WSDOT's Three Dimensional Congestion Strategy: Bringing the Strategies Together

Eastside Corridor Example

Each corridor requires a balanced, multimodal solution.
Example: Puget Sound Eastside Corridor: SR 512 to SR 167 to I - 405

Eastside Corridor: Second-most traveled corridor in the state

- 62 miles of freeway, running north-south, paralleling Seattle's Interstate 5—with potential to be a bypass route.
- Accounts for over 800,000 residents and is expected to grow to 1.2 million by 2020.
- Employment: Growth projections on the I-405 corridor are 25% -nearly 150,000 jobs by 2020. Employment along SR 167 doubled between 1980 and 2000, with growth projections of 50%, adding 90,000 jobs in the Valley by 2030.
- Freight: SR 167 is home to the largest distribution center in the region, and one-third of the region's trucking and storage facilities are located along the corridor. I-405 carries twice the amount of goods shipped through the Port of Seattle.

Delay projected to increase

- By 2020, the number of daily trips will increase by 56% on I-405 and rush hour trips will take 40% longer with no improvements.
- On SR 167, a 20 minute trip today is projected to take up to over an hour by 2030 with no improvements.

Moving Washington Initiative

The I-405 Corridor Master Plan is WSDOT's community-based vision to create a balanced program of transportation improvements. This effort includes:

Operate Efficiently: add bus rapid transit, 9 new direct access transit facilities, improve interchanges, and express toll lanes (see backup slide # 24, "High Occupancy Vehicle Lanes).

Manage Demand: increase vanpools and local transit service, 5,000 new park and ride spaces, 8 new pedestrian & bicycle crossings.

Add Capacity Strategically: 2 new highway lanes in each direction, improve local arterials, accommodating1.5 million trips/day (see backup slide "I-405 Projects funded by Nickel and TPA").

Operate Efficiently (Eastside Corridor): High Occupancy Vehicle Lanes

HOV Lane Reliability Performance on I-405 and SR 167

During the peak hour: % of time that HOV corridor meets 45 mph standard

Meets the Standard | Borderline Below | Below Standard

	From	To	AM Peak Hr 2003	AM Peak Hr 2004	AM Peak Hr 2005	AM Peak Hr 2006
NI-405 NB	NE 4th St (Bellevue)	SR 524 (Lynnwood)	100%	100%	100%	100%
NI-405 SB	SR 524 (Lynnwood)	NE 4th/8th St (Bellevue)	99%	97%	88%	70%
SI-405 NB	Andover Park E (Tukwila)	NE 4th Street (Bellevue)	95%	88%	70%	49%
SI-405 SB	NE 4th/8th St (Bellevue)	Andover Park E (Tukwila)	100%	99%	100%	99%
SR 167 NB	15th St NW (Auburn)	S 34th St (Renton)	99%	100%	100%	99%
SR 167 SB	S 23rd St (Renton)	43rd St NW (Auburn)	99%	100%	100%	100%
			PM Peak Hr 2003	**PM Peak Hr 2004**	**PM Peak Hr 2005**	**PM Peak Hr 2006**
NI-405 NB	NE 4th St (Bellevue)	SR 524 (Lynnwood)	95%	89%	81%	69%
NI-405 SB	SR 524 (Lynnwood)	NE 4th/8th St (Bellevue)	98%	93%	87%	82%
SI-405 NB	Andover Park E (Tukwila)	NE 4th Street (Bellevue)	99%	98%	99%	100%
SI-405 SB	NE 4th/8th St (Bellevue)	Andover Park E (Tukwila)	90%	76%	59%	44%
SR 167 NB	15th St NW (Auburn)	S 34th St (Renton)	100%	99%	99%	100%
SR 167 SB	S 23rd St (Renton)	43rd St NW (Auburn)	99%	99%	98%	93%

Source: Washington State Transportation Center (TRAC)

For Example: HOV Lane Performance: I-405

- I-405 HOV Lanes were below the reliability standard for several peak direction segments.
- Despite this, person throughput on I-405 HOV Lanes far exceeded that of general purpose lanes.
- HOV lanes carried between 45% and 49% more people than the average GP lane during peak periods in 2006.

Draft Eastside Corridor Performance Table

Sample of strategies for "Moving Washington" corridor performance tracking

Strategy	Current Deployment	Planned Projects and Activities	Performance Result / Benefit
Operate Efficiently			
I-405			
▪ Ramp Metering	There are currently 32 ramp meters at 17 sites: 14 sites contain two meters, 1 site contains a single ramp meter, and 1 site contains 3.	3 new meters	Decrease travel time and reduce the number of accidents
▪ HOV Lanes	HOV lanes currently run the full length of I-405 in both directions.	Extend southbound I-405 to I-90 HOV Lane to SE 8th Street; Extend southbound SR 167 HOV lane to I-405	Increase freeway efficiency by moving more people in fewer vehicles
▪ Express Toll Lane	N/A	Express toll lane concept being considered.	Concept would result in a 70% increase in the number of people served at 45 MPH or better
SR 167			
▪ HOV Lanes	The southbound HOV lane extends from I-405 to 8th St. E. The northbound HOV lane extends from 15th Avenue NW to I-405.	Extend northbound HOV lane from 15th Ave SW to 15th Ave NW; Extend southbound HOV lane from 8th St. E to 277th St (funded for 2009 construction)	Increase freeway efficiency by moving more people in fewer vehicles
▪ HOT Lane	N/A	Conversion of existing HOV lane to HOT lane under construction; Expected opening Spring of 2008.	The project is anticipated to increase volume throughput on the corridor 5-10% across all lanes
▪ Ramp Metering	There are currently 10 ramp meters at 6 total sites, 4 containing a pair of ramp meters, plus 2 sites with a single ramp meter.	8 new or upgraded meters	Decrease travel time and reduce the number of accidents
Manage Demand			
I-405 Vanpools and Transit	N/A	Express toll lane concept would improve transit reliability. Construction mitigation efforts.	Toll lanes would result in a 70% increase in the number of people served at 45 MPH or better

Draft Eastside Corridor Performance Table

Sample of strategies for "Moving Washington" corridor performance tracking

Strategy	Current Deployment	Planned Projects and Activities	Performance Result / Benefit
Strategically Add Capacity: I-405			
Renton Stage 2 Widening Project and SR 515 Interchange Project will increase the capacity of I-405 between I-5 and SR 167	N/A	Construction will begin in 2009 and open to traffic in 2011	9000 additional daily vehicles served 10-20 MPH increase in peak hour speeds
South Bellevue Widening Project The project will reduce congestion from Renton north into Bellevue and from Bellevue south to I-90	Construction underway and open to traffic in 2009		7000 additional daily vehicles served 20-30 MPH increase in peak hour speeds
NE 8th St to SR 520 Northbound Braided Crossing Eliminate weave congestion will reduce congestion and improve safety on SR 520 between traffic entering from I-405 and exiting to 124th Avenue	N/A	Construction will begin in 2010 and open to traffic in 2015	Eliminates vehicles weaving by braided ramps 10-15 MPH increase in peak hour speeds
Kirkland Stage 1 Project Improves the NE 116th Street Interchange on I-405 and adds a new lane in each direction from NE 85th Street to NE 124th Street	Completed		Observed 10-20 MPH increase in peak period speeds
SR 520 to I-5 Widening Builds one continuous lane in each direction between NE 70th Street in Kirkland and SR 522 in Bothell	N/A	Construction will begin in 2010 and open to traffic in 2012	10-15 MPH increase in peak hour speeds Express toll lane concept being considered. Concept would result in a 70% increase in the number of people served at 45 MPH or better

I-5 Reconstruction Projects – Boeing Access Rd to Northgate

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:

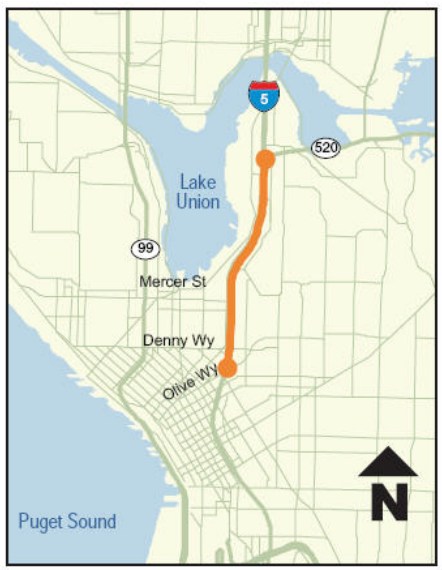
- Removing the original deteriorating concrete and replacing it with new pavement reinforced with dowel bars. This allows WSDOT to "Get In, Get Out and Stay Out" for 40 years.
- Addressing long standing traffic chokepoints with strategic operational improvement projects.

For more information: http://www.wsdot.wa.gov/Projects/I5/Rehab/publications.htm

I-5 Reconstruction Projects – Boeing Access Rd to Northgate
Examples of potential projects

Meter Southbound Yale Avenue On-Ramp (Potential Timeline: 2-4 years)

Benefits: A ramp meter on the Yale Avenue on-ramp would reduce the amount of traffic entering southbound I-5 and improve overall traffic flow though this complex weaving section that is just north of where there are multiple ramps under the Convention Center. The analysis shows that this project would provide traffic flow benefits on I-5 from SR 520 to S. Forest Street (4.2 miles).



Add a northbound transit-only shoulder lane between Olive Way and SR 520 during weekday peak periods
(Potential Timeline: 5-10 years)

Benefits: This project would provide nearly 3,000 transit riders on 15 different routes in the p.m. peak reliable travel times through this very congested section of I-5.

For more information: http://www.wsdot.wa.gov/Projects/I5/Rehab/publications.htm

I-5 Reconstruction Projects – Boeing Access Rd to Northgate
Examples of potential projects

Add a northbound lane between Ravenna Boulevard and NE Northgate Way (Potential Timeline: 5-10 years)

Benefits: From NE 45th Street to NE 130th Street (4.7 miles): drivers could shave one and a half minutes off of their trips with speeds increasing by five mph during the p.m. peak. Improvements in travel times and speeds during the a.m. peak weren't significant.

Add a lane southbound between SR 520 and S. Spokane Street (Potential Timeline: beyond 10 years)

Benefits: Drivers could shave nearly 21 minutes off their trip during the p.m. peak period with speeds improving by 36 mph. During the morning, gains are modest: one-half minute savings and a three mph increase in speed.

For more information: http://www.wsdot.wa.gov/Projects/I5/Rehab/publications.htm

Moving Washington: Next Steps

Development of WSDOT's Strategic Plan and 2009-2011 Budget Proposal:

- Alignment and coordination with the Transportation Progress Report (Attainment Report)
- Establishing Priorities and Goals
- Developing a two, six, and ten year phased approach for congestion strategies
- Explore data needs and analysis tools to measure corridor and strategy level performance as well as continue to work toward system wide performance indicators for Transportation Progress Report (Attainment Report)