in 2007. Ridership on state ferries was 23.7 million in 2006 and is projected at 24 million for 2007.
<b>Measure 3.8 Passenger Rail</b> Percent of trips on time and ridership on state-supported Amtrak Cascades	On average, trips ran on time 60% of the time, below the target of 80%. In 2007, ridership on state-supported Amtrak Cascades was 457,000.
<b>Measure 3.9 Transportation-Efficient Land Use</b> placeholder – still being developed	We are still working to develop a measure to evaluate the effect that land use patterns have on transportation demand.
<b>Goal 4. Environment:</b> To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.	
Objectives:	<ul style="list-style-type: none"> <li>➤ Protect habitat</li> <li>➤ Reduce degradation of air and water quality</li> </ul>
<b>Measure 4.1 Fish Passage</b> Number of culverts fixed and miles of stream habitat opened up	As of 2007, 217 high priority culverts have been fixed or removed, opening up 480 miles of stream habitat.
<b>Measure 4.2 Stormwater Quality</b> Number of WSDOT stormwater treatment facilities constructed	1,872 stormwater treatment facilities were constructed between 1996 and 2007. Future reports will also provide data on the effect the stormwater treatment facilities are having on water quality.
<b>Measure 4.3 Air Quality</b> Tons of greenhouse gases produced statewide	The level of greenhouse gases is decreasing. As of 2005, 94.8 million metric tons CO <sub>2</sub> equivalent were produced statewide, a decrease from 105 million metric tons CO <sub>2</sub> equivalent in 2000. The state is taking aggressive action to further reduce greenhouse gases to 1990 levels, and to reduce toxic diesel exhaust.
<b>Goal 5. Stewardship:</b> To continuously improve the quality, effectiveness and efficiency of the transportation system.	
Objective:	➤ Improve program and project delivery
<b>Measure 5.1 Capital Project Delivery</b> Percent of Nickel and Transportation Partnership Act capital projects completed on time and within budget	As of Dec. 31, 2007, the WSDOT successfully completed 128 of 392 planned Nickel and TPA highway projects. Of those, 78% were completed on-time and within budget. This was below the target of 90%, largely due to increases in material costs of more than 50% in recent years.

Number and rate of traffic fatalities per 100 million vehicle miles traveled

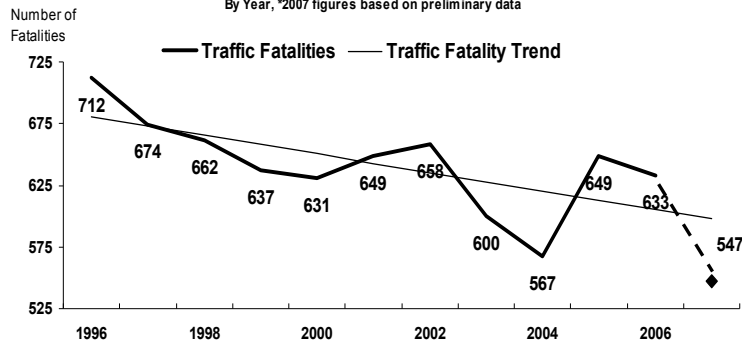
In 2006, there were 633 traffic fatalities or 1.12 fatalities per 100 million vehicle miles traveled. Preliminary data for 2007 shows 547 traffic fatalities.

**Safety is the highest priority. The state is taking aggressive action to reduce traffic fatalities and disabling injuries through education, enforcement and safety improvements.** The state's Strategic Highway Safety Plan: Target Zero (2007), reaffirms the state's commitment to a target of zero traffic fatalities and disabling injuries by the year 2030. In order to achieve Target Zero, on average there must be 26 fewer fatalities each year for the next 25 years.

In 2006, there were 633 traffic fatalities. Preliminary data for 2007 shows 547 traffic fatalities, 86 fewer than in 2006. The traffic fatality rate in 2006 was 1.12 deaths per 100 million vehicle miles traveled (VMT), exceeding the national target of 1.38 traffic deaths per 100 million VMT for 2006.

**Washington Traffic Fatalities, 1996-2007\***

By Year, \*2007 figures based on preliminary data



Prepared by WTSC 2007 (source: FARS)

The state is taking an integrated systems approach to traffic safety to meet Target Zero. The state's primary focus is on reducing traffic fatalities that involve impairment, speed and/or no seat belt use, which account for 77 percent of all traffic deaths. Additional emphasis is being placed on reducing motorcyclist deaths.

WSDOT and other agencies' construction projects use engineering solutions to make transportation infrastructure and facilities throughout the state safer and more secure for users. In addition, WSDOT has achieved significant success in improving safety through low-cost enhancements such as de-icers, re-striping, signal synchronization, guard rails and rumble strips.

**Agencies Involved:**

- WTSC
- WSP
- DOL
- WSDOT
- TIB
- CRAB
- FMSIB

**System Component:**

- ✓ State
- ✓ Local

**What's been happening?**

- In 2000, Washington developed the Target Zero Strategic Highway Safety Plan, with a vision of zero traffic deaths on our roads.
- The federal government has set a goal of no more than one traffic fatality per 100 million vehicle miles traveled.

**What's the focus now?**

- WTSC is working with state and local law enforcement on a pilot project to target emphasis areas for speeding. Early results show significant reductions in average speeds in the emphasis areas.
- DOL, WSP and WTSC are also focusing on stopping impaired drivers. They are considering recommendations of the state's At Risk Driver Task Force to reduce impaired and reckless driving behaviors by increasing penalties, improving public awareness of risks, and putting programs in place to detect and reduce the number of at-risk drivers on Washington roads.
- DOL's public education, outreach and training on motorcycle safety has resulted in a drop in the number and rate of motorcycle fatalities for the first time since 2000.

**What's next?**

- WSP is launching a pilot project to better understand behaviors present in speed-related incidents. This pilot project will help determine the feasibility of running a speed emphasis patrol at night to identify specific behaviors.
- Legislation has been introduced to authorize sobriety checkpoints.
- WTSC and WSP have begun working with tribal nations to provide training on impaired driver detection.
- WTSC, WSP and WSDOT will continue to track disabling injury data, which could lead to additional prevention strategies and new measures to align outcomes with Target Zero.
- WSDOT is developing a new process to identify and prioritize safety projects focused on locations where fatalities and disabling injuries have occurred.
- Future reports may include data for specific types of roads, such as rural two-lane rural roads which experience a high percentage of accidents.



*Percent reduction in injury and damage collisions before and after safety improvements*

In 2007, for 60 safety construction projects, there was a 12 percent to 16 percent reduction in all collisions, and 30 percent to 37 percent reduction in injuries.

**Safety improvements reduce deaths, injuries and property damage due to collisions on roads and highways.** Many transportation projects include safety improvements to roadways. Based on data collected from selected safety projects, investments are working to reduce injuries, collisions and fatalities .

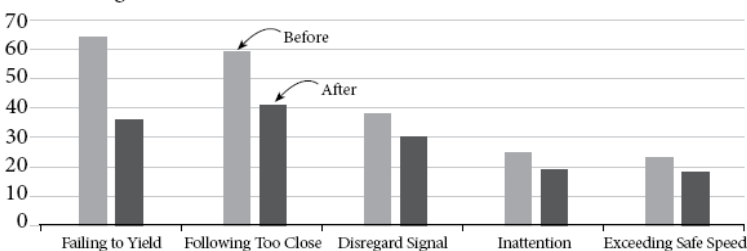
Safety improvements on local roads are the primary focus of the Transportation Improvement Board's (TIB) Urban Arterial Program (UAP). For 13 UAP projects closed between 2003 and 2005, TIB found a 30 percent reduction in injury and fatal collisions, a 16 percent reduction in vehicle damage accidents, and 19 percent fewer accidents overall.

WSDOT conducted an annual before-and-after safety study for 47 projects from 2000 to 2005. While not all accidents can be avoided through engineering, WSDOT found a 37 percent reduction in disabling injuries and fatalities, a 27 percent reduction in all injuries, and 12 percent reduction in all types of collisions. Specific data for one project in Vancouver is shown below to illustrate how highway improvements can affect types of accidents.

### Before and After Results for Fourth Plain Blvd. Corridor Safety Project

Jan. 1, 2001 to Dec. 31, 2003 vs. Oct. 8, 2004 to Oct. 7, 2006

*Average Number Collisions per Year Based on Drivers Cited for Contributing Causes*



Source: WSDOT Gray Notebook, Sept. 2007, P. 98

### Examples of WSDOT projects from before-and-after safety study:

- *I-5 Bridgeport Way on-ramps (Tacoma area).* Both north- and south-bound on-ramp curves were realigned, roadway side-slopes flattened and additional guardrails added. For both ramps, the "before" data showed 42 accidents resulting in 33 injuries, while the "after" data showed six collisions with two injuries.
- *SR 500 eastbound off-ramp to Andresen Road (Vancouver area).* This high-accident location received a number of improvements, including altering a traffic island, installing hatched pavement markings, adding signage and moving a crosswalk. The location averaged 10 accidents a year for the two years before the project (all rear-end collisions). After the project, collisions dropped to 3.5 per year. The number of injuries decreased 85 percent, from 6.7 per year to 1 per year.

### What's been happening?

TIB, CRAB and WSDOT score projects for funding according to potential safety improvements. Safety can be improved through a variety of changes, including separating cross traffic, adding left turn lanes, improving visibility or road markings, providing safe passing zones and improving side slopes.

The Washington Traffic Safety Commission (WTSC) gathers and analyzes collision data. Agencies that use the data look at the number of accidents at project locations for 24 or 26 months before construction, and for a similar 24- or 36-month period after project completion. To enable comparisons, data can be expressed on a per-year basis. Results are statistically significant—the observed change in performance is due to project improvements, not to random chance.

### What's the focus now?

TIB and WSDOT continue to evaluate the effectiveness of safety investments. WSDOT recently made several adjustments to its before-and-after safety study, including identifying injuries and fatalities separately, and adopting a consistent 24/36 month baseline.

### What's next?

- Traffic safety programs and initiatives, such as a corridor safety program, are used by WTSC and WSDOT to change driver behaviors on city streets, county roads and state highways.
- WSDOT will continue to fund highway projects intended to lessen the risk of accidents.
- TIB will get additional data for its UAP projects to calculate accident reduction on a three-year (36-month) basis.

#### Agencies Involved:

- TIB
- WSDOT
- WTSC

#### System Component:

- ✓ State
- ✓ Local

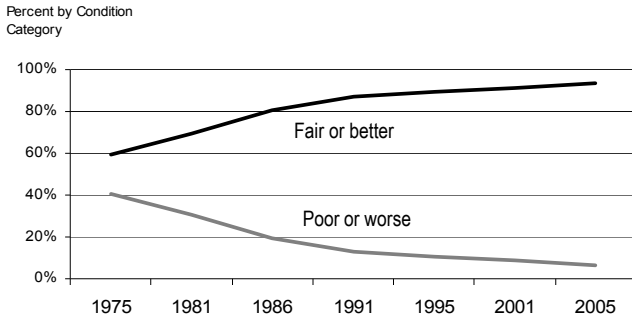
Percent of state highway pavement in fair or better condition

As of 2006, 93.5 percent of state highway lane miles were in fair or better condition, above the target of 90 percent.

### Maintaining and preserving highway pavement is important to ensure ongoing usability and safety.

State highways are a critical part of Washington's transportation infrastructure, carrying more than 56 percent of the state's traffic. The state's record in maintaining highway pavement over the past 30 years is strong -- the majority is in good or better condition.

Condition of State Highway Pavement



Source: WSDOT 2007

**Asphalt and Chip Seal.** Asphalt pavement is used in about two-thirds of state highway lane miles. The state has significantly reduced the backlog of asphalt pavement preservation projects over the past three decades. The vast majority of chip seal pavements are also in good condition.

**Concrete.** With concrete pavement, however, the state faces significant challenges. Much of Washington's concrete pavement, a legacy of the federal interstate system, is old and deteriorating. Though it was originally

designed for a 20-year life, most of Washington's concrete pavement is more than 30 years old. Concrete is expensive to rehabilitate and because much of it is located in congested urban areas, preservation projects must be managed carefully to minimize disruptions to traffic. A recent report by the University of Washington indicates that about two-thirds of concrete pavement in King County may need rehabilitation in the next 10 years.

### What's been happening?

WSDOT plans pavement preservation based on the principle of lowest life-cycle cost. If replacement is done too early, pavement life is wasted. If it is done too late, project costs increase. While asphalt preservation backlogs were significantly reduced over the past three decades, they are now beginning to grow due to rising construction costs.

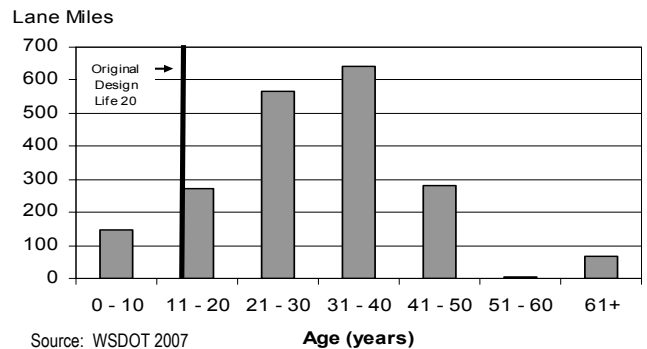
### What's the focus now?

Though concrete pavement covers only 13 percent of state highways, it supports a high percentage of traffic volume in urban areas and on interstates. The cost of highway construction materials has risen substantially in recent years -- more than 50 percent since 2004. WSDOT is looking for ways to maximize pavement life and hold down the rising cost of rehabilitation.

### What's next?

The life expectancy of concrete pavement is not as predictable as asphalt. WSDOT is working with the University of Washington to improve the life-cycle model used to plan concrete pavement rehabilitation. The model will be completed in Spring 2008 and used for future budget development.

Age of State Highway Concrete Pavement



Source: WSDOT 2007

Washington State Highway Pavements						Pavement Rehabilitation	
Pavement Type	Highway Lane Miles (millions)	% of All Highway Lane Miles	Estimated Annual Traffic Volume Per Lane Mile	Estimated Total Annual Traffic Volume (billions)	% of Total Annual Traffic Volume	Estimated Average Rehabilitation Cost Per Lane Mile *	Potential Lifespan for Newly Rehabilitated Pavement (years)
Concrete	2,388	13%	3,685,092	8.8	28%	\$2,500,000 (full rehabilitation)	50+ years
						\$600,000 (dowel bar retrofit)	15 years
Chip Seal	4,314	24%	254,984	1.1	3%	\$20,000	6-8 years
Asphalt	11,645	63%	1,863,461	21.7	69%	\$250,000	8-15 years
Source: WSDOT 2007 (2005 data, except for rehabilitation costs, which are 2007 figures)						* cannot be used for budgeting specific projects	

<b>Agencies Involved:</b>	<b>System Component:</b>
• WSDOT	✓ State
	Local

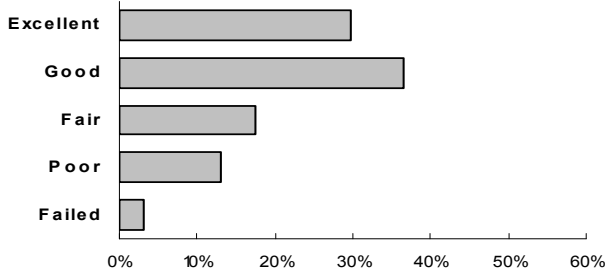
Percent of city and county roadway pavement in fair or better condition

As of 2007, a majority of city and county center line roadway miles are in fair or better condition.

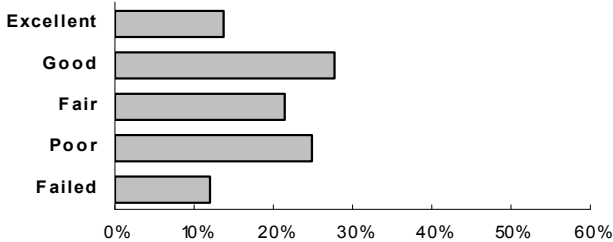
**Preservation of local roadways is vital to the state's economy, providing critical links for the movement of people and goods.** City streets and county roads make up 67 percent of total miles in the state, and carry more than 42 percent of the traffic. Reconstruction of roadways is more costly than preservation, so most agencies work to preserve pavement based on the lowest life-cycle cost.

The majority of the pavement on local roadways is in fair to excellent condition. However, we do not have data for 100 percent of the local roadways. The data below shows that while medium cities have a smaller number of these roads, they have the largest percentage in poor or failed condition.

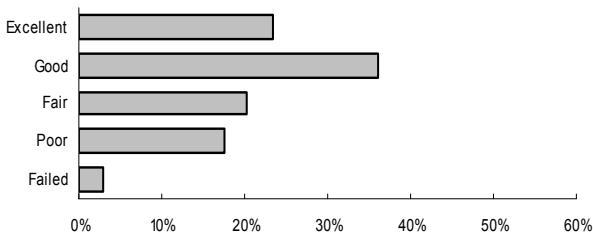
**Pavement Condition, Large Cities (>22,500 pop.)**  
(Jan. 2007 total: 2,040 center line miles)



**Pavement Conditions Medium Cities (5,000 -22,500 pop.)**  
(Jan. 2007 total: 543 center line miles)



**Pavement Condition Small cities (<5,000 pop.)**  
(Dec. 2007 total: 1,604 center line miles)



Source: TIB, WSDOT 2007

### What's been happening?

Roughly three-fourths of the pavement on local roads is hot-mix asphalt. TIB works with WSDOT and county road departments to include small city streets in their maintenance programs. This reduces the price of paving by about one-third, and provides considerable cost advantages for small cities through the use of skilled state and county crews.

Agencies such as FMSIB are finding that some local roadways with high volumes of heavy truck traffic are highly deteriorated. Using concrete instead of asphalt may increase initial project costs, but the need for repaving of asphalt is minimized because the concrete lasts longer.

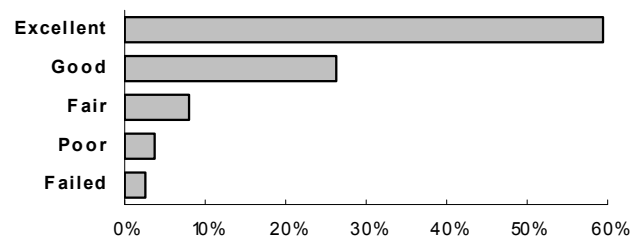
### What's the focus now?

- CRAB's primary focus is on maintaining county roadways.
- TIB's primary focus is on maintaining city streets in fair condition to avoid further deterioration and costly reconstruction projects.
- TIB also targets nine towns with critically low pavement condition by providing additional funds. TIB's goal is to prevent further failures, and bring the nine towns up to the state average pavement rating for small cities in three to four years.

### What's next?

Existing pavement condition data for cities covers about 75 percent of the large and medium city arterial and collector network statewide. By January 2009, condition data will be collected for nearly all of the cities. OFM will continue to work with agencies to refine the data for subsequent reports.

**Pavement Condition, Counties**  
(Dec. 2007 total: 10,394 center line miles)



Source: CRAB 2007

**Agencies Involved:**

- CRAB
- TIB
- WSDOT

**System Component:**

- State
- ✓ Local

*Percent of state, city and county bridges in fair or better condition*

In 2007, more than 90 percent of all state, city, and county bridges were in fair or better condition. The state bridges met the target of 97 percent in fair or better condition structurally.

**Maintaining state, city and county bridges in safe, sound and usable condition is a high priority for state and local government.** WSDOT manages more than 3,500 state bridges and related structures that carry vehicle and pedestrian traffic, and oversees the management of more than 4,800 local government bridges. The state-owned bridges have an estimated value of \$31 billion.

In 2007, 97 percent of state-owned bridges were rated in good or fair structural condition. Of the 3 percent of state bridges rated in poor structural condition, none are unsafe for public travel based on federal standards though some are subject to weight restrictions. More than 90 percent of county and city bridges are currently in fair or good structural condition.

2007 Number and Condition of State and Local Bridge Structures			
Bridges	State	County	City
Total 8,425	3,559	4,110	756
Bridge Condition			
Good	88%	85%	78%
Fair	9%	11%	15%
Poor	3%	4%	8%

Source: WSDOT 2007

More than half of Washington's bridges were built between 1956 and 1976, the peak of the interstate highway program. Bridges are generally designed for a life-expectancy of 75 years. The average age of state and local bridges is about 40 years.

Though the vast majority of bridges are structurally sound, some do not meet current operational needs, such as height and roadway alignment, because of their age. These bridges are classified as functionally obsolete. About 25 percent of state bridges are so classified.

All bridges in the state are inspected every two years. Some bridges are inspected annually due to their condition or design. A few structures require a more frequent inspection cycle, such as the Alaskan Way Viaduct, which is inspected every six months. Inspections use federal standards for superstructure, deck, substructure, overall structural adequacy and waterway adequacy.

**Agencies Involved:**

- WSDOT
- CRAB
- TIB

**System Component:**

- ✓ State
- ✓ Local

### What's been happening?

WSDOT prioritizes bridge preservation and replacement based on risk, condition, location and use, with a goal of implementing cost-effective investments that extend the service life or, when necessary, replace the bridge. Bridges that are on key state and freight routes, or are of community importance, are given higher priority.

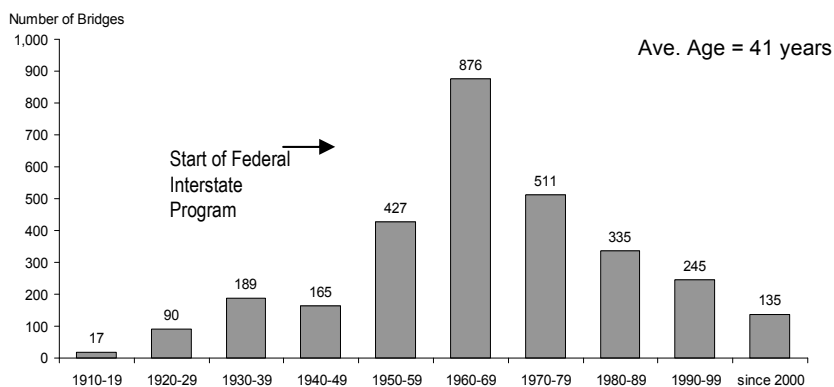
### What's the focus now?

- The 2007-09 transportation budget includes funding for a number of state bridge projects: 31 replacement projects, nine major repairs, rehabilitation of one moveable bridge, 12 overlays, and four scour mitigation projects to address erosion of the riverbed under bridge foundations.
- In 2001, the Federal Emergency Management Agency found that Washington has the second highest risk for economic loss in the nation due to earthquakes. (California has the highest risk.) WSDOT's seismic program conducts seismic safety work on bridges. The 2005-07 budget funded seismic work on 172 bridges statewide, scheduled to be complete by 2015.
- Several large and expensive state bridge replacements are needed, including the Alaskan Way Viaduct, State Route 520 Bridge, Columbia River Crossing and Deception Pass.

### What's next?

WSDOT and local agencies will continue to inspect bridges and prioritize projects. OFM will continue to work with the Legislature to identify funding strategies that can be used for large upcoming bridge replacements. Additional local bridge information will be added to the next report.

**Number of WSDOT Bridges Built by Decade \***



Source: WSDOT 2007  
\* bridges over 20ft in length

*Percent of targets met for state highway maintenance*

As of 2007, 52 percent of state highway maintenance targets were met. (Future measures will address outcomes.)

State highway maintenance keeps highways usable, safe and smooth, and preserves highway assets and the public investments made in those assets. WSDOT's performance in meeting highway maintenance targets is falling. New additions to the highway system, as well as new legal requirements for stormwater and culvert management, are stretching maintenance resources and affecting the ability of WSDOT to reach performance targets.

Highway maintenance entails more than just fixing potholes; in fact, WSDOT's highway maintenance program comprises 32 separate activities. Maintenance priorities and expected levels of services are based on funding levels. Field condition surveys are used to track performance on an annual or biennial basis, depending on the activity being measured.

The table below lists WSDOT's 32 highway maintenance activities and 2007 performance. In 2007, WSDOT met performance targets for 17 of 32 activities (52%), compared to 28 of 33 maintenance activities in 2006 (85%) (two activities were combined in 2007). Plans to improve performance in these areas are being developed, however, achievement of the targets is very closely linked to funding availability.

### What's been happening?

WSDOT uses a detailed, data-driven management system (recently recognized by the State Auditor as a best practice) to manage highway maintenance and measure performance. However, budget constraints mean that only a few maintenance activities can be funded at an "ideal" level of service.

### What's the focus now?

The highway maintenance program is facing rising costs and service needs that impact performance. Costs of basic materials have gone up substantially (such as paint and de-icers), as have utility rates.

### What's next?

- WSDOT has taken several actions to address funding shortfalls, including selling off non-mission critical equipment and reducing work on less critical activities.
- WSDOT is working with the Governor and Legislature to review maintenance budget priorities and look for efficiencies to ensure that the most critical maintenance activities are performed.
- The County Road Administration Board is developing a maintenance management system for county roads, which should provide data to expand this performance measure for future reports.

WSDOT Highway Maintenance Activity	Priority *	Was Performance Target Achieved in CY 2007?	WSDOT Highway Maintenance Activity	Priority *	Was Performance Target Achieved in CY 2007?
Movable and Floating Bridge Operations	1	yes	Sweeping and Cleaning	18	yes
Traffic Signal Systems	2	no	Maintain Ditches	19	yes
Snow and Ice Control Operations	3	yes	Highway Lighting Systems	20	no
Keller Ferry Operations	4	yes	Guidepost Maintenance	21	no
Urban Tunnel Systems	5	yes	Safety Patrol	22	yes
Structural Bridge Repair	6	no	Maintain Culverts	23	no
Regulatory Sign Maintenance	7	no	Pavement Marking Maintenance	24	no
Slope Repair	8	yes	Noxious Weed Control	25	yes
Intelligent Transportation Systems	9	yes	Shoulder Maintenance	26	yes
Maintain Catch Basins and Inlets	10	no	Guide Sign Maintenance	27	yes
Pavement Repair & Crack Sealing	11	no	Maintain Detention/Retention Basins	28	yes
Bridge Deck Repair	12	no	Bridge Cleaning	29	yes
Guardrail Maintenance	13	yes	Nuisance Vegetation Control	30	yes
Pavement Striping Maintenance	14	no	Landscape Maintenance	31	no
Raised Pavement Markers	15	no	Litter Pickup	32	no
Control of Vegetation Obstructions	16	no			
Rest Area Operations	17	yes			

Source: WSDOT 2008 \* priority is based on importance to mission

<b>Agencies Involved:</b>	<b>System Component:</b>
• WSDOT	✓ State Local

Percent of state ferry terminals in fair condition or better

As of 2007, 87 percent of state ferry terminals were in fair or better condition.

**Ferries are a critical part of the state transportation system.** WSDOT manages a state ferry system that includes 28 vessels, 20 terminals and a repair facility. It is the largest operating auto-fleet in the United States, carrying 11 million vehicles and 24 million passengers each year.

Inspecting and repairing vessels and terminals to make sure they are safe and usable is a high priority for the state. WSDOT manages vessel and terminal preservation using life-cycle cost models. Preservation planning is also coordinated with ferry operations and budgeting.

**Terminals.** Eighty-seven percent of key terminal facilities are in fair or better condition, while nine percent are in poor and four percent in substandard condition. Facilities in poor condition show signs of deterioration or distress (e.g., rotting timbers, cracking concrete), while substandard facilities show advanced deterioration (e.g., broken pilings, severe anchor chain erosion).

### What's been happening?

Management of ferry and terminal preservation is changing as a result of 2007 legislative action. WSDOT is in the process of improving vessel and terminal ferry preservation life-cycle cost models and developing new condition rating systems.

### What's the focus now?

WSDOT recently pulled four of the oldest ferries ("Steel Electrics") from service due to the condition of their hulls, forcing the temporary loss of passenger-vehicle service on one route. Governor Gregoire's 2008 supplemental budget proposal provides funding to replace the Steel Electrics with three newly constructed vessels.

### What's next?

- WSDOT is increasing vessel inspections and continuing to build and refine its vessel and terminal life-cycle cost models and condition ratings. This information will be used to develop new long-term vessel and terminal preservation strategies in collaboration with the Governor and Legislature.
- Data on state ferry vessel condition and county ferry vessels and terminals will be included in the next report.

### Structural Condition Ratings for Ferry Terminals, Fall 2007

Type of Facility or System	# of facilities or systems	CONDITION			
		Good	Fair	Poor	Sub-Standard
Landing Aids	182	49%	26%	15%	10%
Vehicle Transfer Spans	210	28%	63%	9%	0%
Overhead Loading Systems	66	59%	33%	8%	0%
Trestles & Bulkheads	70	43%	51%	3%	3%
Pavements	73	58%	33%	5%	4%
Total / Weighted Average	601	43%	44%	9%	4%

Source: WSDOT 2007

**Vessels.** More than half of all ferry vessels were originally built more than 30 years ago. Vessels receive inspections by the U.S. Coast Guard quarterly and annually, and are dry-docked for detailed hull examinations twice every five years. In general, vessels are expected to be replaced in 60 years, assuming one major refurbishment. Many older vessels have undergone significant rehabilitation since original construction.

### Age and Expected Year of Retirement of State Ferry Vessels

VESSEL CLASS / Vessel	Year Built	Year Rebuilt	Expected Retirement	VESSEL CLASS / Vessel	Year Built	Year Rebuilt	Expected Retirement
<b>JUMBO MARK II</b>				<b>EVERGREEN STATE</b>			
Puyallup	1998	-	2055 - 2060	Evergreen State *	1954	1988	2010 - 2015
Tacoma	1997	-	2056 - 2061	Klahowya	1958	1995	2023 - 2028
Wenatchee	1998	-	2056 - 2061	Tillikum	1959	1994	2022 - 2027
<b>JUMBO</b>				<b>STEEL ELECTRIC</b>			
Spokane	1972	2004	2032 - 2037	Illahee	1927	1986	retired
Walla Walla	1972	2003	2031 - 2036	Klickitat	1927	1981	retired
<b>SUPER</b>				Nisqually *	1927	1987	retired
Elwha	1967	1991	2025 - 2030	Quinault	1927	1985	retired
Hyak	1967	-	2010 - 2015	<b>RHODODENDRON</b>			
Kaleetan	1967	1999	2027 - 2032	Rhododendron	1947	1991	2011
Yakima	1967	2000	2028 - 2033	<b>HIYU</b>			
<b>ISSAQUAH</b>				Hiyu *	1967	-	2008 - 2013
Cathlamet	1981	ongoing	2039 - 2044	<b>PASSENGER-ONLY</b>			
Chelan	1981	ongoing	2039 - 2044	Chinook	1998	-	-
Issaquah	1979	ongoing	2037 - 2042	Kalama	1989	-	-
Kitsap	1980	ongoing	2038 - 2043	Skagit	1989	-	-
Kittitas	1980	ongoing	2038 - 2043	Snohomish	1999	-	-
Sealth	1982	ongoing	2040 - 2045	<b>AVERAGE YEAR</b>	1971		

Source: WSDOT 2007

\* standby only

<b>Agencies Involved:</b>	<b>System Component:</b>
• WSDOT	✓ State
	Local

- Travel time (Measure 3.1)
- Hours of delay (Measure 3.2)
- Trip reliability (Measure 3.3)

**More families, jobs, trade and traffic.** Washington's growth, reflected in more families, jobs and trade, is increasing the volume of traffic and associated travel delays on state highways in the Puget Sound region.

**What is congestion?** Highway congestion is a condition characterized by longer travel times, more delay, and decreased travel reliability. Congestion affects our economy and our quality of life, and is also closely related to traffic safety: about 50 percent of congestion is caused by accidents and other highway incidents.

**How do we measure congestion?** WSDOT has been acknowledged as one of the leading agencies in the nation in measuring and managing congestion. As part of this work, WSDOT collects traffic data on 52 commute routes, and annually reports on the 38 most-congested commute routes in the Puget Sound region.

WSDOT works with the Washington State Transportation Center (TRAC) at the University of Washington to analyze congestion data. Extensive information is available for individual routes, though not all measures have been summarized across routes.

- Detailed information about congestion is available on WSDOT's website at: <http://www.wsdot.wa.gov/congestion/>
- Detailed information on individual routes is available at: <http://www.wsdot.wa.gov/accountability/traveltimes/default.htm>

**Example commute route: Issaquah-to-Seattle**

One of the 38 most-congested commutes WSDOT measures is the Issaquah-to-Seattle round trip. For this report, the Issaquah-to-Seattle round trip commute is used to illustrate multiple measures. Future reports will include summarized indicators for all routes where data is available.

**Issaquah-to-Seattle Commute**



- Highways: I-90 & I-5
- Length: 15.5 miles
- Daily # of vehicles: 55,000 each direction, am & pm
- Travel Time at Posted Speeds: 16 minutes
- Average Travel Time at Peak Congestion:
  - 26 minutes (morning)
  - 23 minutes (afternoon)
- 95% Reliable Travel Time:
  - 39 minutes (morning)
  - 37 minutes (afternoon)

**Examples of current congestion relief projects and activities on the Issaquah-to-Seattle round trip commute:**

- Signal rebuilding at I-5/James Street and Spring Street ramp terminals
- I-5 pavement reconstruction and bottleneck improvements
- 16 ramp meters and 14 variable message signs
- 4 incident response teams
- 8 vanpools

**Three Strategies to Relieve Congestion**

Strategy	Description	Impacts
Manage Demand (Provide Options)	WSDOT reduces demand on the transportation system by providing citizens with options such as HOV lanes, commute trip reduction programs (e.g., vanpools), and Web-based traveler information.	<ul style="list-style-type: none"> <li>• More people currently travel through HOV lanes than general purpose lanes on most highways.</li> <li>• Commute trip reduction (CTR) programs eliminated 19,200 vehicle trips each weekday morning in 2007 around Puget Sound, reducing delay by 19% during peak travel periods. Statewide, CTR programs eliminated 25,000 daily trips in 2007.</li> </ul>
Operate Efficiently	WSDOT makes the existing system operate more efficiently by using tools such as ramp meters, synchronized traffic signals, variable message signs and incident response trucks to clear traffic incidents.	<ul style="list-style-type: none"> <li>• There are 135 ramp meters around Puget Sound to smooth traffic flow.</li> <li>• Signal synchronization is reducing travel times during times of peak congestion.</li> <li>• 179 variable message signs provide real-time travel information to drivers.</li> <li>• In 2006, WSDOT's roving incident response teams helped clear roads and kept traffic moving by assisting nearly 60,000 drivers.</li> </ul>
Add Capacity Strategically	Capital projects funded by the 2003 Nickel and 2005 Transportation Partnership Account (TPA) programs improve highway capacity by relieving chokepoints and reducing accidents that cause congestion.	WSDOT is delivering more than \$6.5 billion of construction projects in the central Puget Sound region during the next 10 years, including adding 58 miles of HOV lanes, widening I-5 in Everett and Tacoma, and I-405 in Renton and Bellevue. More than 30 projects that add capacity and relieve chokepoints have already been completed. WSDOT is managing these projects to minimize traffic delays.

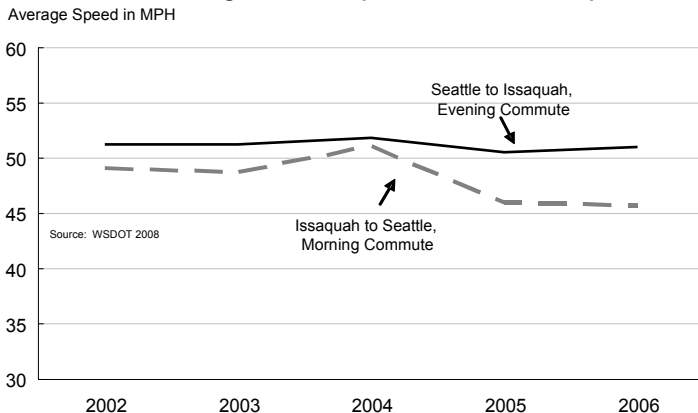
<b>Agencies Involved:</b>	<b>System Component:</b>
<ul style="list-style-type: none"> <li>• WSDOT</li> </ul>	<ul style="list-style-type: none"> <li>✓ State</li> <li>Local</li> </ul>

**Commuters are spending more time traveling at slower speeds.** Travel times (Measure 3.1) refers to how long it takes to get to a destination during congested periods (also described in terms of travel speed). Hours of delay (Measure 3.2) refers to the extra period of time it takes a commuter to get to a destination by comparing travel time in free-flowing traffic with travel time during congested periods.

**Changes in Travel Times.** Detailed analysis of the 38 most-congested highway commute routes in the Puget Sound region shows that commuters are spending longer periods of time in traffic. Between 2004 and 2006, travel times increased on 32 routes, decreased on three routes and remained constant on three routes. Travel time increases ranged from one minute to seven minutes per commute.

Longer commutes are also reflected in lower travel speeds. For example, on the Issaquah to Seattle round trip commute, preliminary analysis shows that between 2002 and 2006, average speeds dropped from 49 to 46 mph during the morning commute.

**Example of Average Round Trip Commute Speeds During Peak Congestion: Issaquah to Seattle to Issaquah**



### What's been happening?

From 2004 to 2006, the Puget Sound region gained 91,000 new jobs and 107,000 new residents. As Washington's robust economy continues to grow, so does congestion.

Washington is not unique in this regard. Congestion is increasing in similarly sized urban areas throughout the country. According to the Texas Transportation Institute, Seattle's congestion rankings improved from second worst in 1999, to 19th worst in 2007. Annual traveler delay around Seattle is nine hours below the national average of comparably sized cities (45 hours vs. 54 hours).

### What's the focus now?

The state is employing three strategies to relieve congestion: managing demand by providing alternative commute options, operating highways efficiently and adding highway capacity strategically.

### What's next?

- In response to a recent performance audit conducted by the State Auditor, the Governor, Legislature, and transportation agencies are working to implement a 32-step action plan to look for additional opportunities to address congestion.
- Data is available for individual routes in the Puget Sound region. We are working on the best way to roll the data up to a higher level for future progress reports.
- OFM is evaluating ways to more clearly identify congestion investments in the state budget.

**Agencies Involved:**

- WSDOT

**System Component:**

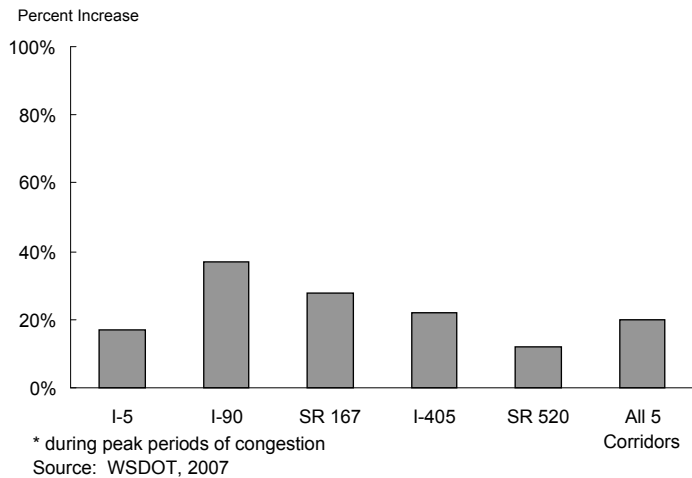
- ✓ State
- Local



Drivers on major Puget Sound corridors were delayed about 43,000 hours daily in 2006.

**Drivers are being delayed for longer periods of time.** Delay is the extra period of time it takes a driver to get to a destination. WSDOT calculates hours of delay for the major state highways around the Puget Sound, and also measures how long peak congestion lasts.

**Hours of Delay on Major Puget Sound Corridors Increased 20% Between 2004 - 2006\***



**Lost Highway Productivity.** When highways are congested they carry fewer vehicles – a loss of highway system efficiency. Under ideal conditions (between 42 and 51 m.p.h.), the maximum volume of traffic that can pass through a given point (throughput) can be as high as 2,000 vehicles per hour per lane. Under congested conditions, traffic is moving so slowly that throughput may be reduced to as few as 700 vehicles per hour. This means that less than half of the existing capacity is effectively used at a time when it is most needed.

Congestion is lasting significantly longer on the Issaquah-to-Seattle morning commute route compared to earlier in the decade. Since 2002, the duration of congestion increased from five minutes to more than an hour.

#### What's been happening?

Hours of weekday delay on five major Puget Sound state highways increased an average of 20 percent between 2004 and 2006, growing from 36,000 hours to 43,000 hours.

WSDOT is working to develop a summary measure of the duration of congestion across commute routes. Currently, detailed data is available for individual routes. For example, between 2002 and 2006, the duration of peak congestion increased from five minutes to 80 minutes on the Issaquah to Seattle morning commute

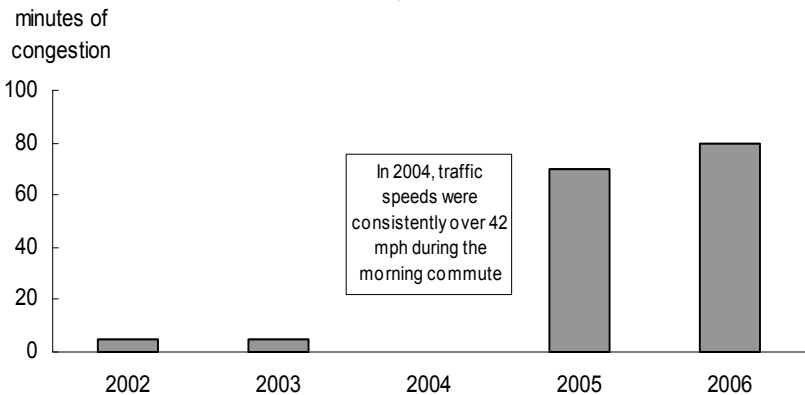
#### What's the focus now?

The state is employing three strategies to relieve congestion: managing demand by providing commute options, operating highways efficiently and adding highway capacity strategically.

#### What's next?

- When all the projects in the 2003 Nickel and 2005 Transportation Partnership funding packages are complete, WSDOT estimates a total annual time savings of nearly 15 million hours—about five hours per family member every year.

**Average Duration of Congestion on Issaquah-to-Seattle Morning Commute 2002-2006**



Source: WSDOT 2007

NOTE: Duration is measured as the length of time when traffic speed averages less than 42 m.p.h., which is the slowest speed that supports maximum traffic volume (maximum travel volume occurs between 42 and 51 m.p.h.).

**Agencies Involved:**

- WSDOT

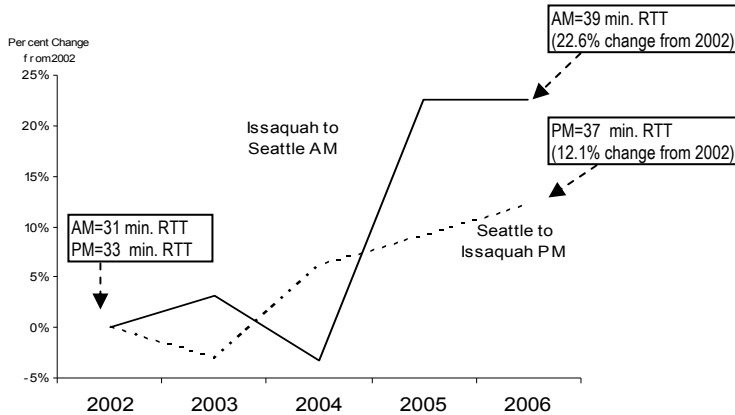
**System Component:**

- ✓ State
- Local

**Commuters want to know they can reach their destination on time.** Reliable travel time is an estimate of how long, in minutes, a commuter needs to set aside for travel to ensure on-time arrival 95 percent of the time (19 of 20 trips).

The graph below shows that a commuter traveling from Issaquah to Seattle in the morning during peak congestion would need to set aside 39 minutes in order to arrive on time 95 percent of the time. This is an increase of 8 minutes (22.6 percent) from 2002. The chart at the bottom of the page shows that it would take 15 minutes to make the same Issaquah to Seattle morning commute during non-congested periods, 18 minutes at maximum throughput speeds (42-51 m.p.h.) and 22 minutes at peak congestion. Other Seattle-area routes are also shown.

**Percent Change in 95% Reliable Travel Time (RTT) Since 2002 on Issaquah-Seattle Round Trip Commute**



Source: WSDOT 2008

### What's been happening?

Reliable travel times in the Puget Sound region have been increasing steadily over the past five years, meaning that drivers have to allow more time to get to their destinations reliably.

### What's the focus now?

WSDOT is working to improve trip reliability through:

- Traffic Management Centers: Seven centers provide real-time travel information to the media, update 80 variable message signs around Puget Sound, operate ramp meters and tunnels, and track highway incidents.
- Real-Time Traffic Information: More than 475 traffic cameras linked to the Internet help commuters plan trips.
- High Occupancy Toll (HOT) Lanes: WSDOT will open the SR 167 HOT lane pilot project in spring 2008.
- Incident Response: 55 roving incident response teams help clear roads and keep traffic moving.

### What's next?

- WSDOT will report on the effectiveness of the HOT lane pilot project in fall 2008.
- WSDOT is studying the potential congestion benefits of using "active traffic management" (variable speed limits).
- WSP is working to expedite accident investigations to reduce incident clearance times.
- Future progress reports may include a summary measure of change in reliable travel time for the most congested Puget Sound routes.

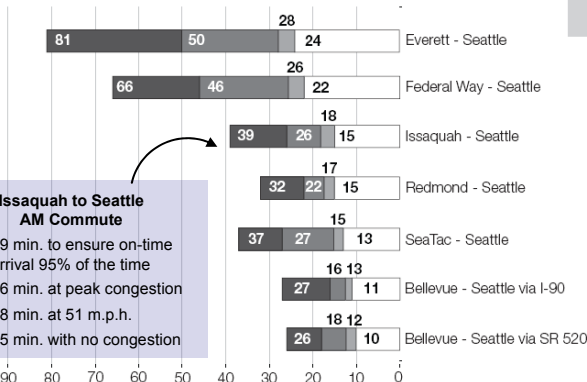
## Examples of Reliable Travel Times for Seattle-Area Routes

### Travel Times at Posted Speeds, Maximum Throughput Speeds, Peak Travel Times, and 95% Reliable Travel Times Morning and Afternoon Commutes by Work Location

Central Puget Sound Area, 2006  
Travel Time in Minutes

Example:	16 minutes	18 min.	23 min.	37 min
Seattle to Issaquah Evening Commute	Travel Time at Posted Speeds	Travel Time at Maximum Throughput speeds (42-51 MPH)	Travel Time During Peak Congestion	Travel Time required to ensure on-time arrival 95% of the time

### All AM Commute Average - Home to Work



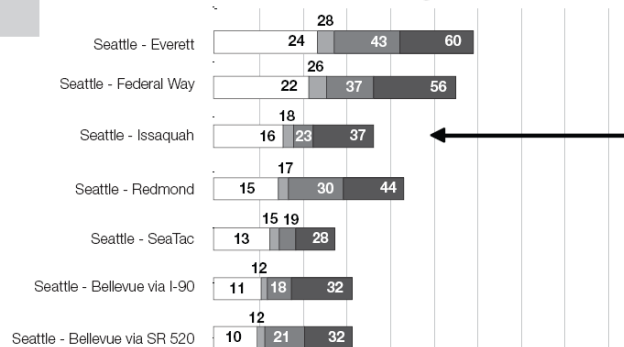
#### Issaquah to Seattle AM Commute

- 39 min. to ensure on-time arrival 95% of the time
- 26 min. at peak congestion
- 18 min. at 51 m.p.h.
- 15 min. with no congestion

**Agencies Involved:**  
• WSDOT

**System Component:**  
✓ State  
Local

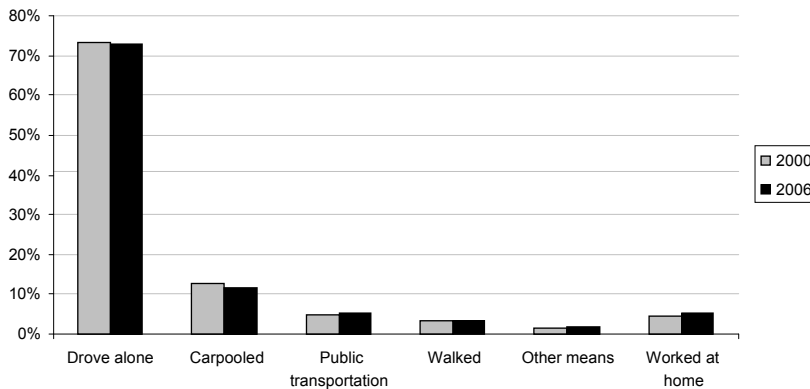
### All PM Commute Average - Work to Home



Source: WSDOT 2007

**Reducing the number of commuter trips taken in single-occupancy vehicles helps reduce congestion, air pollution and fuel consumption.** In 2007, Commute Trip Reduction programs eliminated about 25,000 vehicles on state highways each weekday morning. This reduced gas consumption by about 7.9 million gallons, saving commuters about \$23.7 million. It also reduced air pollutants by nearly 4,000 tons and emissions of carbon dioxide-equivalent gases by nearly 85,000 tons.

### How Washington Commuters Got to Work in 2000 and 2006



Source: WSDOT 2007

**Commuter Trip Reduction.** WSDOT works with local jurisdictions and major employers to provide commuting alternatives for workers. Currently, about 570,000 workers have access to Commute Trip Reduction (CTR) programs at nearly 1,200 worksites. About half of all eligible workers at these sites use at least some of the available alternatives.

**Park and Ride Lots.** Currently, there are 132 park-and-ride lots in the central Puget Sound region with about 23,000 total parking spaces. These park-and-rides are served by the region's six major transit agencies and are used primarily by commuters taking the bus to and from work, as well as those meeting vanpools and carpools.

**Vanpools.** Washington has the nation's largest vanpool program, with 2,291 vanpools operating as of August 2007. In 2006, 6.7 million passenger trips were on vanpools. If drivers had driven alone instead of using a vanpool, they would have driven approximately 233.8 million more miles and consumed 9.5 million more gallons of fuel in 2006.

### What's been happening?

Washington's Commute Trip Reduction (CTR) program was enacted in 1991. WSDOT provides technical assistance and training to local jurisdictions and major employers to encourage the use of alternatives to single-occupancy vehicles, including carpools, vanpools, walking, bicycling, using public transit and telecommuting.

In 2003, the Trip Reduction Performance Program and Vanpool Investment Program were created to provide incentives or compensation to public and private employers to reduce commuter trips. In 2006, the CTR Efficiency Act was passed to improve local, regional and state planning on commute trip reduction.

### What's the focus now?

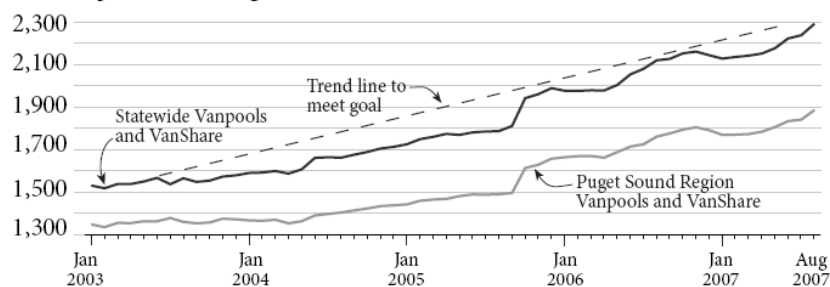
Growth and Transportation Efficiency Centers (GTECs) are being planned along congested highways and urban corridors. GTECs will serve as modern, multi-modal hubs providing approximately 270,000 more commuters with integrated commuting options.

### What's next?

- The Commute Trip Reduction Board will continue to work with private and public employers to decrease dependence upon single-occupant vehicles.
- Commute trip reduction strategies will be integrated into local and regional land use and transportation plans.
- Performance data from transit agencies and local governments may be added to future reports.

### Number of Public Vanpools Operating in Washington State

January 2003 to August 2007



Source: WSDOT 2007

Agencies Involved:	System Component:
• WSDOT	✓ State
	✓ Local

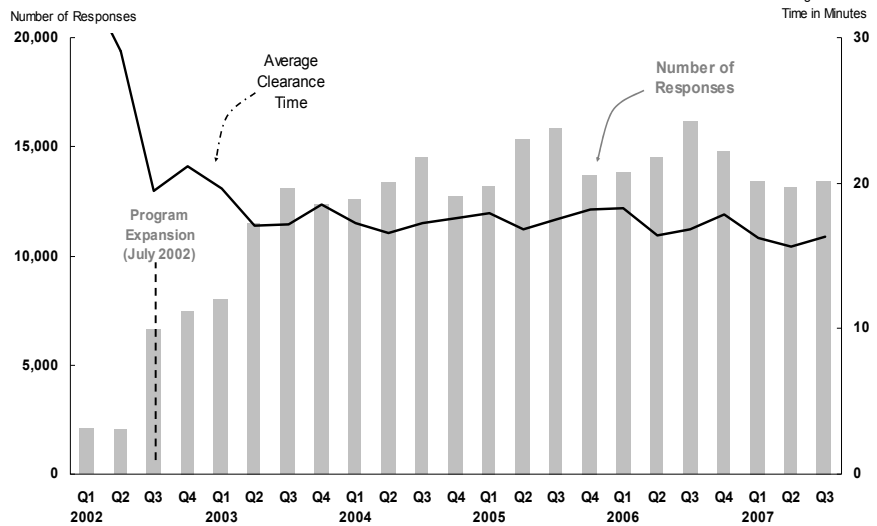
Average length to clear major incidents lasting more than 90 minutes on key highway segments

As of December 2007, the average clearance time was 161 minutes, 7 percent below FY2006, and 2 percent below the target of 165 minutes.

**Improved incident response increases travel reliability.** Highway incidents such as accidents and vehicle breakdowns can increase congestion and reduce motorist safety. About 50 percent of congestion is caused by accidents and other highway incidents. WSP, WSDOT and local responders work together to clear highways as quickly as possible after incidents occur.

**All incidents.** Overall, average clearance time for all incidents decreased from 33 minutes in 2001 to 16 minutes in 2007, a reduction of more than 50 percent. In 2006, WSDOT was able to respond to more than 60,000 incidents, a five-fold increase in responses over 2002.

**Number of WSDOT Incident Responses and Overall Average Clearance Time**  
January 2002 - September 2007

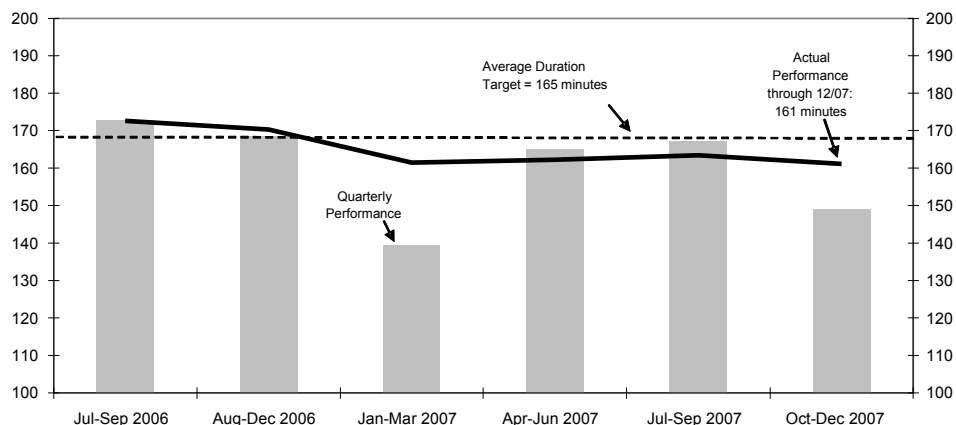


Source: WSDOT 2007

**Major incidents.** WSP and WSDOT are currently focusing on reducing the length of major incidents lasting more than 90 minutes, such as serious accidents involving fatalities and commercial motor vehicles. These incidents cause lengthy traffic backups and increase the likelihood of secondary collisions. As of Dec. 31, 2007, average clearance time has been reduced from the 2006 average of 174 to 161 minutes, exceeding the target of 165 minutes.

**Average Clearance Time for "90 Minute and Longer" Incidents**  
(On Key Highway Segments) July 2005-September 2007

Number of Blocking Incidents on Left Axis. Average Duration in Minutes on Right



Source: Washington State Patrol and WSDOT Traffic Office

**What's been happening?**

In 2002 and again in 2005, the Governor and Legislature significantly expanded WSDOT's incident response program by increasing the number of routes covered and adding response vehicles and staff.

**What's the focus now?**

In September 2007, a consortium of Washington's emergency responders, including state and local agencies, the towing industry, trucking industry, AAA and firefighters, adopted a goal to more quickly clear incidents.

WSP and WSDOT are pursuing several strategies to reduce clearance time, including:

- Improving coordination with counties on fatal accidents.
- Providing financial incentives to the towing industry, particularly for the removal of large trucks involved in incidents.

**What's next?**

The State Auditor's recent performance audit on congestion described the incident response program as one of the most comprehensive in the nation, and recommended expediting accident investigations to further improve the state's overall incident program.

WSP and WSDOT will monitor clearance time, report on progress resulting from current strategies, and continue to work collaboratively with local governments and the private sector to expedite incident response, investigations and clearance.

Agencies Involved:	System Component:
• WSP	✓ State
• WSDOT	✓ Local

**Improving freight movement contributes to a strong economy and a better quality of life for our citizens.** Washington's businesses and households depend on the reliable movement of goods using trucks, ships, barges, rail and air transportation. Across all modes and systems, freight tonnage is growing, which reflects positive economic growth and development for Washington. The mode used to transport freight and the related demands on the transportation system depend in large part on the type and destination of the freight.

**Seaports.** Seaport activity in the state continues to grow, especially for international goods imported in containers from the Pacific Rim. About 70 percent of these containers enter via the central Puget Sound ports of Seattle and Tacoma, and continue east by rail to large consumer markets in the Midwest and East Coast. Container throughput at Puget Sound ports increased from 2.6 million twenty-foot equivalent units (TEUs) to 4 million TEUs between 1997 and 2006.

In addition, many of the state's seaports handle non-containerized bulk products such as grain, cars, food, food products, lumber and wood products. The Port of Vancouver, Washington plays a large role in the shipment of non-containerized (break bulk) cargo, which is off-sized or over-sized items such as farm equipment, windmills and autos. Bulk products, such as grain, are generally exported through Washington's Columbia River ports. Barge and river transport is used for delivery of grain exports to seaports.

**Airports.** The majority of air cargo moves through three of the state's airports. In 2005, Seattle-Tacoma International Airport and King County/Boeing Field International Airport together handled about 83 percent of all air cargo, with Spokane International Airport handling 16 percent.

**Rail.** In 2004, Washington's freight railroads moved more than 81 million domestic tons of freight, up from 63 million in 1996. Farm products are the most significant commodities handled on Washington's rail network from a tonnage standpoint. More than 90 percent of this traffic terminated at Washington ports for export overseas.

**Trucks.** The majority of the freight shipped to, from and within Washington is transported by truck on state highways, county roads and city streets. Trucks provide local delivery of daily necessities, ship Washington's own products to consumers, and support national and international trade. Timely, reliable goods movement allows businesses to reduce manufacturing and inventory costs, and to improve responsiveness to rapidly changing markets. As the demand for goods and services increases, so does the amount of truck traffic on the state's highways. Truck volumes in the state continue to show steady increases.

### Selecting a High-Level Performance Measure

While there is a substantial amount of freight-related data, OFM has not yet identified a specific high-level performance measure to best assess how well freight is moving on and through the state transportation system. State agencies, including FMSIB, WSDOT, TIB; CRAB; ports; shippers; private sector rail; the trucking industry; and researchers are working with OFM to identify such a measure. In the meantime, other mobility measures, such as travel time and reliability, measure movement of both people and goods.

### Projected Growth in Freight Shipments

According to the Federal Highway Administration's Office of Freight Management and Operations, trucks moved a large percentage of the tonnage and value of freight shipments that have either an origin or a destination in Washington, followed by rail (tonnage) and air (value).

Truck traffic is expected to grow in the state over the next 20 years. Much of the growth will occur in urban areas and on the interstate highway system. Between 1993 and 2003, truck trips increased by 94 percent on the I-5 corridor, and by 72 percent on the I-90 corridor. While rail and air traffic are not projected to grow at similar levels, rail, air, road and highway systems are all affected by constraints on capacity.

**Freight Shipments To, From and Within Washington  
1998, 2010, and 2020**

	Tons (millions)			Value (billions \$)		
	1998	2010	2020	1998	2010	2020
<b>State Total</b>	<b>466</b>	<b>652</b>	<b>834</b>	<b>353</b>	<b>687</b>	<b>1,167</b>
<b>By Mode</b>						
Air	<1	1	2	42	100	180
Highway	307	444	571	267	513	870
Other [a]	11	12	14	2	2	3
Rail	85	126	171	29	51	84
Water	63	69	76	14	21	30
<b>By Destination/Market</b>						
Domestic	378	516	645	278	516	854
International	88	136	189	75	171	313

Note: Modal numbers may not add to totals due to rounding.

<sup>a</sup> The "Other" category includes international shipments that moved via pipeline or by an unspecified mode.

Source: FHWA, Office of Freight Management and Operations (2007)

**Agencies Involved:**

- FMSIB
- CRAB
- TIB
- WSDOT

**System Component:**

- ✓ State
- ✓ Local

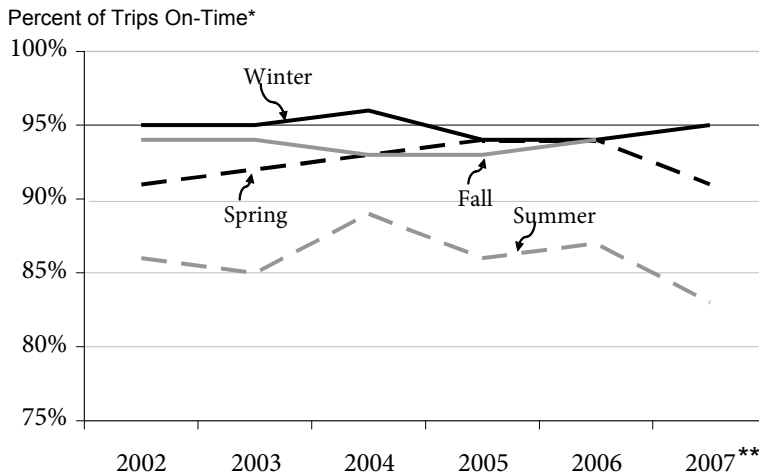
Percent of trips on time and ridership

On average, more than 90 percent of state ferry trips were on time in 2007. Ridership on state ferries was 23.7 million in 2006 and is projected at 24 million for 2007.

**State ferries on-time performance is excellent and ridership is making slight improvements.** Washington State Ferries (WSF) completes about 160,000 sailings annually.

**On-time performance.** Over the past five years, state ferry on-time trip departures have consistently averaged around 92 percent. Summer season performance averaged 86 percent during this time period, while performance during the other three seasons averaged between 93 percent and 95 percent. The greater traffic volumes and number of trips in the summer make on-time performance more difficult to achieve.

### State Ferries On-Time Performance



Data Source: WSDOT Ferry System 2007

\*A trip is considered on-time if it leaves within 10 minutes of the scheduled departure time.

\*\*Year to Date

NOTE: Winter is January 1 - March 31, Spring is April 1 - June 30, Summer is July 1 - September 30, Fall is October 1 - December 31

### What's been happening?

Achieving on-time departures is a key goal for WSF. On-time performance varies seasonally, and is affected by traffic volume, loading and unloading efficiency, tidal and weather conditions, and equipment functionality.

### What's the focus now?

The Keystone to Pt. Townsend route consistently has the lowest on-time performance of all state ferry routes. Between July and September 2007, only 62 percent of trips on this route departed on time. WSF faced several challenges on this route, including a shift to a one-boat schedule in order to repair the deteriorating Steel-Class ferries, and unfavorable tidal and weather conditions.

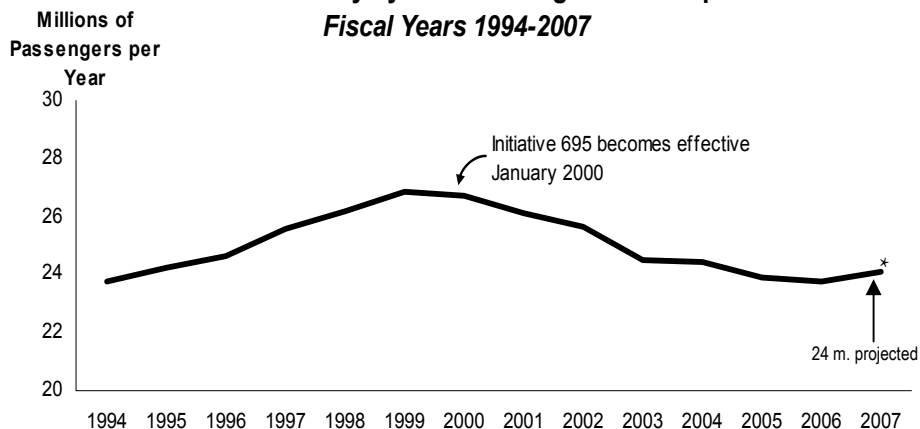
### What's next?

- On-time departure is a key contributor to customer satisfaction. WSDOT is working to improve on-time performance as part of its overall business plan.
- OFM will work with WSDOT and the Legislature to respond to ridership and financial issues identified in a 2007 Joint Transportation Committee study.
- Subsequent reports will include data for county ferries.

**Ridership.** Ridership on state ferries was 23.7 million in 2006 and is projected at 24 million for 2007.

WSF has experienced technical problems with ridership data for 2007 stemming from implementation of the new electronic fare system, *Wave2Go*. The technical issues are expected to be resolved soon, and 2007 ridership numbers will be confirmed.

### WSDOT Ferry System Passenger Ridership Fiscal Years 1994-2007



\*2007 ridership is a preliminary estimate. Data source: WSDOT, 2007

#### Agencies Involved:

- WSDOT

#### System Component:

- ✓ State
- Local

Washington state is one of 13 states that provide operating funds to Amtrak for intercity passenger rail service. Amtrak Cascades service is jointly funded by Amtrak, Washington (through WSDOT) and Oregon, and runs from Eugene, Oregon, to Vancouver, B.C. WSDOT provides funding support to cover both capital costs (rail line construction, train equipment and station improvements) and operating costs for four of seven Amtrak Cascades routes.

**On-time performance.** Amtrak Cascades on-time performance is below target, though improved compared to 2006. On-time performance increased from 45 percent in 2006 to 60 percent in 2007. The October 2007 on-time performance of 76 percent was the best in almost three years. Trains can be delayed for a number of reasons, including freight train interference due to limited rail line capacity (the main cause of delay), landslides, slower train speeds through railroad construction areas, delays at the international border crossing with Canada and mechanical equipment problems.

### What's been happening?

In 2006 and 2007, WSDOT and Amtrak developed a long-range plan for Amtrak Cascades service and ridership.

### What's the focus now?

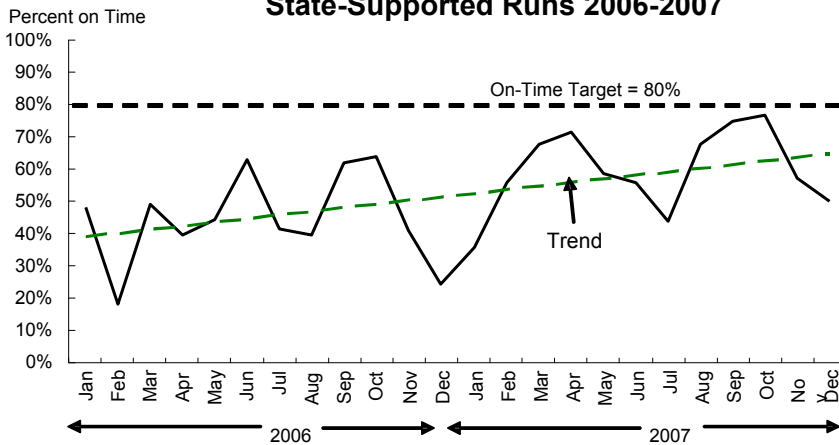
BNSF Railway is modifying its freight train schedules and operating practices to reduce interference with Amtrak runs, thereby helping to improve Amtrak on-time performance.

Additional service to Vancouver, B.C., scheduled to begin in mid-2008, is expected to increase ridership.

### What's next?

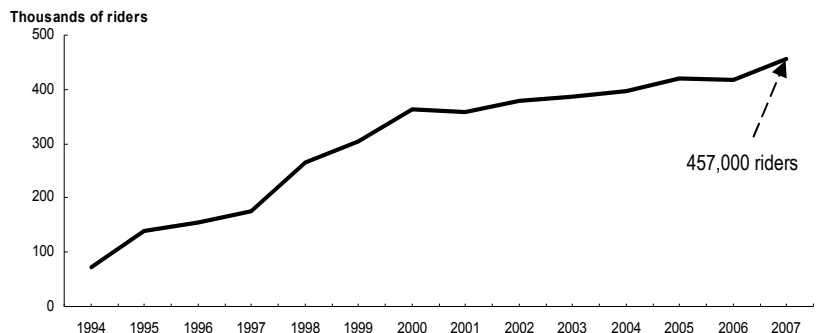
WSDOT will continue to work with BNSF Railway, Union Pacific Railroad; and Amtrak to improve on-time service in the corridor.

**Amtrak Cascades On-Time Performance State-Supported Runs 2006-2007**



Data Source: Amtrak and WSDOT Rail Office. A train is considered on-time if it arrives within 10 minutes or less of the scheduled arrival time.

**Amtrak Cascades Annual Ridership State-supported Runs 1994-2007**

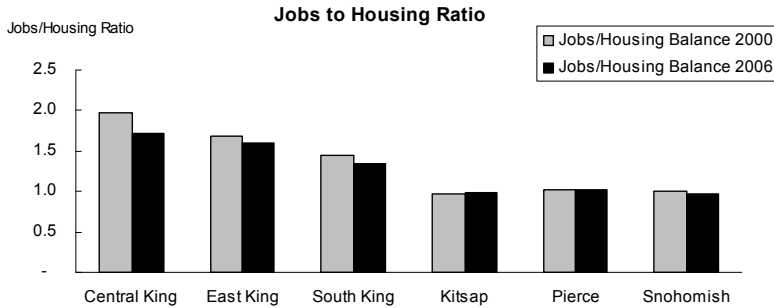


Source: WSDOT 2007

Agencies Involved:	System Component:
• WSDOT	✓ State
	Local

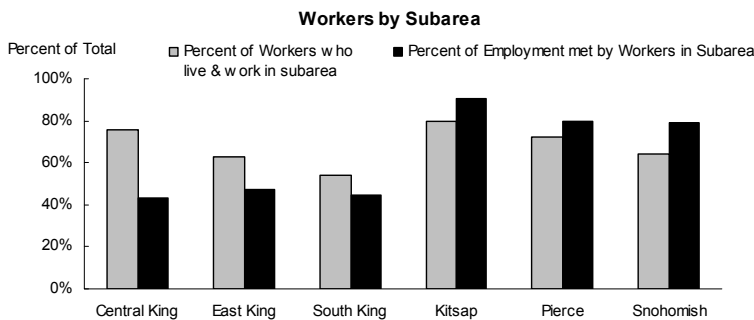
*When people live close to work, they can save time commuting, reduce vehicle miles driven and lessen environmental impacts.* Transportation-efficient land use promotes walking, biking, carpooling, transit use and other means of efficient transportation.

Some urban areas have an imbalance between employment and population growth, leading to longer commutes and increased demands on the transportation system. In the central Puget Sound region, the number of jobs exceeds the number of housing units. For example, jobs exceeded housing units in central King County by about 50 percent in 2006 (1.5 jobs for every housing unit).



Source: PSRC 2007

The chart below compares where people live and work in six areas of the central Puget Sound region. The greatest discrepancy between where people live and work is in central King County. Almost 80 percent of those who live in central King County also work there. Even so, they only make up 40 percent of the total number who work in the area, meaning that 60 percent of the workers in central King County commute into the area. Land use patterns contribute to the discrepancy. In contrast, in Snohomish County, over 80 percent of the people that work in the area also live there.



Source: PSRC 2007

Agencies Involved:	System Component:
• WSDOT	✓ State
• TIB	✓ Local

### What's been happening?

The Growth Management Act (GMA), adopted by the Washington State Legislature in 1990, requires that local infrastructure keep pace with development ("concurrency"). Establishing and maintaining concurrency is complicated. Often numerous jurisdictional boundaries with several transportation providers must be crossed.

### What's the focus now?

WSDOT's Regional Mobility Grant Program focuses on improving connectivity among jurisdictions, and increasing integration of public transportation and the highway system. Local and regional jurisdictions receive funding for specific projects and are then required to report on measures of effectiveness, including annual reductions in vehicle trips, vehicle miles traveled or hours of delay.

TIB's Urban Corridor Program was established by the Legislature as a local government companion to the GMA. The program targets projects for funding that provide capacity to meet concurrency and support density in centers.

The state, local jurisdictions and research institutions continue to explore alternatives to ensure transportation-efficient land use. For example, the Washington State Transportation Research Center (TRAC) has reviewed methods to better evaluate and integrate land use policies and planning with transportation planning.

### Selecting a High-Level Performance Measure

There are a number of index-type measures that are being developed to evaluate the effect that land use patterns have on transportation demand. These index measures include density, mix of land uses, and street grids that support the use of transportation alternatives.

The University of Washington (UW) is working on the Transportation-Efficient Land Use Model Index (TELUMI). The Puget Sound Regional Council is developing a method for using land use factors to influence and improve planning for transit, walking and other alternatives.

These models hold promise, but additional work is needed to select a specific measure for the progress report. OFM will continue to work with PSRC, UW and state agencies on a specific performance measure for use in subsequent progress reports.



*Number of culverts fixed and miles of stream habitat opened up*

As of 2007, 217 high priority culverts have been fixed or removed, opening up 480 miles of stream habitat.

### Fixing culverts contributes to the state's salmon-recovery efforts.

Fixing or removing culverts under state highways that block fish from accessing upstream habitat is a priority for the state. WSDOT works with the Washington Department of Fish and Wildlife (WDFW) to conduct habitat studies, and to inventory, prioritize, fix or remove fish passage barriers.

WSDOT fixes culverts as part of larger highway projects, as stand-alone projects or as part of highway maintenance projects. As of November 2007, 217 culverts have been fixed or removed, providing access to more than 480 stream miles of habitat. More than \$46 million was spent on this effort.

A statewide inventory of culverts in the 7,000-mile state highway system was completed in September 2007. Data from the inventory is still being evaluated, though preliminary results are available. More than 6,200 culverts have been identified. Half of these culverts are in fish-bearing streams. Of these, 1,822 culverts create fish-passage problems, including 1,378 with potentially significant upstream habitat gain.

### What's been happening?

New highways are designed and constructed to avoid the creation of fish passage barriers. However, existing highways create fish passage problems due to outdated design and/or deterioration of older culverts.

### What's the focus now?

WSDOT is working with WDFW to prioritize culverts to be fixed or removed. Prioritization is important because not all culverts are equally important to restoring fish habitat. It is estimated that correcting the top 40 percent of culverts will yield more than 80 percent of the habitat gain.

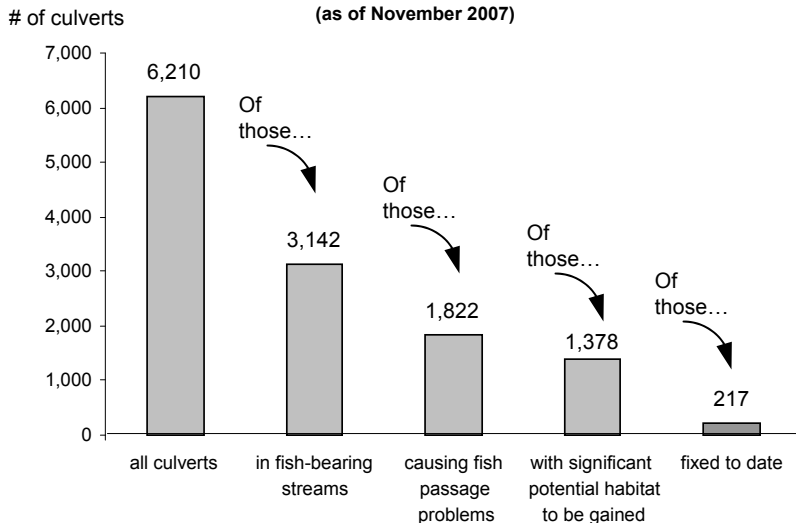
### What's next?

WSDOT received \$12 million in the base 2007-09 budget for stand-alone culvert projects. Additional culverts will be fixed during the biennium as part of larger highway projects. New culverts are designed at inception to avoid fish passage problems. After completion, culvert projects are monitored for effectiveness and to apply "lessons learned" to future projects.

In 2008, the Transportation Improvement Board will revise its grant criteria and point system to include a category for sustainability. Sustainability points will be awarded for projects that are energy efficient, environmentally responsive, use recycled materials and encourage alternative modes of transportation.

### Culverts Under State Highways

(as of November 2007)



Source: WSDOT 2007

<b>Agencies Involved:</b>	<b>System Component:</b>
• WSDOT	✓ State
	Local

### Number of WSDOT stormwater treatment facilities constructed

Between 1996 and 2007, 1,872 stormwater treatment facilities were constructed. (Future reports will provide data on the effect the stormwater treatment facilities have on water quality.)

**Managing stormwater effectively cuts down on pollutants entering streams and rivers, contributes to Puget Sound and salmon recovery, and reduces flooding and erosion.**

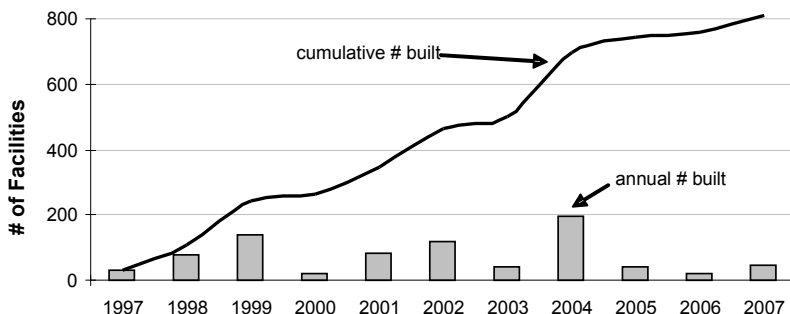
The state and a number of local governments are governed by the federal Clean Water Act and National Pollution Discharge Elimination System (NPDES) permits for municipal stormwater discharges to surface waters. Stormwater is a particular concern in western Washington.

The stormwater permits include the cities of Seattle and Tacoma; King, Pierce, Snohomish, and Clark counties; and the ports of Seattle and Tacoma. In 2007 the permit program was expanded to include cities and counties in urbanized areas of Washington and cities with populations greater than 10,000 outside of these areas -- approximately 100 additional cities and counties across the state. Permits are also required for public entities within specified geographic areas that own or operate a separate storm sewer system. Examples of these districts are ports, diking and drainage districts, public universities, flood control districts, prison complexes, and parks and recreation districts.

WSDOT is working to minimize the adverse effects of stormwater runoff from state highways and other transportation facilities. Paved surfaces, such as highways and ferry terminal parking lots, prevent water from penetrating the ground where it can be naturally filtered. WSDOT highways and facilities cover more than 40,000 acres with impermeable surface.

Since 1995, some of WSDOT's activities have been managed under a federal Clean Water Act stormwater permit. The permit covers King, Snohomish, Pierce and Clark counties. Under the permit, WSDOT constructs facilities such as catch basins, culverts, vaults and filters to control and remove pollutants from stormwater. The permit also requires maintenance and operation of these facilities, as well as vegetation management.

**Number of WSDOT Stormwater Facilities Built in King, Pierce, Snohomish and Clark Counties**



Source: WSDOT 2007

<b>Agencies Involved:</b>	<b>System Component:</b>
• WSDOT	✓ State
	Local

### What's been happening?

WSDOT has constructed 1,872 stormwater treatment facilities statewide since 1996, including 809 in four highly urbanized counties in western Washington: King, Snohomish, Pierce and Clark.

### What's the focus now?

Most of Washington's highway infrastructure was built before federal Clean Water Act requirements were in effect. While new highway projects are designed to manage stormwater appropriately, older highways and facilities will need to be retrofitted. For example, only about 12 percent of state highway miles in the four permit counties have stormwater treatment facilities.

### What's next?

WSDOT is working with the State Department of Ecology to develop a new stormwater permit, expected to be issued in 2008. It will require more extensive stormwater management and cover a larger geographic area. Almost every state highway and transportation facility located in an urban area will be affected. Implementing the new permit is expected to be expensive.

In addition to constructing new stormwater facilities, WSDOT is required to inventory its stormwater drainage network (e.g. pipes, drains, and outlets), increase inspection and maintenance, and expand monitoring. The statewide drainage network inventory will be completed in early 2008.

Future reports will include:

- Information about additional WSDOT stormwater treatment facilities that will need to be constructed and maintained under the new permit.
- Data on the effect stormwater treatment facilities have on water quality.
- Future reports will also include data from the Transportation Improvement Board, County Road Administration Board and WSDOT on their work to assist cities and counties in inventorying their stormwater facilities.

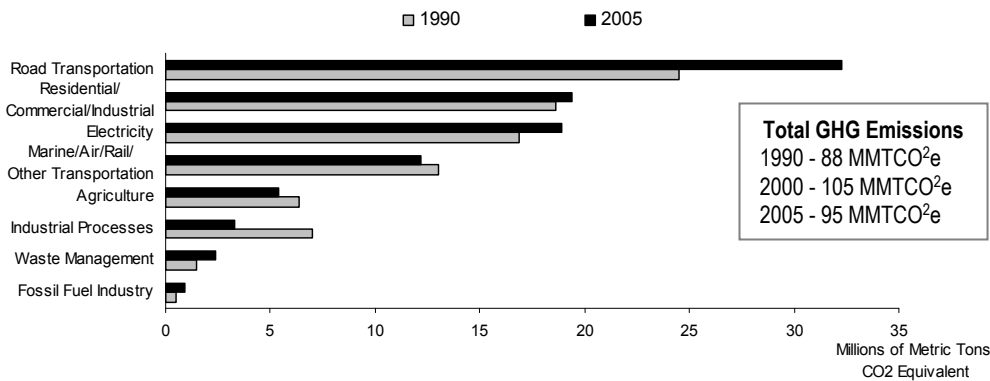
*Tons of greenhouse gases produced statewide*

As of 2005, 95 million metric tons CO<sup>2</sup> equivalent were produced statewide (the target is 88 million metric tons CO<sup>2</sup> equivalent by 2020).

**Reducing greenhouse gas and air-borne emissions will bring benefits to the environment and our citizens' health.** Transportation-related emissions produced almost 47 percent of the greenhouse gas emissions in the state in 2005, and 56 percent of the toxic fine particles from diesel exhaust in 2002.

**Greenhouse gases.** The level of greenhouse gases (GHG) in the state decreased from 105 MMTCO<sub>2</sub>e in 2000, to 95 MMTCO<sub>2</sub>e in 2005. Executive Order 07-02 commits the state to reduce greenhouse gas emissions to 1990 levels (88 MMTCO<sub>2</sub>e) by 2020. Greenhouse gases are substances such as carbon dioxide (CO<sub>2</sub>), methane and chlorofluorocarbons. These gases trap the sun's heat as it is released from the earth and prevent it from escaping back into space, thus contributing to the global warming effect. The generally accepted standard for measuring the total greenhouse gas contribution is "million metric tons CO<sub>2</sub> equivalent" (also referred to as MMTCO<sub>2</sub>e or CO<sub>2</sub>e).

Washington State Greenhouse Gas Emissions, 1990 and 2005



**Total GHG Emissions**  
 1990 - 88 MMTCO<sub>2</sub>e  
 2000 - 105 MMTCO<sub>2</sub>e  
 2005 - 95 MMTCO<sub>2</sub>e

Source: Ecology and CTED 2007 Washington State Greenhouse Gas Inventory and Reference Case Projections, 1990-2020 (prepared by OFM 2007)

**Air-borne emissions.** Emissions associated with transportation, from cars, trucks, construction equipment, buses, cargo vessels, ferries and trains, are the state's largest source of air pollution and greenhouse gases. Since 1980, the annual amounts of emissions of key pollutants such as carbon monoxide, nitrogen oxides, total hydrocarbon emissions, and small particulate emissions have been decreasing, despite increases in population and vehicle miles traveled. The decreases are due, in large part, to stricter federal standards for emissions from vehicles. Reducing air particulates also reduces greenhouse gas emissions.

Despite the decreases, small particulates from diesel exhaust (toxic fine particles) remain a key concern. The state has been working to reduce diesel emissions from school buses and local transit fleets. Additional emphasis is needed for state and private sector fleets, as well as trains, ships and construction equipment, which also emit toxic fine particles from diesel exhaust.

**What's been happening?**

The Governor's Climate Advisory Team (CAT) is working to address climate change across all sectors of the state, including transportation.

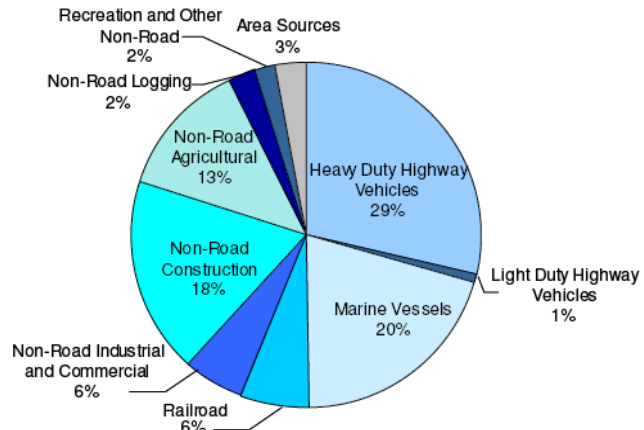
**What's the focus now?**

WSDOT is focusing on a number of transportation-related initiatives to improve air quality, including reducing air pollution during construction, reducing congestion, conserving fuel, and using cleaner fuels on the state ferry system. The state is also focusing on use of hybrid vehicles in its fleet; reduction of port, rail and highway diesel emissions; renewable energy; and energy efficiency.

**What's next?**

- The CAT is reviewing strategies to reduce transportation-related greenhouse gas emissions. Recommendations are expected in 2008.
- Reducing small particulates is likely to be an air-quality strategy for the Puget Sound Partnership because those pollutants have a significant effect on water quality.
- Some areas of the state are now out of compliance (or borderline) with federal small particulate standards. The same may soon happen for ozone pollution.

Sources of Diesel Particulate Matter in Washington State  
 7,701 total tons per year (2002)



\* Washington State Department of Ecology (2006)

Agencies Involved:	System Component:
• ECY	✓ State
• WSDOT	Local

Percent of Nickel and Transportation Partnership Act capital projects completed on-time and within budget

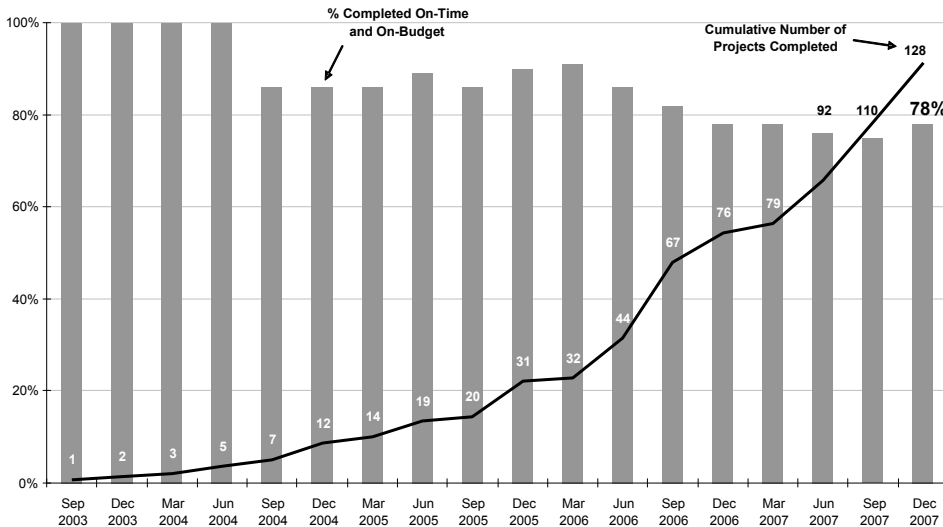
As of December 2007, 78 percent of the 128 completed Nickel and TPA projects were on time and within budget, below the target of 90 percent.

**WSDOT is in the process of delivering the largest capital construction program in its history.** Funded by legislative gas-tax increases in 2003 (Nickel Package) and 2005 Transportation Partnership Act Package (TPA), with the aid of private firms under contract, WSDOT is managing hundreds of projects across the state.

The Nickel and TPA packages include road, rail and other types of projects, valued in excess of \$15 billion. This performance measure focuses on WSDOT's delivery of the highway project portion, comprising 392 projects focused on safety, preservation, and congestion. The total value of the highway projects is \$11 billion.

As of Dec. 31, 2007, WSDOT successfully completed 128 of 392 planned Nickel and TPA highway projects. Of those, 78 percent were on time and within budget. The total expense of the 128 projects - \$1.3 billion - was \$8 million under budget.

### On-Time / On-Budget Performance for Nickel and TPA Projects



Data Source: WSDOT 2007

### What's been happening?

The size of the highway construction program presents a significant delivery challenge. WSDOT has taken a number of steps to maximize the success of the program, including improving project management practices, entering into partnerships with private engineering firms, upgrading project management systems, adjusting contracting methods and vigorously evaluating designs.

### What's the focus now?

The cost of construction material is rising substantially. Between 2004 and 2006, material costs increased more than 50 percent. Though the rate of increase has since slowed, material costs still increased 8 percent during the first three quarters of 2007. Accommodating these cost increases poses a huge financial challenge to the state.

### What's next?

- WSDOT is working closely with the Governor, Legislature, and private engineering and contracting industries to find ways to support a competitive and healthy bidding market, and continue to deliver projects on time and within budget in this time of rising costs.
- Future reports will include measures on the delivery of non-highway projects and will also focus on city, county and transit data.

### Nickel and TPA Highway Projects by Type

Type of Highway Project	Number of Projects
Preservation	42
Safety	189
Economic	12
Environmental	31
Mobility	118
<b>Total</b>	<b>392</b>

Source: WSDOT 2007

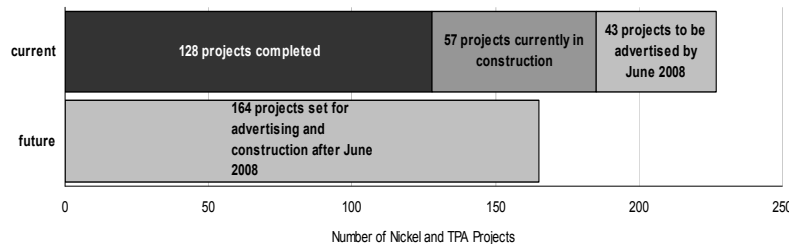
#### Agencies Involved:

- WSDOT

#### System Component:

- State
- Local

### By June 30, 2008, more than half of the 392 Nickel and TPA highway projects will be complete or underway



Source: WSDOT 2007

227 Nickel and TPA Projects are Complete or Will be Underway by June 30, 2008 (58% of 392 programmed projects)

# Appendix

---

## Key Terms

**Goals:** Goals are high-level statements of a desired future direction, policy or outcomes to achieve. Transportation goals have been set by the Legislature in RCW 47.01.012.

**Objectives:** Objectives break goals into smaller, more specific pieces. They describe the measurable results an agency or program is expected to accomplish within a given time period.

**Performance Measures:** Performance measures are based on data, and tell a story about whether an agency or activity is achieving its objectives and if progress is being made toward attaining the given policy goals.

---

## State Transportation-Related Agencies

County Road Administration Board (CRAB)

Department of Ecology (DOE)

Department of Licensing (DOL)

Freight Mobility Strategic Investment Board (FMSIB)

Joint Legislative Transportation Committee (JTC)

Pilotage Commissioners, Board of

Transportation Improvement Board (TIB)

Utilities and Transportation Commission (UTC)

Washington State Department of Transportation (WSDOT)

Washington State Patrol (WSP)

Washington State Transportation Commission

Washington Traffic Safety Commission (WTSC)

---

## References

### **Agency-specific Activities, Performance Measures, and Strategic Plans**

<http://www.ofm.wa.gov/performance/default.asp>

### **Climate Change**

<http://www.ecy.wa.gov/climatechange/index.htm>

### **Government Management Accountability & Performance (GMAP)**

<http://www.accountability.wa.gov/>

### **Key Facts**

<http://www.wsdot.wa.gov/publications/manuals/fulltext/M0000/keyfacts.pdf>

### **Priorities of Government (POG)**

<http://www.ofm.wa.gov/budget/pog/default.htm>

### **WSDOT's Measures, Markers and Mileposts (The Gray Notebook)**

<http://www.wsdot.wa.gov/Accountability/GrayNotebook/default.htm>

### **Washington Strategic Highway Safety Plan: *Target Zero***

<http://www.wsdot.wa.gov/NR/rdonlyres/BC9C8BDB-A735-4948-850A-47B72696E4D9/0/SHSP.pdf>

### **Washington Transportation Plan**

<http://www.wsdot.wa.gov/planning/wtp/>