

# Traffic Data: Value and Challenges

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North American Travel Monitoring Exposition and Conference  
Seattle, Washington  
June 22, 2010

# WSDOT profile

## WSDOT owns, manages, and maintains:

### Highways

- 20,000 state highway lane miles (carries 86 million vehicle miles/day)
- 225 lane miles of a planned 320-mile HOV freeway system
- More than 3,600 bridges and structures

### Ferries

- 22 ferry vessels, 20 terminals, and 500 daily sailings (carries 23 million passengers/year)

### Passenger rail

- Partner in Amtrak *Cascades* state passenger rail (carries over 700,000 passengers/year)

### Freight rail

- Grain Train (runs 89 grain cars)
- 492 miles of public owned short-line rail

### Transit support

- Commute programs support more than 810,000 commuters statewide (170 million vehicle miles traveled reduced annually)
- Vanpool program includes more than 2,400 vans (Washington has the largest public vanpool fleet in the nation)

### Aviation

- 17 WSDOT managed airports
- 138 public use airports

### Funding

(includes 2010 supplemental budget impact)

**\$1.4 billion 2009-2011 operating program budget**

**\$5.3 billion 2009-2011 capital program budget**

• **State dollars - \$3.4 billion**

• **Federal dollars (non ARRA) - \$1.0 billion**

• **ARRA dollars (highways and rail) - \$0.9 billion**



# Overview:

- **Strong and reliable transportation system** - The backbone of a healthy economy
- **Moving Washington** - Our plan to reduce congestion and improve mobility requires high quality data and analysis
- **System performance measurement** - A high priority at WSDOT
- **Growing need for data** - Reduced revenues present a challenge
- **Moving forward** - Looking for efficient, innovative solutions and partnerships to meet our data needs
- **Conclusion** - Investments in traffic and travel time data are critical to our ability to make good decisions and report results

# Our transportation vision:

## An integrated transportation system that is ...

### Reliable

- ✓ Improved travel times for drivers
- ✓ Better reliability and choices for commuters and increased intercity service
- ✓ More efficient freight movement across state and in and out of our ports

### Responsible

- ✓ Safer roads, and fewer fatalities and serious injuries
- ✓ Cost effective asset maintenance and preservation
- ✓ Highways, transit and ferries provide users integrated travel options
- ✓ Increased special needs transportation to provide access for jobs and lifeline services

### Sustainable

- ✓ Cleaner air and water
- ✓ Strategic and balanced approach to climate change
- ✓ Predictable funding and affordable improvements and operations

# Strong and reliable transportation system - the backbone of a healthy economy

## Our challenge

The system must be:

- Maintained and preserved
- Made safer
- Built and operated to move people and freight in, around and through the state over the next decade
  - so our economy can continue to thrive,
  - our citizen’s quality of life can be maintained or improved,
  - our natural environment is restored and protected

## Our response

# “Moving Washington”



# Moving Washington – Our plan to reduce congestion and improve mobility requires high quality data and analysis



## Operating Roadways Efficiently

Moving Washington improves the system's performance and generates revenue through variable pricing and other traffic management tools



## Managing Demand

Providing more travel choices and options for people and freight helps improve the efficiency and effectiveness of our transportation system



## Adding Capacity Strategically

Adding new capacity to our currently over-stressed transportation system is a critical component of Moving Washington

# How do we use high quality traffic data?

To develop strategies and assess the performance of the three-part Moving Washington program



## Operating Roadways Efficiently

- Support variable pricing for HOT lanes
- Facilitate electronic tolling
- Implement Active Traffic Management – Smarter Highways
- Provide real-time traveler information
- Apply other technologies in operations to enhance safety and system efficiency



## Managing Demand

- Monitor results of various efforts to reduce VMT (for GHG and congestion)
- Track HOV usage
- Validate the modeling analysis of TDM strategy impacts



## Adding Capacity Strategically

- Assess the impacts of past strategies
- Customize solutions for congested corridors
- Plan, prioritize, and program capital improvement projects
- Assist legislature and governor in making investment decisions

# Communicating traffic conditions requires high quality, real-time traffic data

- ITS technology provides comprehensive data used by the media
- Variable Message Signs (VMS) keep commuters informed of the traffic conditions ahead
- Travel Time VMS provide route options on-the-go to avoid congestion
- WSDOT's website provides real-time commute travel times ([www.wsdot.wa.gov/Traffic/](http://www.wsdot.wa.gov/Traffic/))



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**Seattle Traffic**

- Seattle Area Home
- Incidents
- Travel Times
- Travel Alerts
- List of Cameras
- Best time to leave
- Mobile Site
- Lake Washington
- Have Questions?

**State Travel Info**

**Seattle Area Travel Times**

Travel times as of 3:35 P.M. Wednesday, June 9, 2010

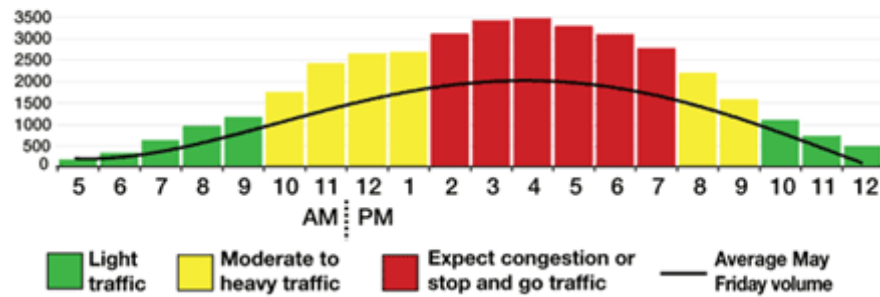
State Route/ Interstate	Route Description	Distance (miles)	Average Travel Time (minutes)	Current Travel Time (minutes)	Via HOV (min.)
520	Auburn to Renton	9.8	10	11	10
405	Bellevue to Bothell	9.7	16	15	11
405 5	Bellevue to Everett	26.1	39	37	28
405 5	Bellevue to Federal Way	24.6	48	46	27



# Use of historic traffic data enables predictive performance reporting

- WSDOT's website provides 95% reliable travel times based on historic traffic data

**I-90 Eastbound Friday, May 28**  
**Typical Traffic Volume North Bend to Cle Elum**



**Reliable Travel Times**

Local Traffic Info

- [Puget Sound Traffic Cameras](#)
- [Traffic Conditions](#)
- [Incidents](#)
- [Travel Times](#)
- [Local Construction](#)
- [Map Archive](#)

WSDOT - 95% Reliable Travel Times

Where are you starting from?

Where are you going?

What time do you need to get there?  :  AM

Your 95% Reliable Travel Time is **21** minutes. 95% of the time you would need to leave at **7:39 AM** to arrive by 8:00 AM.

Calculate Your Commute - This feature uses travel time data to provide a reasonable approximation of the "worst case" travel time scenario. By allowing for the calculated travel time, commuters can expect to arrive at the end of the route, on time, 19 out of 20 working days a month (95 percent of trips). These travel times are based on weekday travel time data for 2008. This data is updated annually in late summer or early autumn with data from the previous year. You may also want to view the chart displaying [current travel times](#).

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# Transforming traffic operations through the use of new and innovative technology

Smarter Highways “Summer 2010”



- Variable message signs
- Variable speed limits
- Automatic, instant traffic information
- Traffic Management Centers
- Traffic cameras
- Lane control
- Signs every half mile warn of slower traffic and blocked lanes ahead to prevent collisions that cause at least 25% of congestion.
- Information instills trust; trust means compliance, keeping drivers safe
- Making highways safer and more efficient

# Active Traffic Management Projects

## When will drivers see Smarter Highways?



# System performance measurement - A high priority at WSDOT

## WSDOT's performance management approach

- Allows us to be accountable and demonstrate that the tax payers dollars are invested wisely and efficiently
- We publish one of the most comprehensive and detailed annual performance monitoring and congestion reports
- We leverage our ITS investments to capture real-time traffic data to provide both traveler and performance information

# Measurement of state policy goals requires high quality traffic data

## Moving Washington Goals

- Improve travel times by 10% in key urban corridors
- Reduce collisions by up to 25%
- Improve reliability of many trips by 10%
- Offer more choices for more commuters in our metro areas

## Reporting provides accountability and transparency

- “Gray Notebook” – WSDOT’s Quarterly Performance Report
- WSDOT’s Strategic Plan
- Washington Transportation Plan and Multimodal Plan
- Governor’s Transportation Attainment Report
- Government Management Accountability Performance (GMAP)

***We want to do more... and need more data!***

# Our data challenges include...

- Expanding traffic data coverage (loop data) for the rest of the state transportation system
- Real-time / just-in-time data is needed to better manage and operate the state transportation system
- Informed investment decisions require high quality data
- More Before and After data to analyze **Moving Washington** strategies as well as the effectiveness of our safety and preservation program
- We are at a transition point considering whether to integrate multiple data sources including private sector traffic data

# Growing need for data - Reduced revenues present a challenge

## Our Reality

- We are now delivering the largest capital program in the agency's history and nearing the end of 421 projects
- Anticipating and preparing for a significant drop in revenue and investments in the 2011-13 budget cycle
- Beginning discussions on what's next for funding proposals and projects
- Direction from the governor and legislature to reduce our organization's management and administrative structure
- Further fiscal constraints such as statewide general fund budget cuts, temporary layoffs, and maintaining agency expertise

# Moving forward – Looking for efficient, innovative solutions and partnerships to meet our data needs

- Streamline traffic data collection, analysis, and reporting through intra-agency coordination and removal of silos
- Collect data once, use many times:
  - Internally leverage our ITS (loop data) to the maximum extent possible
  - Partner with other public agency data collectors
  - Explore partnership with private sector data collectors
  - Will open road tolling provide an opportunity for data collection?
- Evaluate recent advancements in research and technology and test, implement where feasible, like active traffic management (ATM)
- Participate in national studies and efforts in traffic monitoring, systems analysis, data standards, and reporting methods
- Network with peers from other states to develop best practices and seek further research opportunities
- Treat data as an asset



# Conclusion - Investments in traffic and travel time data are critical to our ability to make good decisions and report results

- Innovative technology helps us make efficient use of existing transportation infrastructure and operate our system more efficiently
- Now more than ever, decisions need to be based on complete and quality data
- We need to report to the public our successes and challenges that are based on facts and data
- Take the opportunity during this conference to network and discuss best practices and identify research needs