Eastside Transit and HOV
Accelerated improvements to address ESHB 2878

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Submitted by:
Paula J. Hammond, P.E. - Secretary
Washington State Department of Transportation
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Accelerated improvements to address ESHB 2878

The SR 520 bridge is a vital link connecting communities across Lake Washington. The bridge is vulnerable to earthquakes and windstorms, and is at risk of collapse if it is not replaced. Funding the SR 520 bridge replacement is a high priority for Washington state. As Governor Chris Gregoire stated on November 7, 2007, “Safety must be our number one priority and the 520 bridge, a critical link in our transportation system, is one of the top regional safety issues. It is vulnerable to earthquakes and winds, and it must be replaced.”

To address the urgency of replacing the SR 520 floating bridge, the Washington State Legislature has passed several key pieces of legislation to resolve issues related to the design of the west side interchange, develop a financing plan, and evaluate tolling as a way to pay for a new bridge. In addition, ESHB 2878 was approved in March 2008 and requested the Washington State Department of Transportation (WSDOT) evaluate opportunities for accelerating improvements on the east side of Lake Washington. Specifically, the legislation requested:

- For the period of preconstruction tolling on the SR 520 bridge, the Department shall develop improvements of traffic flow from the eastern Lake Washington shoreline to 108th Avenue NE in Bellevue including:
  - Near-term, low-cost enhancements which relocate the high-occupancy vehicle lanes to the inside of the alignment; and
  - A plan for an accelerated improvement project for the construction of median flyer stops, reconfiguration of interchanges, addition of direct access ramps, community enhancement lids, and pedestrian/bike path connections.

The department shall report to the joint transportation committee by September 1, 2008, on the short-term low-cost improvement plans and include in their budget submittal to the office of financial management a proposal for the accelerated improvement project.

This legislation directs the development of an accelerated plan for several improvements on the Eastside during the period of proposed pre-construction tolling on SR 520 – the time between when tolls may be implemented in 2009 and the planned opening of the new floating bridge in 2014.

Pre-construction tolling is being considered as part of the Urban Partnership Agreement, which is a cooperative agreement to employ innovative tools for improving traffic flow along SR 520 and I-90 between Seattle and the Eastside. The agreement calls for variable tolling that could improve traffic flow through the SR 520 corridor and is estimated to provide up to $500 million in funding to replace the aging floating bridge. The Urban Partnership, made up of the Washington State Department of Transportation, King County, the Puget Sound Regional Council and the federal government, is also advancing three other key strategies: technology, transit, and telecommuting.
Can we provide benefits to the traveling public on the Eastside earlier than 2016?

The Urban Partnership Agreement will provide benefits to the traveling public during the period of pre-construction tolling. It creates a partnership among WSDOT, King County, the federal government and the Puget Sound Regional Council to focus on three key strategies, in addition to pre-construction tolling, which will improve travel in the SR 520 corridor:

- **Technology:** Innovations such as active traffic management will allow the SR 520 corridor and eventually a new bridge to provide a more reliable commute, even as the Eastside population increases. This benefit will be realized both during and after construction. These technologies include real-time driver information displayed electronically over each lane, and state-of-the-art information systems linking commuters to multiple transportation modes. The Agreement provides $86 million to develop these technologies and they would be in place beginning in 2009. If funding is not provided through the agreement, we will request additional funding to ensure these critical investments occur.

- **Transit:** Transit service will be expanded in the SR 520 corridor to reduce auto trips and provide toll-free travel options. The partnership’s goal for transit is to increase ridership on SR 520 by 15 to 35 percent and provide sufficient transit service capacity to accommodate commuters who choose to switch to transit when tolls are implemented. The Urban Partnership Agreement provides up to $41 million to purchase 45 new buses and other transit improvements.

- **Telecommuting:** More than 1,100 work sites participate in the state's Commute Trip Reduction Program. The agreement will invest in telecommuting by working with employers in the SR 520 corridor to encourage flexible employment arrangements that improve worker productivity and reduce rush-hour traffic demands. Commute trip reduction programs reduce traffic by 19,200 vehicle trips each weekday morning in the central Puget Sound region.
Can we accelerate improvements on the Eastside?

In June 2008, we received concurrence from the Federal Highway Administration (FHWA) that the Eastside Transit and HOV Project meets the criteria for development of a new project as specified by federal regulations (23 CFR 771.111(f)). This allows us to proceed with environmental review, design, and construction of the Eastside project independent of the Seattle and floating bridge portions of the SR 520 corridor. Critical components include:

1. Completing the eastbound SR 520 HOV lane from Lake Washington to the existing eastbound HOV lane west of the I-405 interchange.
2. Building inside transit stops at 92nd Avenue NE and Evergreen Point Road.
3. Constructing HOV direct access ramps at 108th Avenue NE.
4. Restripping HOV lanes from the outside lanes to the inside lanes on SR 520 from the Lake Washington area to SR 202.

We are conducting environmental scoping beginning in September 2008 and will issue an environmental assessment for the project in fall 2009, with a National Environmental Policy Act (NEPA) decision expected in December 2009.

Preliminary design for the Eastside project is planned for completion in early 2009. The design may then either be completed for bidding by contractors – known as “design-bid-build” – or may be advanced by a contractor as a “design-build” project. Regardless of construction method, the improvements are planned to begin in 2010, and to be open to drivers by late 2013.

What are benefits of the Eastside Transit and HOV Project?

The Eastside Transit and HOV Project will provide the necessary infrastructure and operational improvements to support planned population growth, economic expansion, and increases in transit service in rapidly growing communities on the Eastside. There are four primary benefits of the project:

1. It completes the Eastside transit and high occupancy vehicle (HOV) system. The project will create a complete and continuous Eastside transit and HOV system on SR 520.
2. It provides substantial travel time benefits to transit and carpools. Upon completion of the project, transit vehicles will see a reduction in travel time going between the Evergreen Point transit stop and SR 202.
3. It enhances public safety. The project separates merge movements between buses and other vehicles at busy interchanges, eliminates weaving caused by general purpose traffic needing to enter or exit using the outside HOV lanes, and widens shoulders to current design standards.

4. It supports regional and local transit and land use plans and policies. The transit and HOV improvements identified in the project are consistent with regional and local transit and multimodal plans and policies.

Additionally, the Eastside Transit and HOV Project will be completed before the Bridge Replacement and HOV Project.

Can the HOV lanes on the east side of SR 520 be relocated early to the inside of the road?

The existing outside HOV lanes on the Eastside of the corridor are part of an integrated system that includes outside shoulder freeway transit stations. Relocating the HOV lanes would affect transit, carpool and general purpose traffic.

Potential benefits of early relocation of the HOV lanes include:

- Buses traveling the entire length of the corridor would see a travel time benefit if they did not have to access the transit stations currently on the outside of the corridor.
Carpools traveling the entire length of the corridor would see a travel time benefit due to general purpose traffic no longer merging across the lane. This would benefit drivers commuting from Redmond to Seattle.

General purpose vehicles would have direct access to the general purpose lanes from the on- and off-ramps.

There are interchanges and on-ramps in the corridor that are spaced less than one mile apart. This spacing does not meet current highway design guidelines. These interchanges are problematic because of the speed differences between cars in the current outside HOV lanes and those entering from closely spaced ramps. Relocating the HOV lanes to the inside would alleviate this safety concern.

Potential concerns about early relocation of the HOV lanes to the inside include:

- The geometry of the HOV lanes on the outside of the corridor do not meet WSDOT guidelines for general purpose deceleration and acceleration lengths for the ramps, and would not be acceptable for use as a general purpose lane without major physical reconstruction.

- Relocating the HOV lane to the inside between 108th Avenue NE and Evergreen Point Road would cancel the benefit of eliminating general purpose vehicles weaving across the HOV lane, with the need for buses to weave across general purpose lanes to access outside shoulder freeway transit stations. This would most negatively affect bus riders traveling west of I-405.

- The freeway transit stops on SR 520 are currently located on the outside of the road. Relocating the HOV lanes would require either that the transit stops also be relocated, which does not meet the criteria of “near-term, low-cost,” or that buses continue to use the outside stops even though they would not be adjacent to the HOV lanes. Under either of these options, transit service would be negatively affected.

- If the transit stops were still used, buses would be delayed by weaving across general purpose lanes to access ramps and transit stations. If the transit stops west of I-405 were closed, more than 1,400 daily bus riders would have to find other routes or transfer points.

- Bus travel time would likely increase by approximately eight minutes during the peak morning and afternoon periods because of buses having to cross the congested general purpose lanes to access the freeway transit stations. This increase in travel times would affect approximately 1,400 daily riders traveling westbound from the 92nd Avenue NE and Evergreen Point Freeway stations. Any changes to bus service at these stations would likely reduce transit service options for some or all of these riders.
• Carpools would have to cross multiple lanes between ramps and inside HOV lanes. Additionally, buses and carpools weaving across lanes to access ramps and freeway stations would affect general purpose traffic.

• Westbound buses traveling from I-405 to SR 520 would have to cross three lanes to access inside HOV lanes or choose not use HOV lanes.

While early relocation of the HOV lanes may bring some near-term benefits to carpool traffic, the effects on transit service are substantial. With this information, we have concluded that it is most appropriate to move the HOV lanes to the inside of the alignment when the rest of the planned investments are made on the east side of the corridor, such as inside median HOV lanes and direct access ramps.

Additionally, staff at King Country Metro have conducted their own assessment of relocating HOV lanes early. They have also raised concerns over the increased difficulty for passengers to board and exit buses along the corridor.

What are the next steps for the Eastside corridor?

For the reasons described previously, we recommend that the SR 520 HOV system continue to operate in the outside lanes through construction of the Eastside Transit and HOV Project. The project will provide the necessary transit infrastructure to maximize the efficiency of inside HOV lanes for the Eastside section of the SR 520 corridor. With the acceleration of the Eastside project, the inside HOV lanes, inside median freeway transit stations, and 108th Avenue NE direct access ramp are planned to be open to traffic in late 2013.

Since FHWA has approved proceeding with this project as a separate project, we have begun planning and scoping for the environmental review and design processes. Our approach for advancing the Eastside project includes:

• Expediting the environmental process by: (1) using as much as possible of the already-completed draft EIS analysis; (2) exploring opportunities for permit streamlining; and (3) continuing to work collaboratively with resource agencies to identify opportunities and sites for mitigation.

• Exploring the potential for using design-build contracting to expedite all or part of Eastside construction.

• Continuing to work proactively with Eastside jurisdictions to involve citizens and elected officials in the project design process.

• We will include in our budget submittal to the Office of Financial Management a proposal for this accelerated improvement project.
Organization of Technical Report

Chapter 1 explains the current HOV, transit, and general purpose traffic operations of the Eastside corridor between Evergreen Point Road and SR 202 in Redmond, and provides accident and safety data for the corridor. This information provides context for the evaluation summarized in Chapter 2.

Chapter 2 addresses the first section of the ESHB 2878 legislation related to SR 520 through the evaluation of several options for relocating the HOV lanes to the inside in advance of constructing inside median freeway transit stations at 92nd Avenue NE and Evergreen Point Road and direct access at 108th Avenue NE.

Chapter 3 describes the Eastside Transit and HOV Project. It explains the history of the project, describes the transportation needs on the Eastside, and lists the project elements.

Chapter 4 presents a full evaluation of the options presented in Chapter 2.