



Working More Closely with Others on Central Waterfront Improvements

WSDOT, King County and the Seattle Department of Transportation are taking a fresh look at the central waterfront and how to replace the Alaskan Way Viaduct between Pine and King Streets. WSDOT is committed to reaching agreement on a central waterfront solution by the end of 2008, and plans to begin taking down the deteriorating central section of the viaduct in 2012.

The partnership will consider the entire system of streets, transit service, and freeways, including I-5—from Lake Washington to Elliott Bay, and from NE 85th Street to South Spokane Street—in evaluating solutions that keep people, goods and services moving. One of the solutions the committee will consider is the City of Seattle’s Urban Mobility Plan. The draft plan proposes long-term improvements to the existing surface street grid and transit service to absorb the viaduct’s current share of vehicle trips. Through this partnership, additional operational improvements for I-5 could be advanced for traffic analysis, conceptual engineering and cost estimating.

Next Steps for I-5 Reconstruction Projects:

- Identify and prioritize the list of pavement replacement projects that may include operational improvements.
- Select top two projects (winter 2008/09).
- Advance top two options forward for preliminary design and environmental documentation (2015).

Timeline for Pavement Improvements

I-5 Spokane St. to I-90 Bridge Repair	Completed August 2007
Legislature provides \$21 M for most urgent pavement repairs on I-5	Construction 2009
Legislature provides \$113 M of over \$2+ B (2004 cost estimate needs to be updated)	Design and construction begins in 2017 and beyond



What Projects Are Currently Funded to Improve I-5 Pavement?

The legislature provided \$134 million to begin to replace the deteriorating pavement on I-5. Of those funds, \$21 million will go towards pavement repairs of the worst sections that need the most urgent attention between Boeing Access Rd and Snohomish County. Beginning in 2009, crews will diamond grind about 68 lane miles of concrete to remove wheel ruts, uneven pavement surface and replace about 500 broken concrete panels. The work can be done during evenings and on weekends. These temporary improvements will provide a smoother, safer ride for drivers until the pavement replacement work can begin.

Of an estimated \$2 billion needed to replace the pavement, \$113 million will be available to work on some of the worst areas. This work will require extensive lane closures but will extend the life of I-5 for another 40 years. Work is anticipated for 2017 and beyond, but must be planned now to coordinate with other major construction projects, such as the Alaskan Way Viaduct, the SR 520 Bridge Replacement and HOV Project, SR 519 and Sound Transit North Link Light Rail.

For more project information

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ADA Information: Individuals requiring reasonable accommodation of any type may contact Mike Sallis at sallism@wsdot.wa.gov or 206-464-1230. Persons who are deaf or hard of hearing may call WA State Telecommunications Relay Service (TTY) at 711.

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I-5 Reconstruction Projects – Boeing Access Rd to Northgate



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Replacing Pavement & Reducing Chokepoints Could Help Ease Commutes on I-5

More than 250,000 vehicles travel through Seattle daily on I-5, the main north-south interstate freeway in Washington state. It is the busiest freeway in the state with 70 percent of the state’s population living within 15 miles. I-5 through Seattle has served over three billion trips since it was completed in 1967.

With thousands of drivers and heavy trucks using I-5, the pavement has taken a beating. Closing lanes of I-5 for pavement repairs is disruptive, costly and provides a temporary bandage for a worsening condition. The original concrete pavement is deteriorating to the point where it needs to be removed and replaced to preserve the freeway and provide a safer, smoother ride for drivers.

Opportunity to Address Long Standing Chokepoints

Replacing the I-5 pavement through Seattle offers a unique opportunity to fix long-standing traffic chokepoints, such as closely spaced ramps, ramps on the left side and reduced shoulders.

The I-5 Reconstruction Projects will preserve the most important route in Washington state and improve traffic flow and safety by:

- Removing the original deteriorating concrete and replacing it with new pavement reinforced with dowel bars. This allows WSDOT to “Get In, Get Out and Stay Out” for 40 years.
- Addressing long standing traffic chokepoints with strategic operational improvement projects.



WSDOT is developing a list of coordinated projects to replace 16 miles of deteriorating pavement between Tukwila and Northgate.



Today's motorists can see cracks and feel wheel ruts in the road that decrease traction during wet weather.

How Bad is the Pavement Problem?

I-5 was built in stages between 1962 and 1967 with an expectation that the pavement would last 20 years. Remarkably, it has lasted over 40 years and will be over 50+ years old by the time it is completely replaced through a series of projects over many years.

An analysis of I-5 pavement determined 50 percent of it is past due for replacement or will need to be replaced in the next five years; another 40 percent should be replaced in the next 10 years, and the final 10 percent should be replaced in the next 10-15 years.

Simply laying asphalt on top of the existing concrete isn't enough because of high traffic volumes and numerous bridges. We will need to remove the existing nine-inch thick pavement on the freeway and replace it with thirteen inches of pavement reinforced with steel bars at the joints. The thicker concrete would ensure at least another 40 years of service, and the bars would help the roadway behave like a single unit rather than individual concrete panels. This would minimize the rough "thump, thump, thump" motorists now hear and feel as they drive on I-5 through Seattle.



Final pavement preparation work for I-5 James Street to Olive Way Pavement Rehabilitation Project that was completed in 2005.

I-5 Project Facts

- 280,000 average daily traffic
- 50,000 daily transit trips
- 12,000 trucks carrying \$200 million in cargo daily
- Designed in 1956 as a toll road for 1975 travel patterns and traffic volumes
- Daily capacity reached in the 1990s
- Vehicle throughput decreasing during peak periods

How Bad is Congestion?

I-5 through Seattle typically experiences up to nine hours of stop-and-go traffic a day. Congestion in and around downtown Seattle primarily occurs during the morning and evening peak periods due to high traffic volumes, but frequent users of I-5 know that congestion can occur anytime, especially if there has been a traffic incident.

Collisions, disabled vehicles, spills, and other events can impede the normal flow of traffic. A blocked highway lane can result in miles of backups and long delays. As a result, four to ten minutes of traffic congestion (depending on the volume of traffic on the road) can result from every minute a lane remains blocked.

An Old Design in a Modern World – the Challenges



I-5 through downtown presents some formidable challenges to planners and engineers: the Convention Center/Freeway Park goes over the top of I-5; retaining walls that hold up Capitol Hill to the east have columns going 120 feet into the ground; businesses and office buildings are stacked along the west side of I-5.

WSDOT staff and consultants are examining ways to modernize I-5 and improve traffic flow with a range of projects that would add lanes where feasible, modify ramps and interchanges, improve signs and transit connections. For example, adding a bus lane in the roadway shoulder of northbound I-5 between Olive Way and SR 520 would provide reliable travel times through a highly congested segment of I-5 and benefit nearly 3,000 daily transit riders.

What About Applying 21st Century Technologies to Improve Traffic on I-5?

Active Traffic Management (ATM): WSDOT is a leader in applying "smart-lane" concepts such as ramp meters, electronic freeway signs, highway cameras and Incident Response Trucks that remove disabled vehicles quickly. WSDOT is also examining ways to make I-5 "smarter" by integrating new technologies used in Europe to improve travel times, and reduce the number and severity of incidents. Smart applications would provide the biggest benefit for the least cost, streamlining traffic flow and improving driver safety.

ATM Innovations to be Implemented on I-5 and I-405:

- **Speed Harmonization:** adjust speed limits approaching areas of congestion, collisions or special events using a series of overhead signs.
- **Queue Warning:** warns motorists of downstream queues (or back-ups) and directs through-traffic to alternate lanes.
- **Dynamic Rerouting:** informs motorists of current traffic conditions, travel times and alternate routes using electronic signs.

A study team developed smart-lane recommendations for the I-405 corridor that showed significant reductions in collisions and driver delays. Information about I-5 benefits will be available this spring.



Speed harmonization signing in the Netherlands.



Bellevue Travel Time sign on northbound I-5 at I-405.