Moving Toward a New SR 520: Catastrophic Failure Planning

Seattle City Council
Committee of the Whole
July 9, 2007
Agenda

- Project update
- Phase 1 catastrophic failure planning
- Phase 2 and 3 catastrophic failure planning
- Next steps
Key Regional Corridor
Project Schedule

2006
- Expert Review Panel
- Draft EIS
- 4+2 configuration selected by Governor

2007

2008
- Floating bridge and Eastside design
- Mediation process complete
- Project impact plan
- Finance plan

2009
- Supplemental Draft EIS and comment period

2010
- Final EIS

2011
- Record of Decision
- Permitting

2013
- Construction starts

2018
- New structure open to traffic

2020
- Project completion

Ongoing community and business outreach

Ongoing SR 520 corridor jurisdiction discussions

Design and construction planning

Washington State Department of Transportation
Highlights of What We Heard from Elected Officials

**Seven Eastside Jurisdictions** - October 2006 (Bellevue, Clyde Hill, Hunts Point, Kirkland, Medina, Redmond, Yarrow Point)

- 4+2 replacement with four general-purpose lanes and two high-occupancy vehicle (HOV) lanes
- Freeway-to-freeway HOV connections at SR 520 and I-5 and SR 520 and I-405
- Direct transit access at 108th Avenue Northeast
- Accommodate high-capacity transit
- Retain bus transit flyer stops
- Promote bicycle/pedestrian path

**Seattle City Council Resolution 30974** - April 2007

- Design for transit connectivity and reliability
- Narrow lane widths
- Reduce noise and visual impacts
- Protect open space and the environment
- Promote bicycle/pedestrian access
- Incorporate design excellence and aesthetic quality

**Washington State Senate Bill 6099** - May 2007

- 4+2 replacement with four general-purpose lanes and two HOV lanes to accommodate bus rapid transit and future high-capacity transit
- Mediator hired to develop a project impact plan for the Governor and State Legislature by December 1, 2008
- Multimodal transportation plan to ensure coordination of bus and light rail
- Health impact assessment to determine project impacts on air quality and carbon emissions
- WSDOT to complete finance plan for the Governor and Legislature by January 1, 2008
Safety and Vulnerability

Safety Improvements
The new bridge will be built to current seismic standards and will be able to withstand windstorms that close the bridge today.
The new bridge will be:

- Designed to withstand higher windspeeds (92 mph)
- Built using solid columns that can withstand earthquakes
- Designed with shoulders so disabled vehicles can pull out of traffic and emergency vehicles can reach accidents
Catastrophic Failure Simulations

- Earthquake simulation
- Windstorm simulation
Catastrophic Failure Planning Process

- Natural disasters could strike the Puget Sound region before SR 520 can be replaced
- WSDOT has begun planning for a possible failure of the SR 520 bridges and identified several failure scenarios
- The SR 520 catastrophic failure plan will address communications, transportation management, and bridge replacement strategies
Catastrophic Failure Planning Process

Phase 1:
Preliminary catastrophic failure plan development
(completed 2006)

Phase 2:
Jurisdictional / agency collaboration and draft catastrophic failure plan development
(currently underway)

Phase 3:
Draft catastrophic failure plan exercise and finalization
(currently underway)
Phase 1: Participants

- City of Seattle / Seattle Department of Transportation
- City of Bellevue
- City of Kirkland
- City of Clyde Hill
- Town of Hunts Point
- City of Medina
- Town of Yarrow Point
- City of Redmond
- King County Metro
- Sound Transit
- Federal Highway Administration
- Washington State Patrol
Phase 1: Key Elements

- Failure scenarios
- Traffic management
- Initial response
- Bridge replacement strategy
- Permitting
- Funding options
Phase 1
Scenario 1: Evergreen Point Bridge CLOSED
Portage Bay Bridge OPEN
Phase 1

Scenario 2:

Evergreen Point Bridge OPEN
Portage Bay Bridge CLOSED
Phase 1

Scenario 3:

Evergreen Point Bridge CLOSED
Portage Bay Bridge CLOSED
Today’s Daily Traffic Volumes

Total average daily trips (ADT)
- 107,000 ADT  
  I-5/SR 520 interchange
- 60,000 ADT  
  Montlake/Lake Wa interchange
- 115,000 ADT  
  across bridge
- 115,000 ADT  
  I-405/SR 520 interchange

Average daily trips: eastbound and westbound
- 58,000  
  Montlake/Lake Wa interchange
- 13,000  
  17,000
- 50,000  
  56,000
Phase 1: Traffic Management Considerations

- **Communications**
  - WSDOT Web site
  - Media and public information
  - Detour signage

- **Transit**
  - Route and service changes
  - New bus stops
  - Park and ride management

- **Traffic**
  - State highways
  - Local roadways and arterials

- **Other transportation demand management strategies**
Phase 2 and 3: Activities and Schedule

- **CFP Document Development**
  - Draft Transport. Mgmt Plan (TMP)
  - Draft Comm. Plan
  - Draft TMP – Revisions
  - Draft Communications Plan – Revisions
  - Draft MOU – Drafting
  - Draft TMP – Revisions
  - Draft Communications Plan – Revisions
  - Draft MOU Finalization

- **Jurisdiction and Agency Coordination**
  - 7/9/07 Seattle City Council COW
  - Week of 7/30 Kick-off
  - Pre-workshop & Exercise Work Sessions
  - Week of 9/24 Comm. and Transpo. Workshop
  - Post-Exercise Work Sessions and Wrap-up

- **Tabletop Exercise**
  - Tabletop Exercise Planning
  - 3rd Week of October (tentative): Tabletop Exercise
  - Debrief and Evaluation

- **2007**
  - July
  - August
  - September
  - October
  - November
  - December

- **2008**
  - January
  - February
  - March

- **Winter Storm Season**
Phase 2 and 3: Elements

- **Transportation management plan**
  - Traffic
  - Transit

- **Communications plans**
  - Media relations and public information
  - Jurisdictional and agency communications

- **Tabletop exercise**

- **Jurisdictional and agency workshops and coordination**
Phase 2 and 3: Transportation Management Plan

• **State and regional infrastructure**
  – Manage redistribution of 115,000 vehicles
  – Develop detour closure and signage plans
  – Identify capacity improvements on key corridors

• **Transit coordination**
  – Coordinate with regional transit agencies
  – Maximize existing transit services and facilities
  – Identify expanded service and operations strategies

• **Local agency coordination**
  – Develop coordinated transportation management plans
  – Develop unified policy decisions
Phase 2 and 3: Communications Plans

• **Overall strategies**
  – Outline key roles and responsibilities
  – Develop communications flowchart
  – Develop pre-event, response, and recovery communications checklists
  – Develop key contact lists
  – Develop ready-made communications tools in the event of an emergency

• **Media relations and public information**
  – Provide information to drivers and others who are affected so they can make informed decisions

• **Jurisdictional / agency communications**
  – Information sharing with elected officials and senior agency officials
  – Information sharing with transportation management staff
Phase 2 and 3: Tabletop Exercise

- Conduct exercise in collaboration with affected jurisdictions, agencies, and emergency responders
- Focus on a SR 520 floating bridge catastrophic failure
- Test immediate and long-term response and recovery
- Test communications and transportation management plans
- Analyze state and regional economic effects
- Revise the communications and transportation management plans, as needed, based on exercise outcome
Phase 2 and 3: Next Steps

- Conduct workshops and work sessions in collaboration with jurisdictions and agencies
- Prepare and plan for a tabletop exercise
- Develop and finalize communications and transportation management plans
- Develop and finalize a memorandum of understanding (MOU) between WSDOT and affected jurisdictions and agencies
For more information:

http://www.wsdot.wa.gov/projects/SR520Bridge

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