



Washington State
Department of Transportation

SR 520 Bridge Replacement and HOV Project



Moving Toward a New SR 520: Catastrophic Failure Planning

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



Washington State
Department of Transportation



U.S. Department of Transportation
Federal Highway Administration

 **SOUNDTRANSIT**

Agenda

- **Project update**
- **Phase 1 catastrophic failure planning**
- **Phase 2 and 3 catastrophic failure planning**
- **Next steps**

Key Regional Corridor



Project Schedule



- Mediation process starts
- Mediator submits progress report
- Independent review of alternative designs
- Eastside design collaboration and decisions
- RTID/ST ballot measure
- HCT draft plan

- Supplemental Draft EIS and comment period



- Record of Decision
- Permitting

2006

2007

2008

2009

2010

2011

2013

2018

2020

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

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

- Final EIS



- Construction starts

- New structure open to traffic

- Project completion

Ongoing community and business outreach

Ongoing SR 520 corridor jurisdiction discussions

Design and construction planning

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

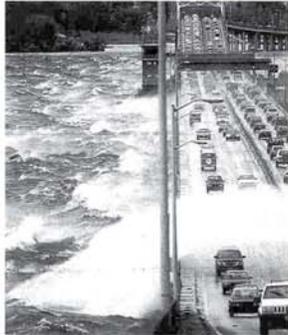
- Design for transit connectivity and reliability
- Narrow lane widths
- Reduce noise and visual impacts
- Protect open space and the environment
- Promote bicycle/pedestrian access
- Incorporate design excellence and aesthetic quality

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



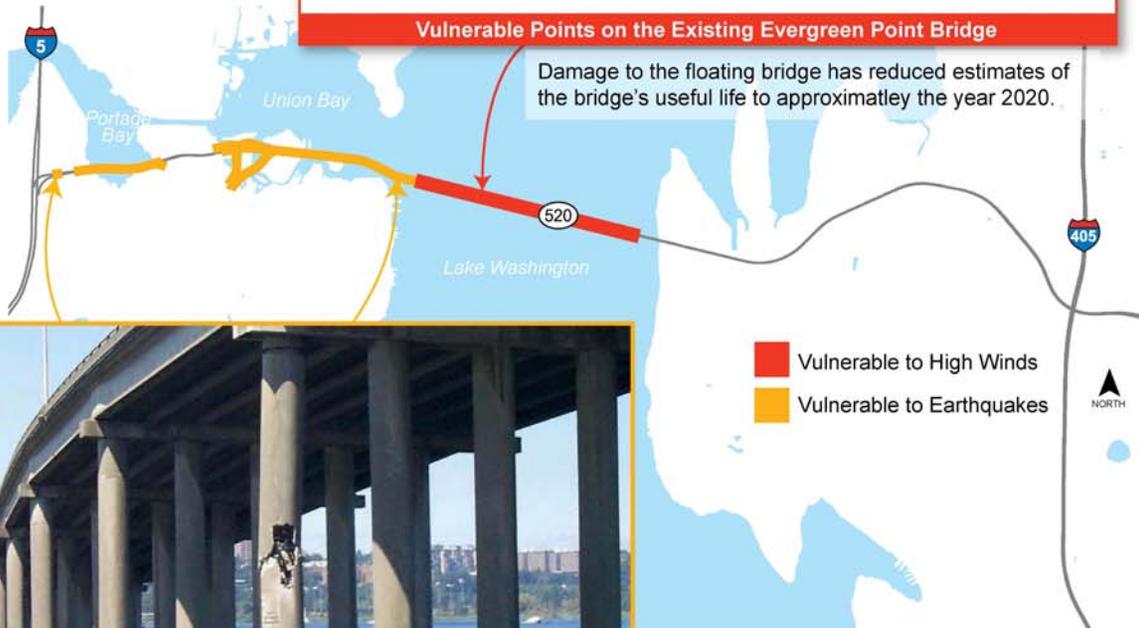
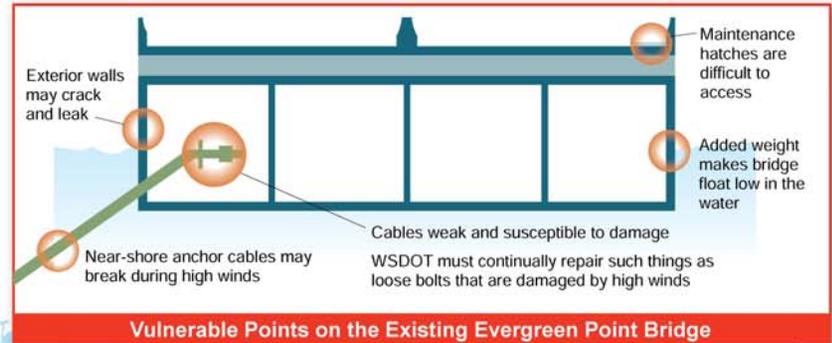
Safety and Vulnerability



Current Vulnerabilities



A torn cable joint found during a routine inspection in February 2006. The cables connect the floating bridge pontoons to their underwater lakebed anchors.



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

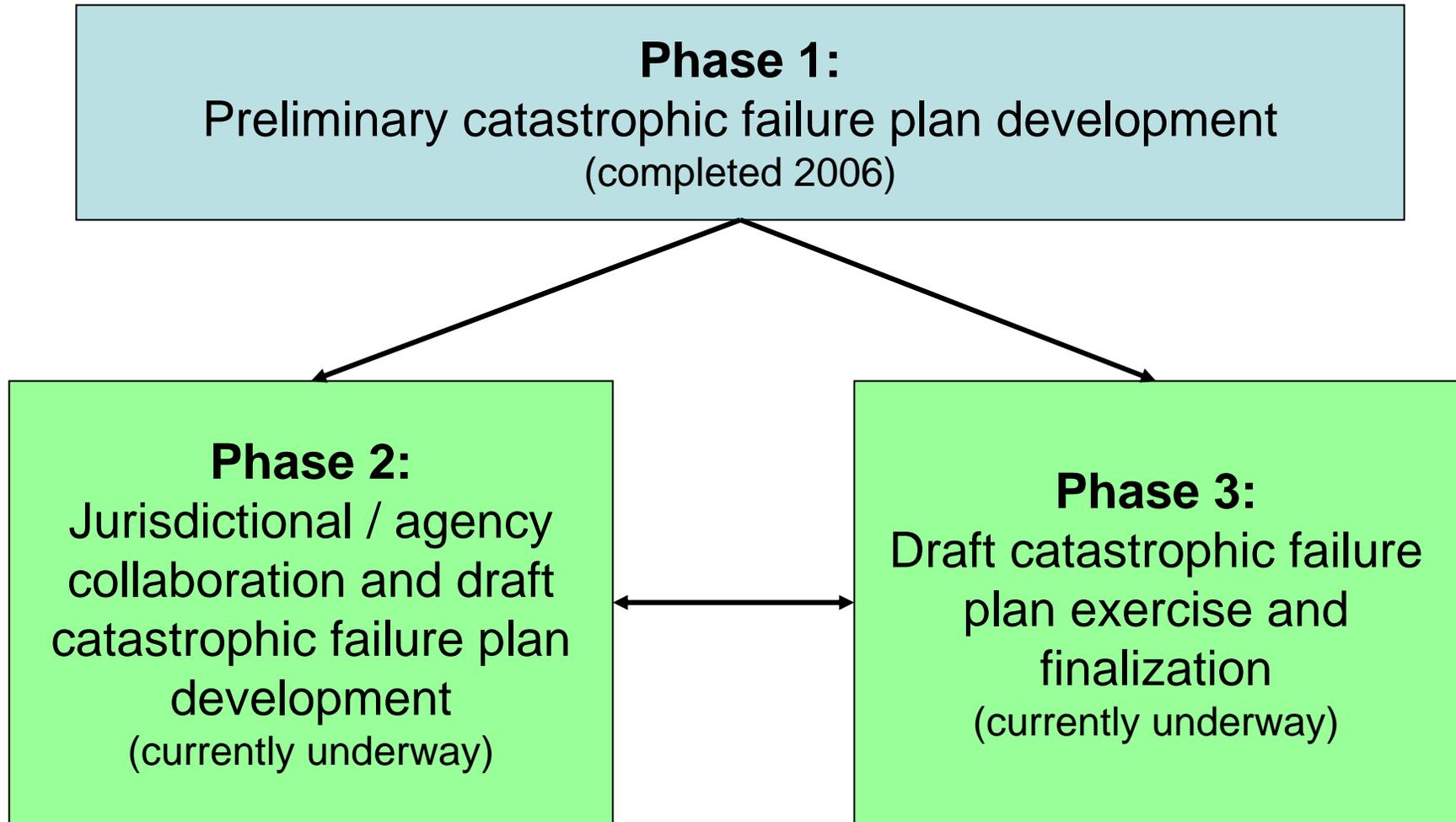


SR 520 Floating Bridge – Open



SR 520 Floating Bridge – February 2006 winter windstorm

Catastrophic Failure Planning Process

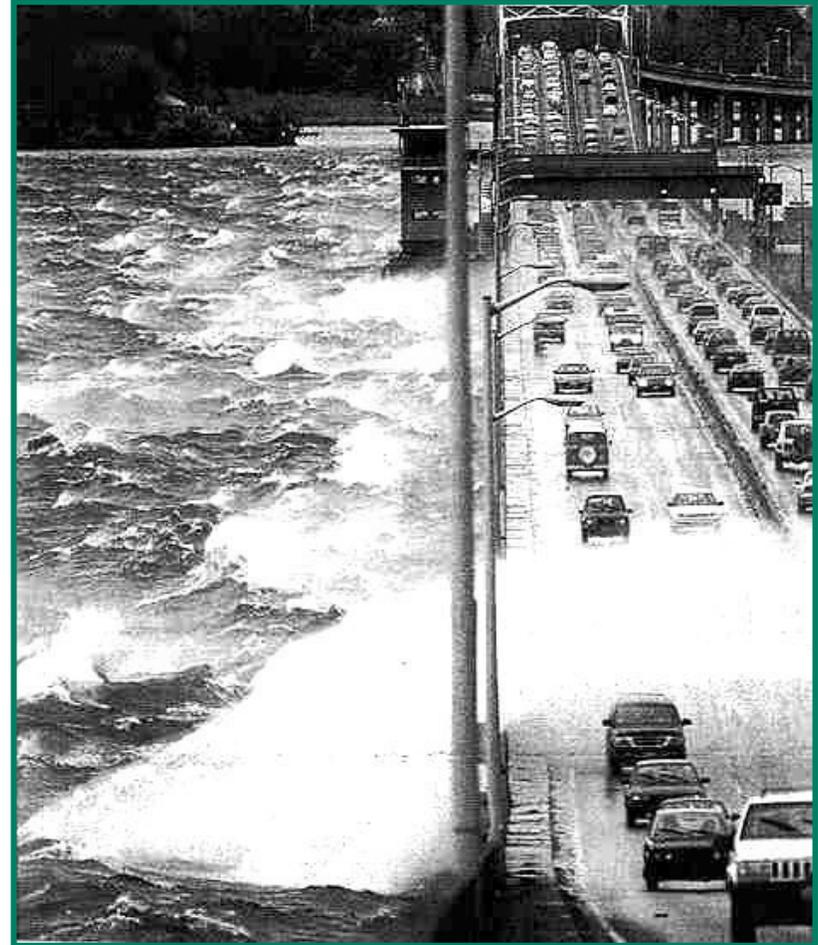


Phase 1: Participants

- 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 Evergreen Point Bridge CLOSED

Scenario 1: Portage Bay Bridge OPEN



Phase 1 Scenario 2: Evergreen Point Bridge OPEN Portage Bay Bridge CLOSED

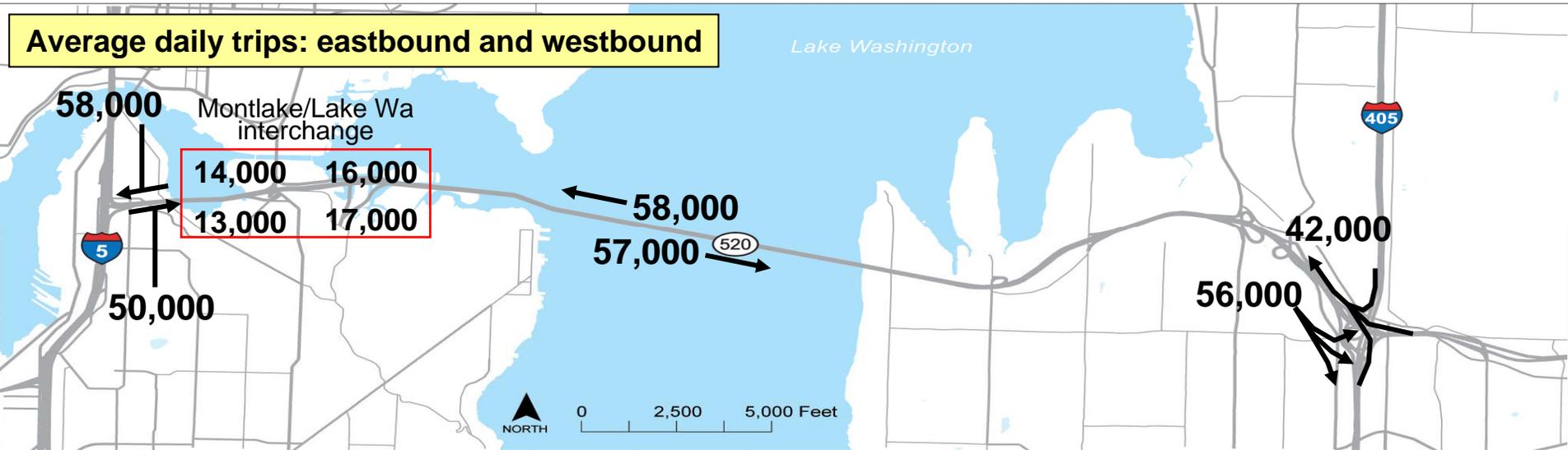


Phase 1 Evergreen Point Bridge CLOSED

Scenario 3: Portage Bay Bridge CLOSED



Today's Daily Traffic Volumes

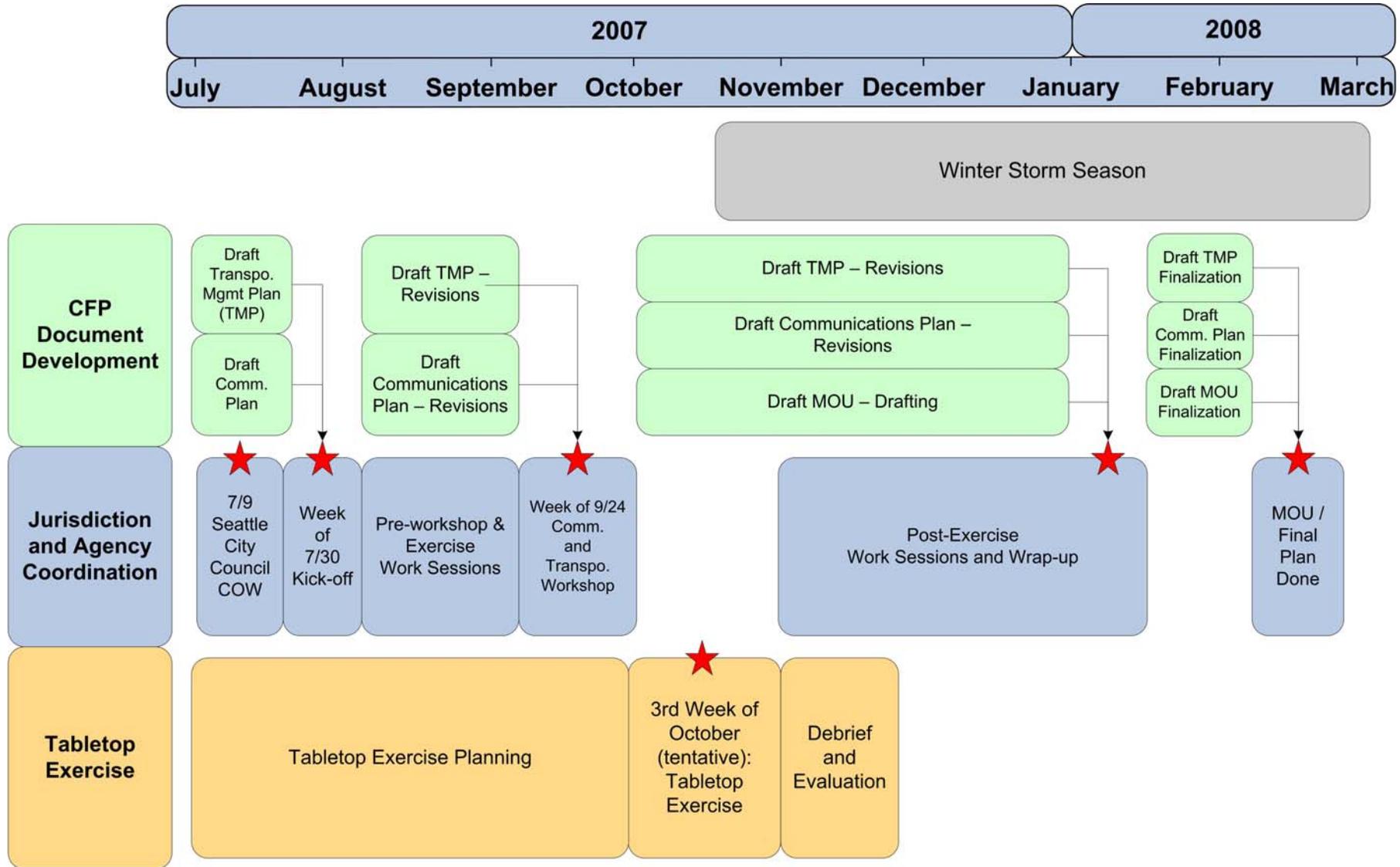


Phase 1: Traffic Management Considerations

- 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



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



Washington State
Department of Transportation

SR 520 Bridge Replacement and HOV Project



For more information:

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

Ron Paananen, SR 520 Project Director
Daniel Babuca, SR 520 Project Engineer

206-770-3500

SR520Bridge@wsdot.wa.gov



Washington State
Department of Transportation