

How does WSDOT prioritize ITS investments?

ITS investments focus on efficiently using highway capacity to promote greater mobility. Investments are prioritized based on planning goals set by the State Legislature. The following are factors WSDOT takes into consideration when planning ITS improvements:

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 users and the transportation system;

Mobility – To improve the predictable movement of goods and people throughout the region;

Economic vitality – To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy;

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.



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For more information

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Go Online:

Moving Washington
www.wsdot.wa.gov/MovingWashington/

Transportation Border
Congestion Relief
www.fhwa.dot.gov/



Intelligent Transportation Systems (ITS)

Why ITS makes a difference

Drivers can make informed travel decisions when they know what to expect on the roads. ITS tells travelers about delays caused by traffic, incidents, construction, weather or border crossing congestion. This information can be used to plan alternate routes, which can reduce roadway demand, backups and wait times. This technology has been proven effective at reducing collisions and improving traffic flow.



ITS – It is all about system efficiency

Using technology to make existing systems work more efficiently is critical, particularly when financial resources are limited. WSDOT uses a number of low-cost, high-benefit tools to better manage highways, and ITS remains one of the most inexpensive ways to reduce traffic congestion and improve safety. ITS investments integrate advanced communication technologies into transportation infrastructure, allowing WSDOT to provide information such as real-time traffic conditions and travel times. This information helps manage transportation demands and relieve congestion. The ITS tools listed below can provide critical and timely driver information, allowing WSDOT to better manage the highways and reduce the need to build new infrastructure.

Key ITS tools

Traffic Cameras (CCTV) – WSDOT operates an extensive network of closed-circuit television cameras to monitor traffic and road conditions. Camera images are sent to WSDOT’s traffic management centers, to the Web for travelers and to the media.

Variable Message Signs (VMS) – A variable message sign is an electronic traffic sign mounted adjacent to or above the road. VMS provide motorists with real-time traffic information, such as travel times, incidents or congestion ahead, or upcoming roadwork.

Highway Advisory Radios (HAR) – Highway advisory radios are licensed low-power AM radio stations installed along the roadway that give drivers traffic and travel information. Yellow signs with flashing amber lights instruct drivers to tune to a specific radio station for more information.

Road/Weather Information Systems (RWIS) – Road/Weather Information Systems are installed along the roadway to provide weather and road surface condition observations to WSDOT maintenance crews and drivers.

Ramp Meters – Ramp meters are traffic signals on freeway on-ramps that help control the flow of traffic entering the freeway. Metering rates are automatically adjusted by the system based on freeway traffic conditions.

Traffic Data Collectors/Data Stations – WSDOT uses different types of data collectors embedded in the roadway to monitor traffic flow. Data is sent from the roadside to WSDOT traffic management centers to monitor operations and provide traffic conditions to the Web and the WSDOT 511 traffic information hot line.

Traffic Management Centers (TMC) – WSDOT operates seven regional Traffic Management Centers that gather real-time traffic information 24 hours a day, seven days a week. WSDOT uses this information to coordinate responses to incidents on the roadway, and to notify the public and media of these events.



ITS strategies and vision for northwest Washington

- Install ITS infrastructure along major corridors: I-5, SR 539, and segments of SR 20 and SR 9.
- Install data stations at strategic locations, typically every half mile and at every interchange, to allow WSDOT TMCs to monitor incidents, compute border wait times and post real-time traveler information on the Web.
- Install a network of cameras so TMC staff can monitor the highways, manage traffic and post images to the Web for public viewing.
- Install traveler information devices, like VMS and HAR, at strategic locations to provide real-time information to drivers.
- Use technology to coordinate signals in order to improve traffic flow and relieve congestion on busy urban highways.
- Install a RWIS network along highways to help WSDOT maintenance teams assess weather conditions and more efficiently manage winter maintenance operations.
- Plan strategic, low-cost ITS investments to help reduce congestion and manage demand along highway corridors in northwestern Washington.



ITS investment locations

The following projects are top ITS investment priorities for the Northwest Region/Mount Baker Area:

Priority 1: I-5 fiber optic line extension

Expand ITS communication along the I-5 corridor in Skagit and Whatcom counties. Portions of this corridor have ITS network coverage, but many areas do not. These “blind spots” prevent WSDOT from collecting real-time traffic data and managing congestion or collisions. Some areas can be added to the WSDOT ITS network using wireless capabilities or city or county fiber optic networks. Ideally, we will install dedicated fiber optic lines to ensure the system works reliably.

Priority 2: SR 9 border crossing hardware upgrade

Installing new ITS infrastructure and replacing aging devices are the only ways WSDOT can provide accurate border wait times when traffic volumes are heavy. Upgrading hardware at the border will allow WSDOT to provide reliable information to drivers.

Priority 3: SR 539 fiber optic line extension

SR 539 has the second-highest traffic volume in the area, but little ITS coverage. Strategically investing in ITS upgrades along this congested corridor would be a cost-effective way to move traffic safely and more efficiently.



Major ITS investments in northwestern Washington		
Location	Completed	Total
I-5, SR 9, SR 539, and SR 543 – Border Crossing Information	December 2003	\$2.5 million
I-5 Blaine Customs Facility ITS Improvements	September 2008	\$3.1 million
Blaine Customs Facility ITS Equipment Procurement	September 2008	\$437,349
SR 543/I-5 to International Boundary	November 2009	\$54,000
Border Data Warehouse upgrade	April 2011	\$245,000
I-5/Samish Way, Northwest Ave to Slater Road Vicinity	October 2012	\$2.6 million
I-5/Slater Rd to Birch Bay-Lynden Road Vicinity MP 260.15 to 271.57	October 2012	\$6.1 million
		\$15.64 million

ITS supports Washington Transportation Priorities

Moving Washington



Effective transportation is critical to maintaining our economy, environment and quality of life.

The primary objective of Moving Washington is mobility. Moving Washington is WSDOT’s vision of strategic investments and priorities for the next 10 years. It integrates strategic new capacity, efficient operations and demand management as a way to improve the performance of the state’s transportation system.

ITS projects can fulfill Moving Washington’s efficiency goals by improving traffic management and efficiency, and making highway information more accessible to the public.

WSDOT website – Know before you go

During severe weather, travelers use WSDOT’s website to make informed decisions. During a Nov. 2010 snowstorm, 500,000 users viewed WSDOT’s website to better understand the congestion and icy conditions along state highways. During the next three days the site attracted more than 17 million pageviews, well above the daily average of 1 million pageviews per day. Washington state travelers rely upon this system for real-time travel information.

Transportation Border Congestion Relief

TBCR is a federal program to improve livability within the border region by using strategic infrastructure improvements to relieve congestion.

WSDOT and the Whatcom Council of Governments (WCOG), along with a cross-border planning team in the International Mobility Trade Corridor (IMTC) Project, are planning border congestion relief projects that build on more than a decade of collaborative effort. Selection for the TBCR program presents funding and FHWA assistance opportunities. ITS projects play a critical role in the TBCR program, and are especially useful to inform travelers about border wait times and other crossing options.

Greening the Border

The Cascade Gateway is comprised of four Ports of Entry that include the third-busiest passenger vehicle crossing and the fourth-busiest commercial crossing along the U.S.-Canada border. WSDOT, the British Columbia Ministry of Tourism, Trade and Investment, and the Ministry of Transportation and Infrastructure are working together to reduce congestion at the Cascade Gateway, promote travel, tourism and commercial activities, and reduce Green House Gas emissions (GHG). Relieving congestion helps reduce GHG emissions and facilitates trade and travel without compromising the security of America’s borders. Directing travelers to the least-congested border crossing will also reduce GHG emissions caused by idling vehicles.

