



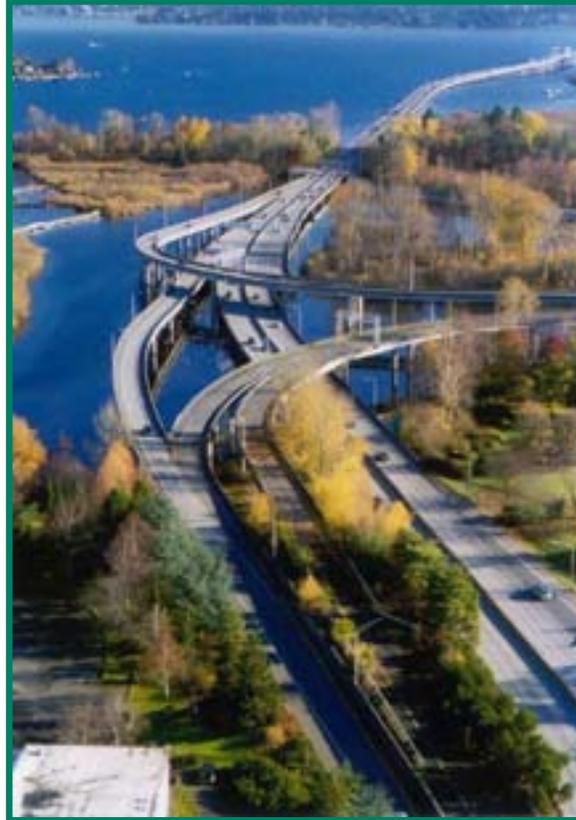
**Alaskan Way Viaduct &
Seawall Replacement Project
and
SR 520 Bridge Replacement
and HOV Project**



Expert Review Panel

June 2006

SR 520 Bridge Replacement and HOV Project



**Expert Review Panel
June 21, 2006**

Project Co-Lead Agencies



**Washington State
Department of Transportation**



SOUNDTRANSIT



U.S. Department of Transportation
Federal Highway Administration

SR 520 Bridge Replacement and HOV Project



- Project Overview
- Purpose and Need
- Assumptions and Alternatives
- Implementation Plan

Lake Washington Ferry Crossing in 1913



SR 520 in 1964



SR 520 in 1964



SR 520 in 1968

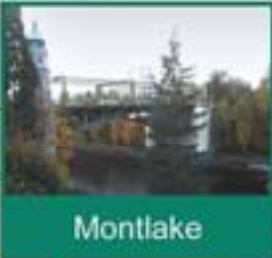
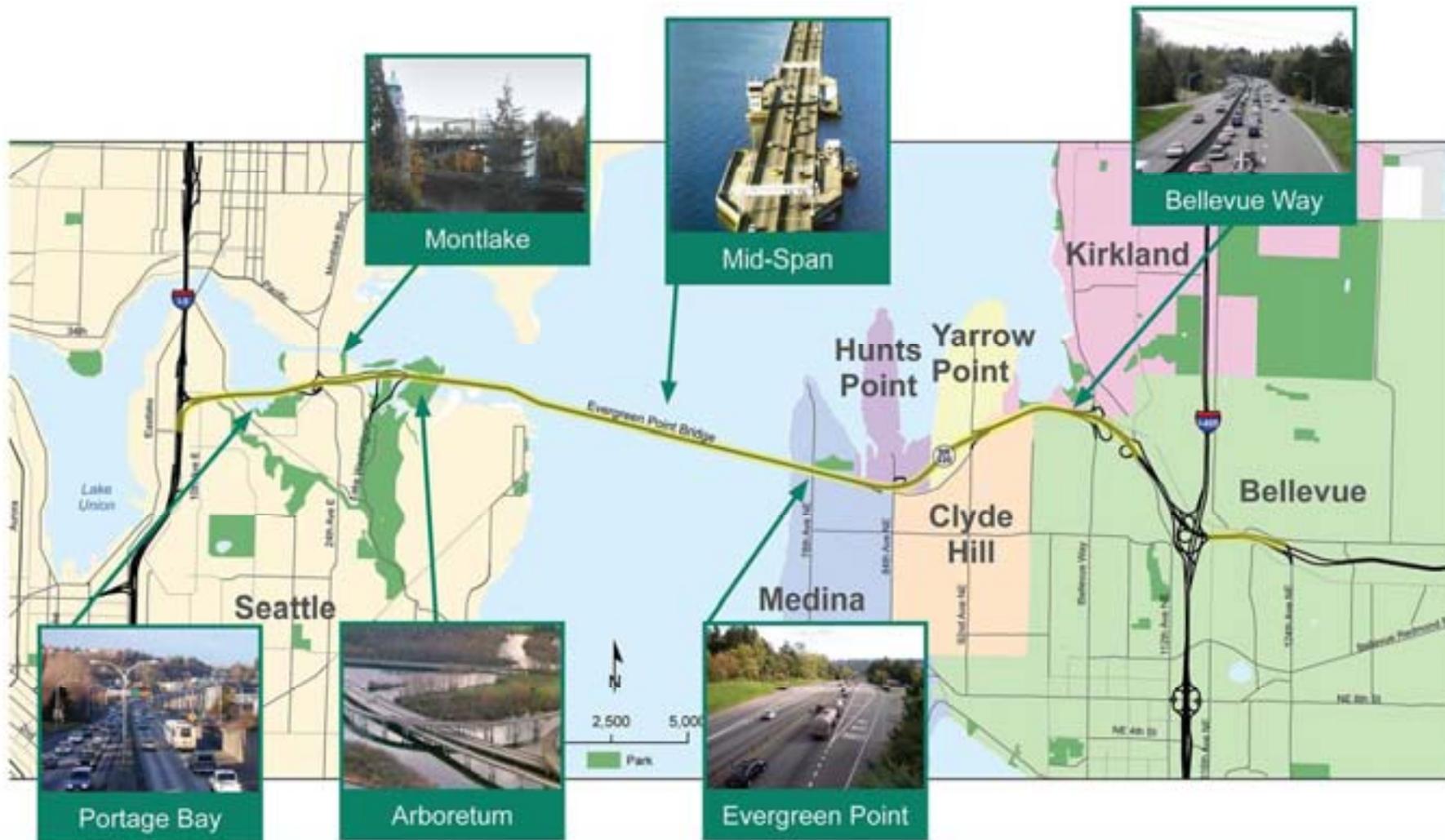


SR 520 Serves as a Critical Transportation and Transit Corridor

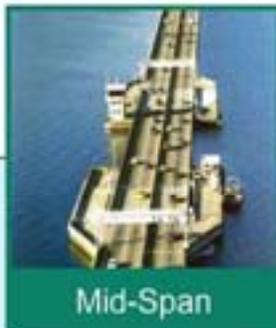


- SR 520 is a major link between Seattle and the Eastside, with 115,000 vehicles crossing the bridge each day - more than double what the bridge was originally designed to carry
- A number of Puget Sound's largest employers, including the University of Washington, and key business centers, are located in or next to the corridor
- There will be 1.6 million more people moving into the Puget Sound region by 2040

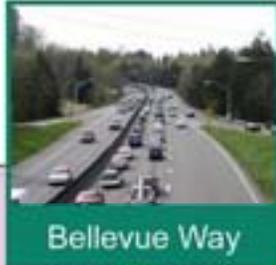
Regional Connection Across Lake Washington



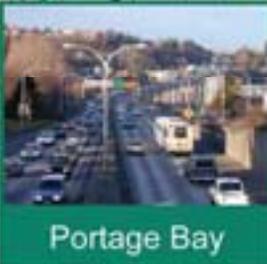
Montlake



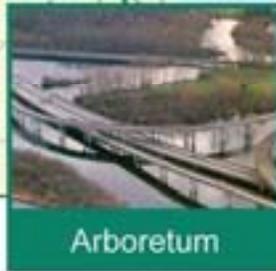
Mid-Span



Bellevue Way



Portage Bay

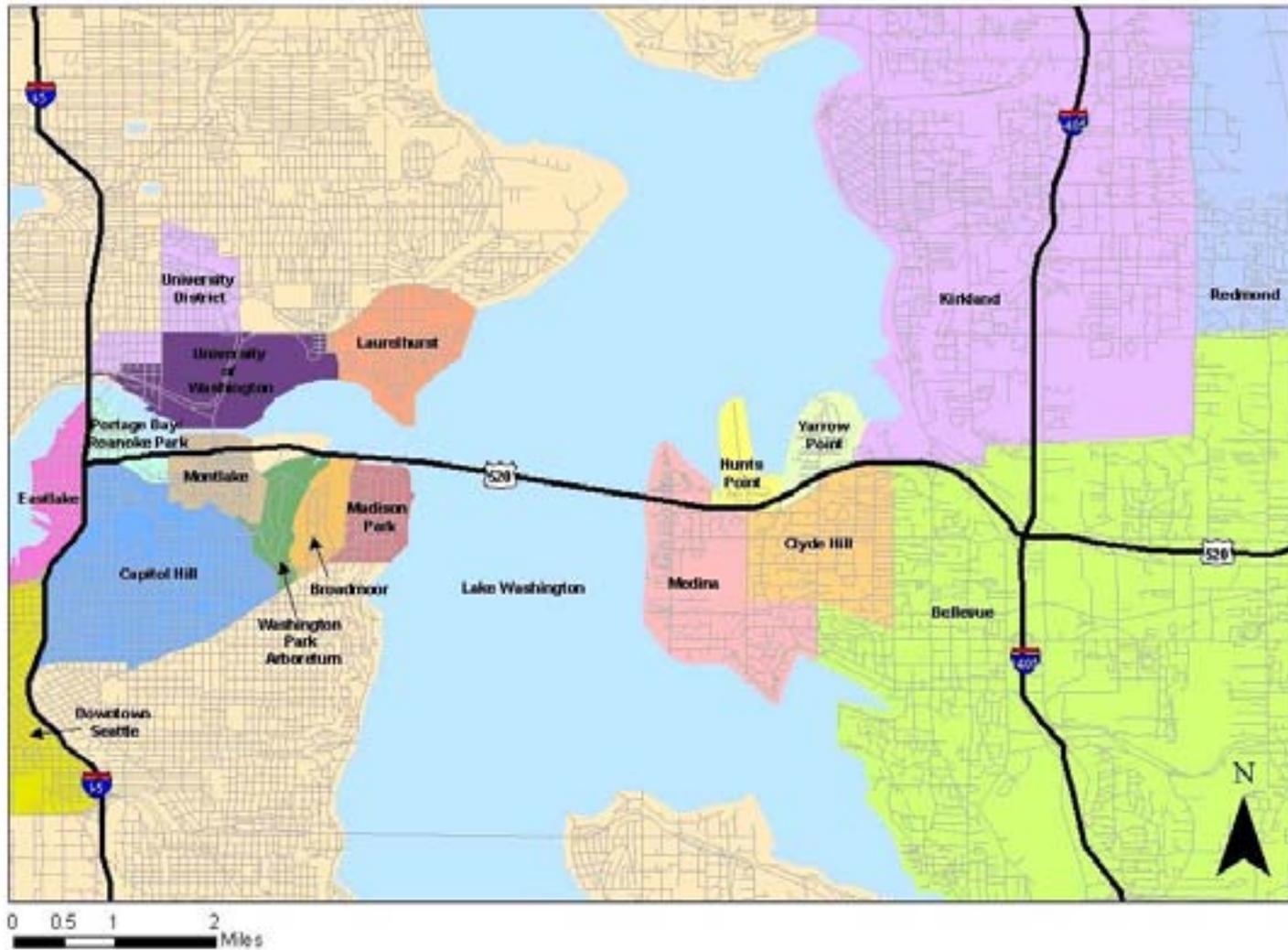


Arboretum



Evergreen Point

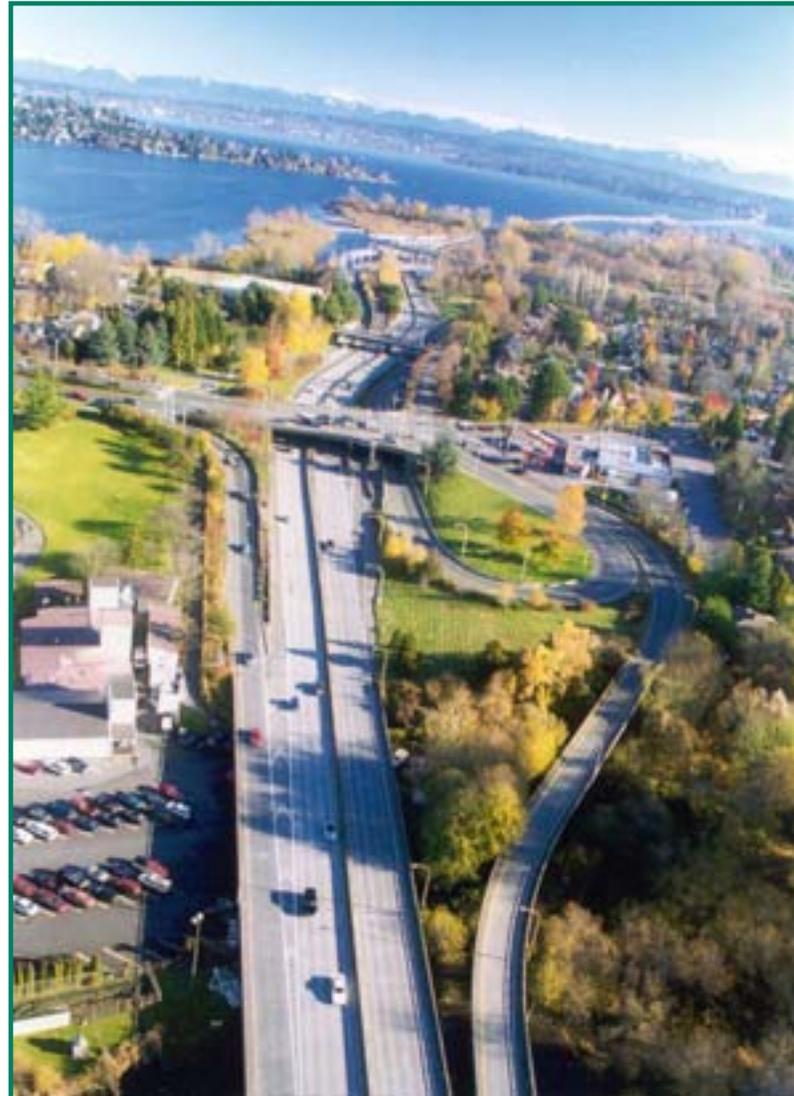
SR 520 Communities



Portage Bay



Montlake



Arboretum



Floating Bridge and Drawspan



2006 Bridge Inspection and Tour



Evergreen Point



Bellevue Way



SR 520 Bridge Replacement and HOV Project



**Questions and answers
from the panel**

Project Purpose and Need Statement



“The purpose of the project is to improve mobility for people and goods across Lake Washington within the SR 520 corridor from Seattle to Redmond in a manner that is safe, reliable, and cost-effective while avoiding, minimizing, and/or mitigating impacts on the affected neighborhoods and the environment.”

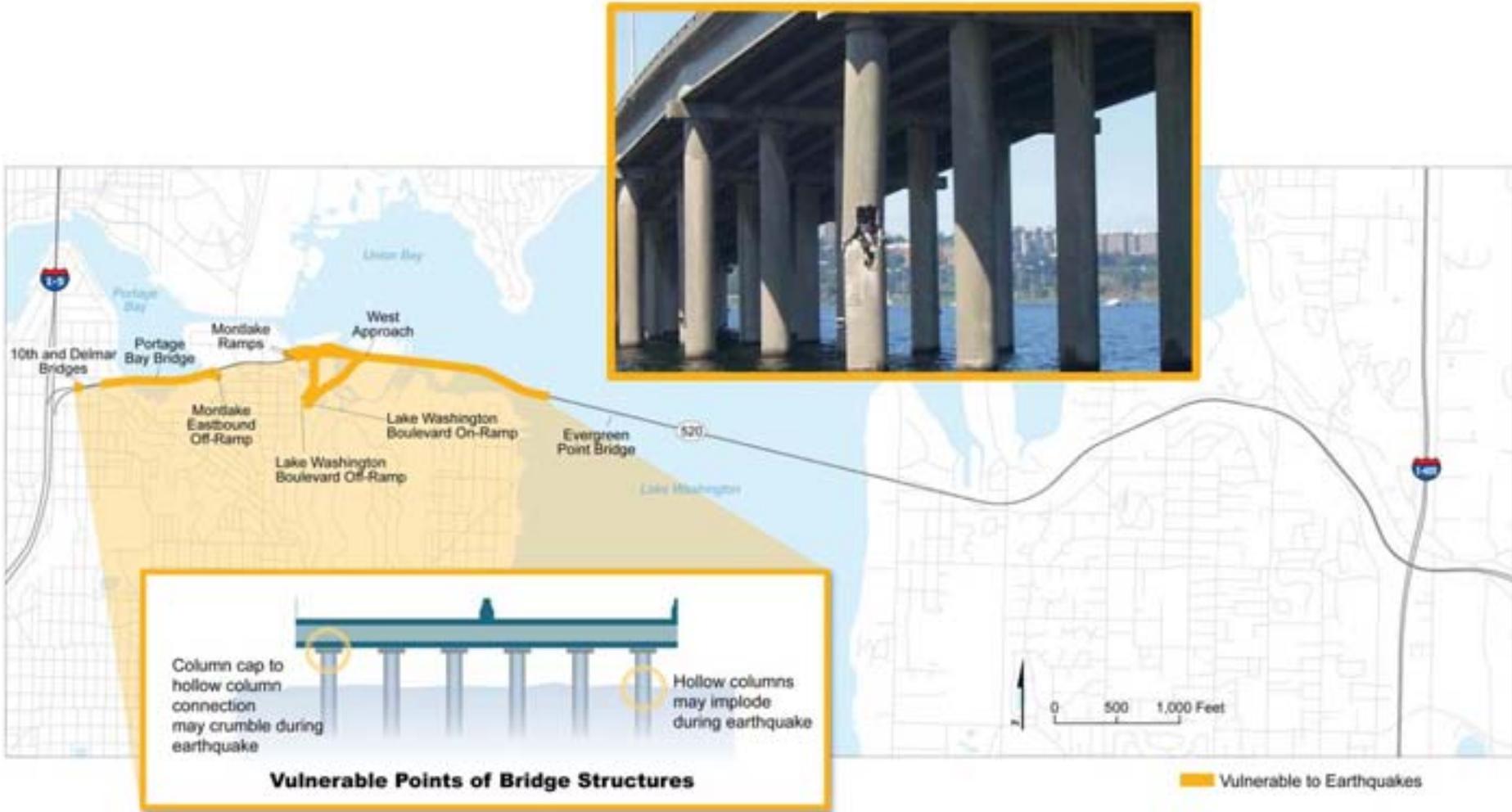
SR 520 Bridge Replacement and HOV Project



“These are our levees.
And the earthquake is our hurricane.”

– *Governor Christine Gregoire,
in October 2005,
on the Alaskan Way Viaduct and SR 520*

Earthquake Vulnerability



Column cap to hollow column connection may crumble during earthquake

Hollow columns may implode during earthquake

Vulnerable Points of Bridge Structures

Vulnerable to Earthquakes

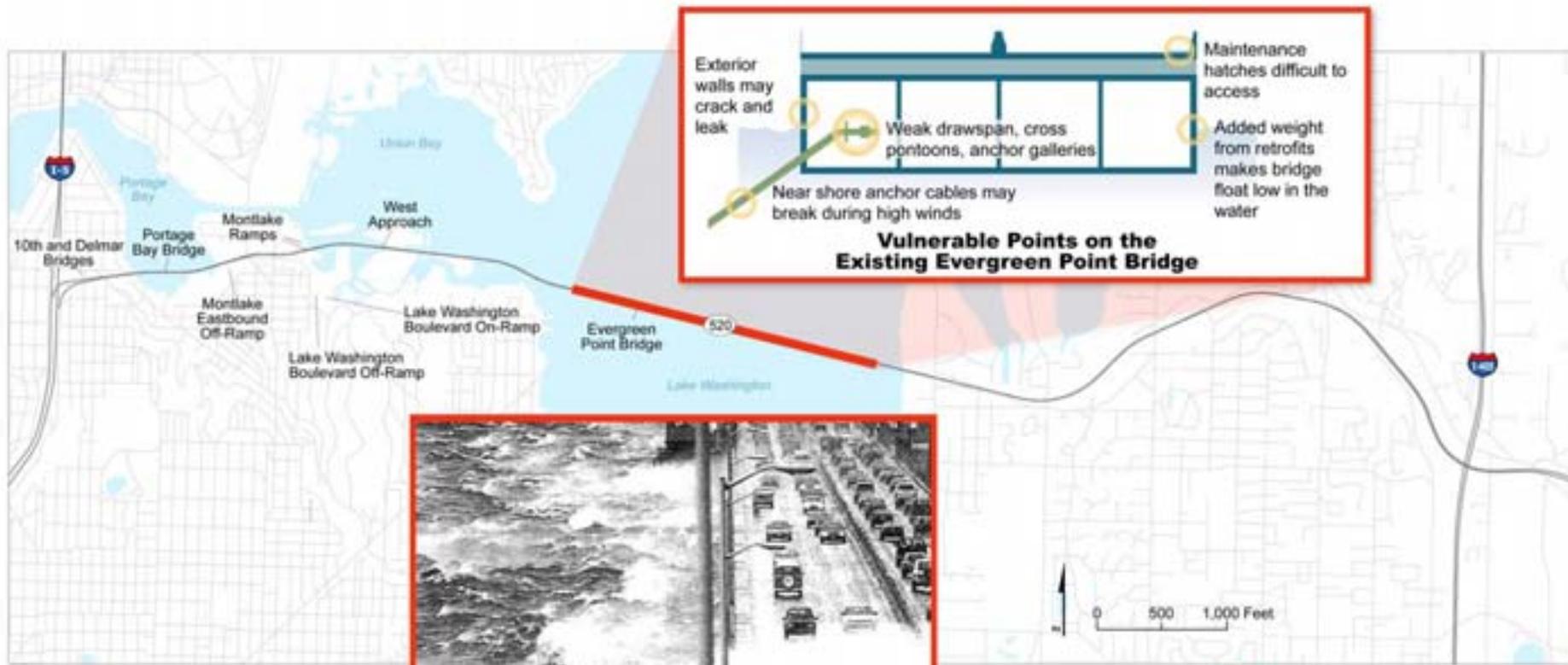
Hollow Column Damage to SR 520



SR 520 Hollow Column



Windstorm Vulnerability

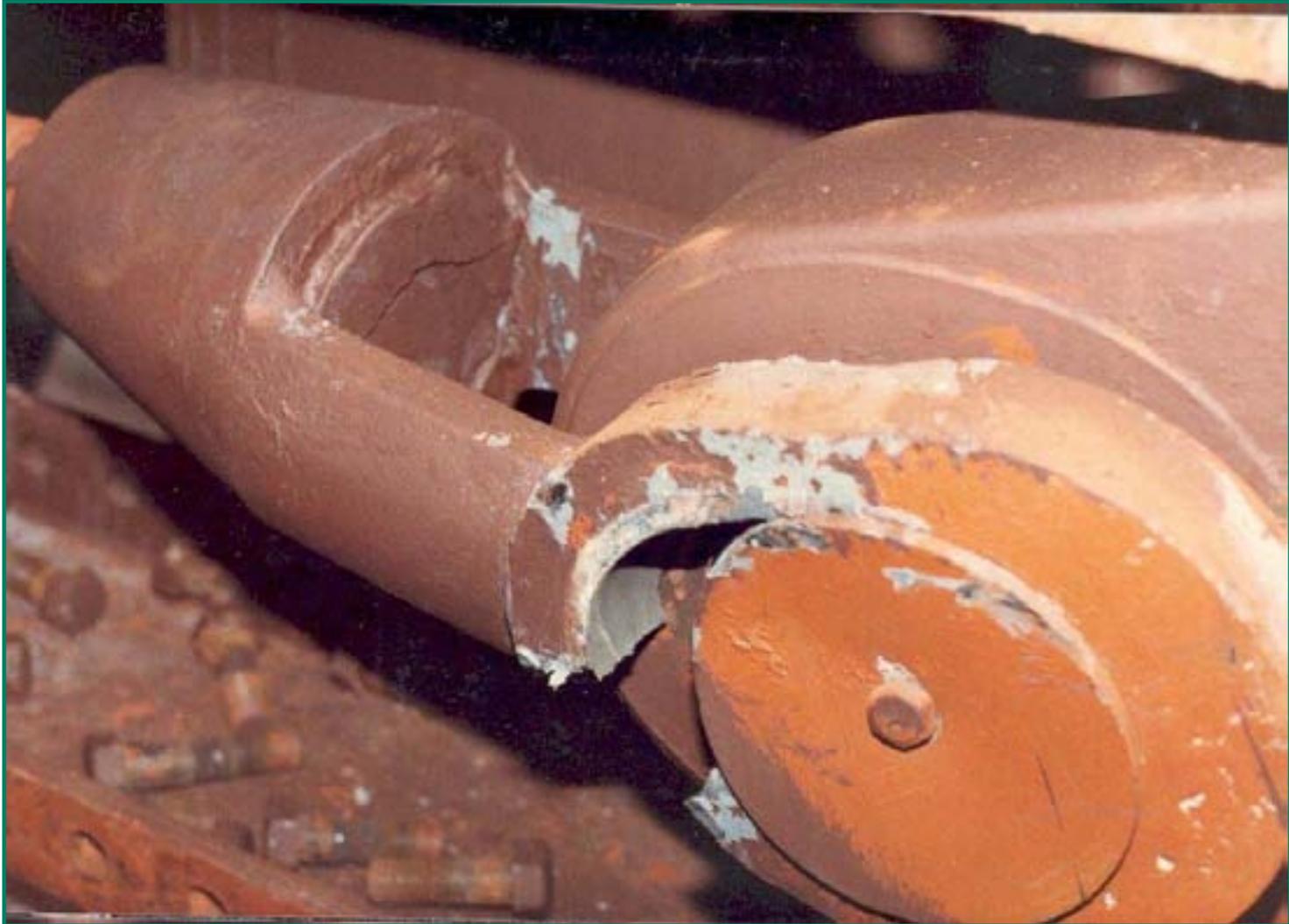


Vulnerable to High Winds

Windstorm Damage to SR 520



Windstorm Damage to SR 520



SR 520 Bridge Replacement and HOV Project



**Questions and answers
from the panel**

SR 520 Bridge Replacement and HOV Project



What are the project's assumptions, and what build alternatives are being considered?

Key Project Assumptions



- Mitigations are integral to and inseparable from the build alternatives (e.g., water quality, sound walls, air quality and local street performance).
- Two lanes of traffic must be maintained in each direction during construction.
- Alternatives cannot accommodate the unconstrained demand for cross-lake travel.

Key Project Assumptions, cont.



- A floating bridge is still the most appropriate type of facility for this crossing at this location on the lake.
- Achieve current design standards to ensure reliability and safety for users.
- Vessels using the lake can be accommodated by a 70-foot-high navigation opening (no drawspan).
- Only "electronic toll collection" technology will be implemented (no toll plaza or booths).

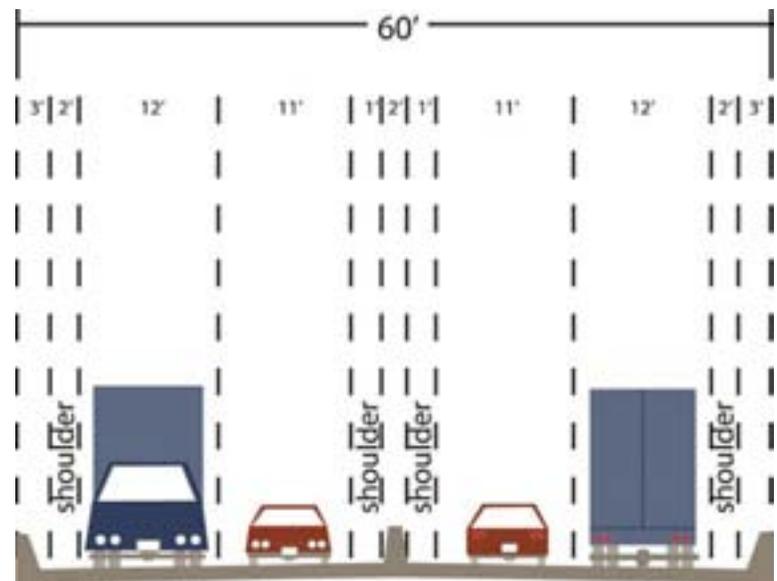
SR 520 Today



Mid-span photo



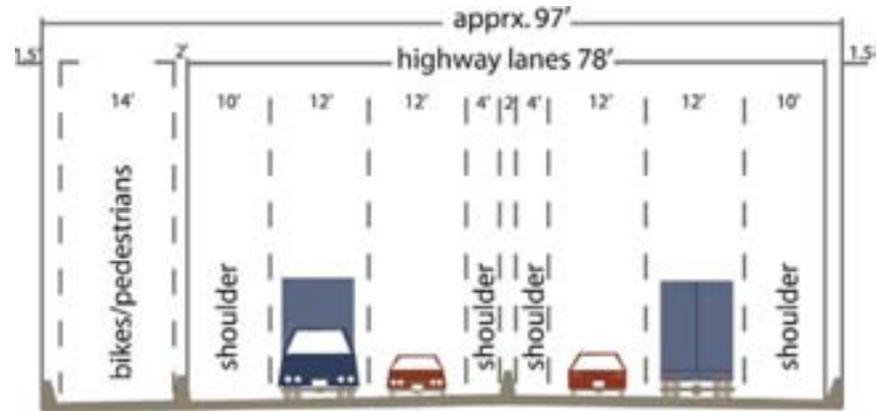
Mid-span cross-section



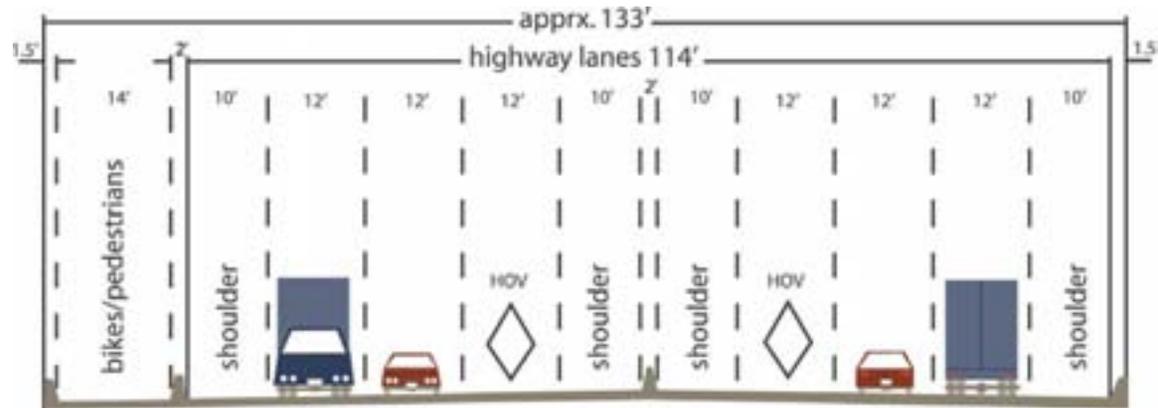
4-Lane and 6-Lane Alternative Cross Sections



4-Lane Alternative



6-Lane Alternative

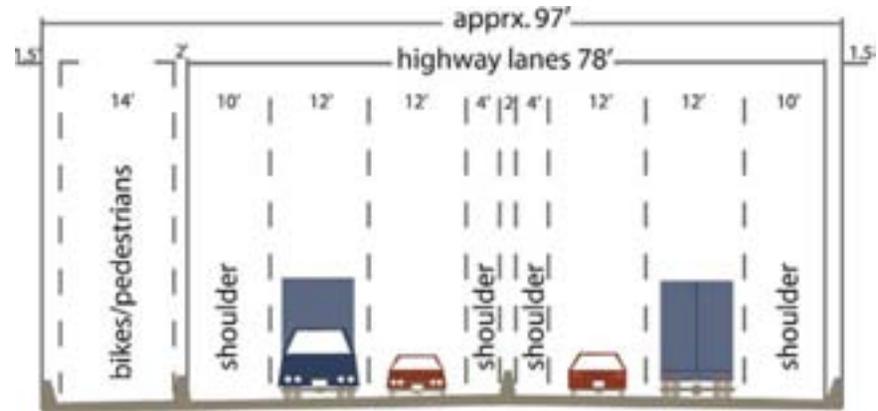


Cross-sections at mid-span

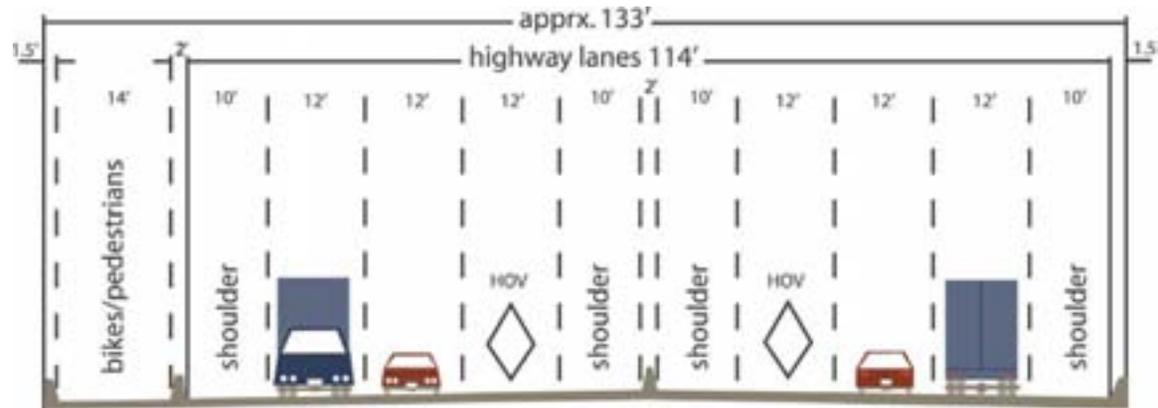
4-Lane and 6-Lane Alternative Cross Sections



4-Lane Alternative

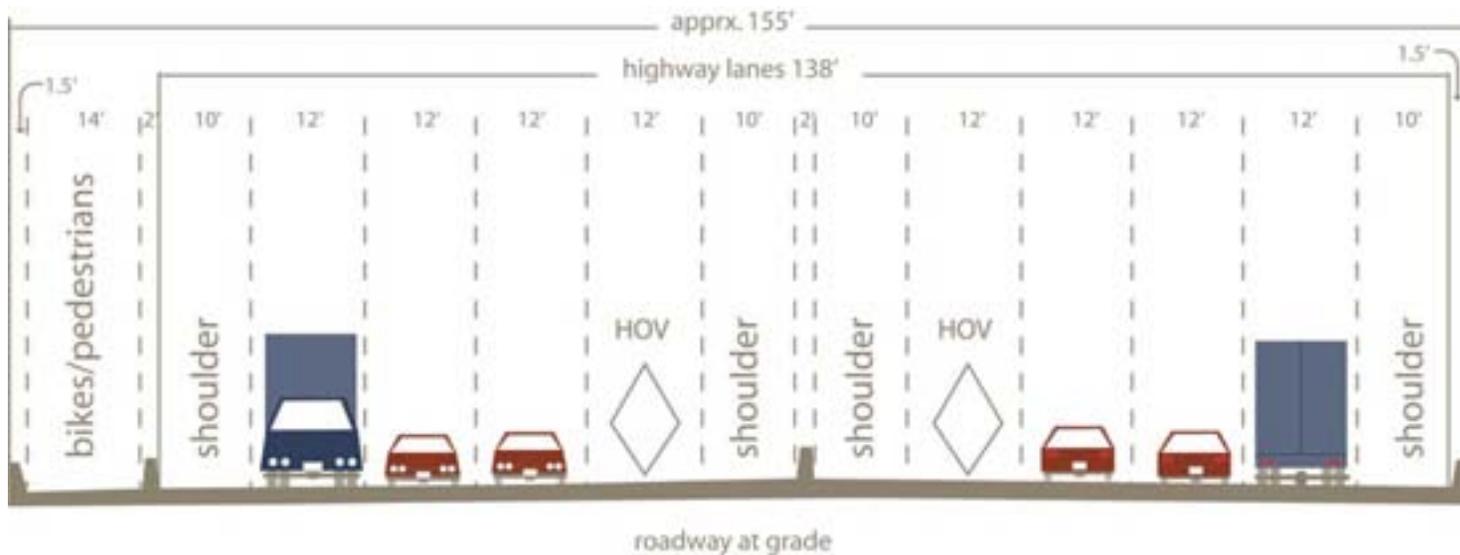


6-Lane Alternative



Cross-sections at mid-span

8-Lane Alternative Cross-Section



Cross-section at mid-span

K \ m ' b c h ' U b ' , ! @ U b Y ' .



G m g h Y a ' 7 c b g h f U] b h g



SR 520 Today: Seattle Montlake Interchange



4-Lane Alternative Seattle Montlake Interchange



DRAFT CONCEPT

6-Lane Alternative Seattle Montlake Interchange



DRAFT CONCEPT

6-Lane Alternative Design Options



- **Seattle**
 - Adds Second Montlake Bridge
 - Builds new Pacific Street interchange (removes existing Montlake interchange)
 - Removes Montlake Freeway Transit Stop

- **Eastside**
 - Adds South Kirkland Park & Ride Transit Access at Bellevue Way or 108th Avenue NE
 - Locates bicycle/pedestrian path to the north
 - Removes Evergreen Point Freeway Transit Stop

6-Lane Alternative Design Options: Second Montlake Drawbridge



DRAFT CONCEPT

6-Lane Alternative Design Options: Pacific Street Interchange



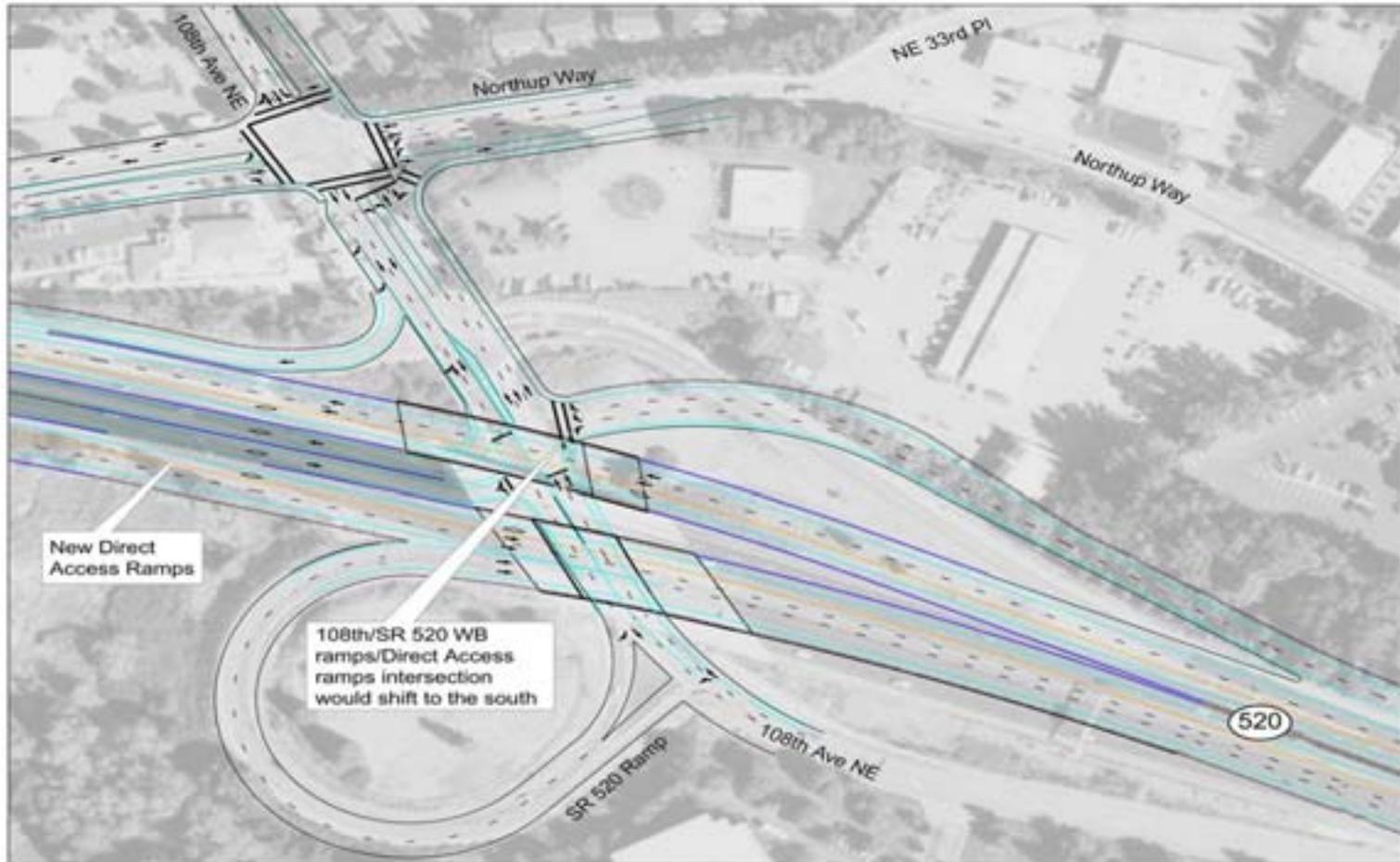
DRAFT CONCEPT

6-Lane Alternative Design Options: Pacific Street Interchange



DRAFT RENDERING

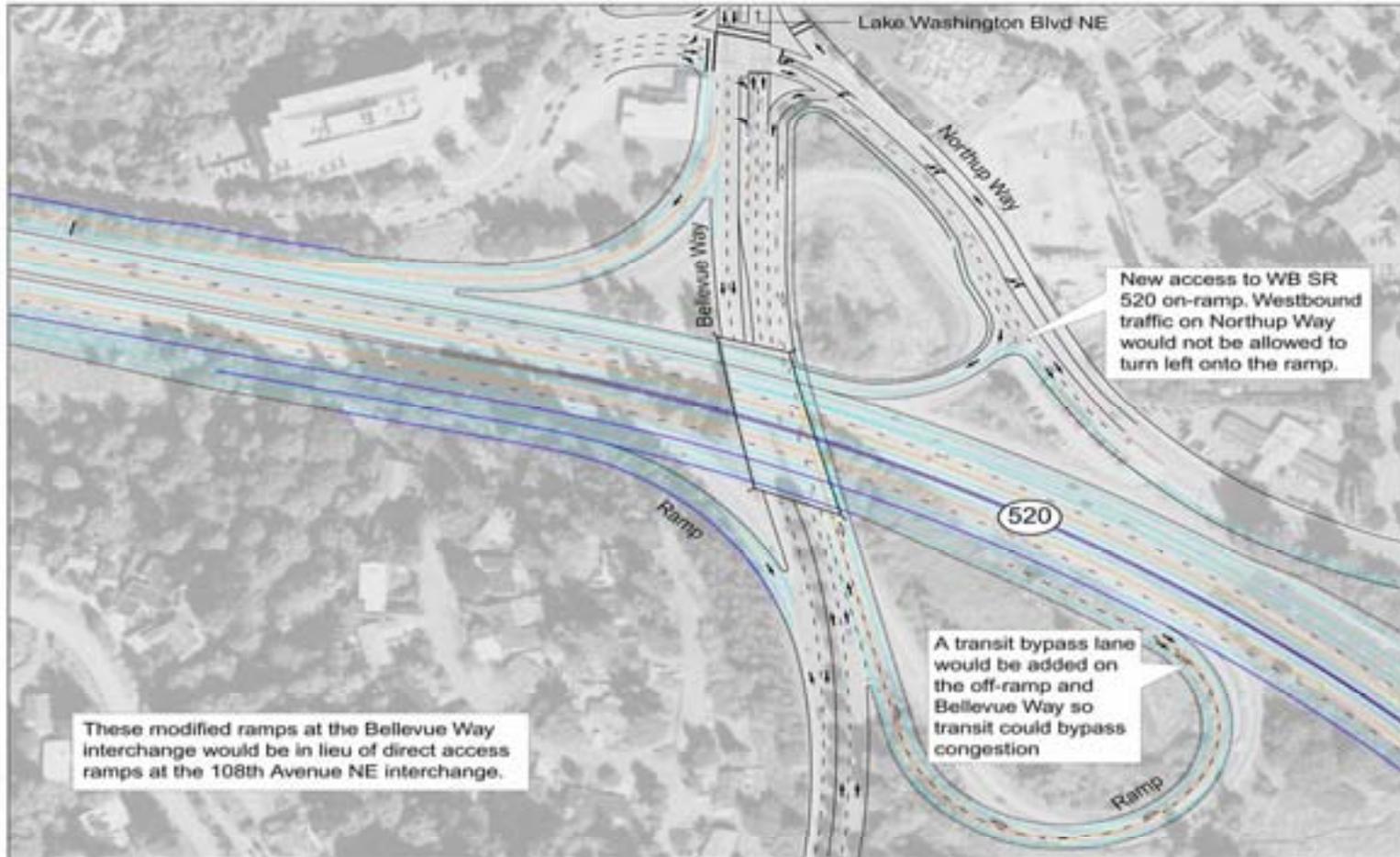
6-Lane Alternative Design Options: S. Kirkland Park & Ride Transit Access at 108th Ave NE



Note: This alternative and its associated improvements were evaluated using Year 2030 traffic conditions with the 6 Lane Base Alternative.



6-Lane Alternative Design Options: S. Kirkland Park & Ride Transit Access at Bellevue Way



Note: This alternative and its associated improvements were evaluated using Year 2030 traffic conditions with the 6 Lane Base Alternative.



6-Lane Alternative: Evergreen Point Landscaped Lid



DRAFT CONCEPT

SR 520 Bridge Replacement and HOV Project



**Questions and answers
from the panel**

SR 520 Bridge Replacement and HOV Project

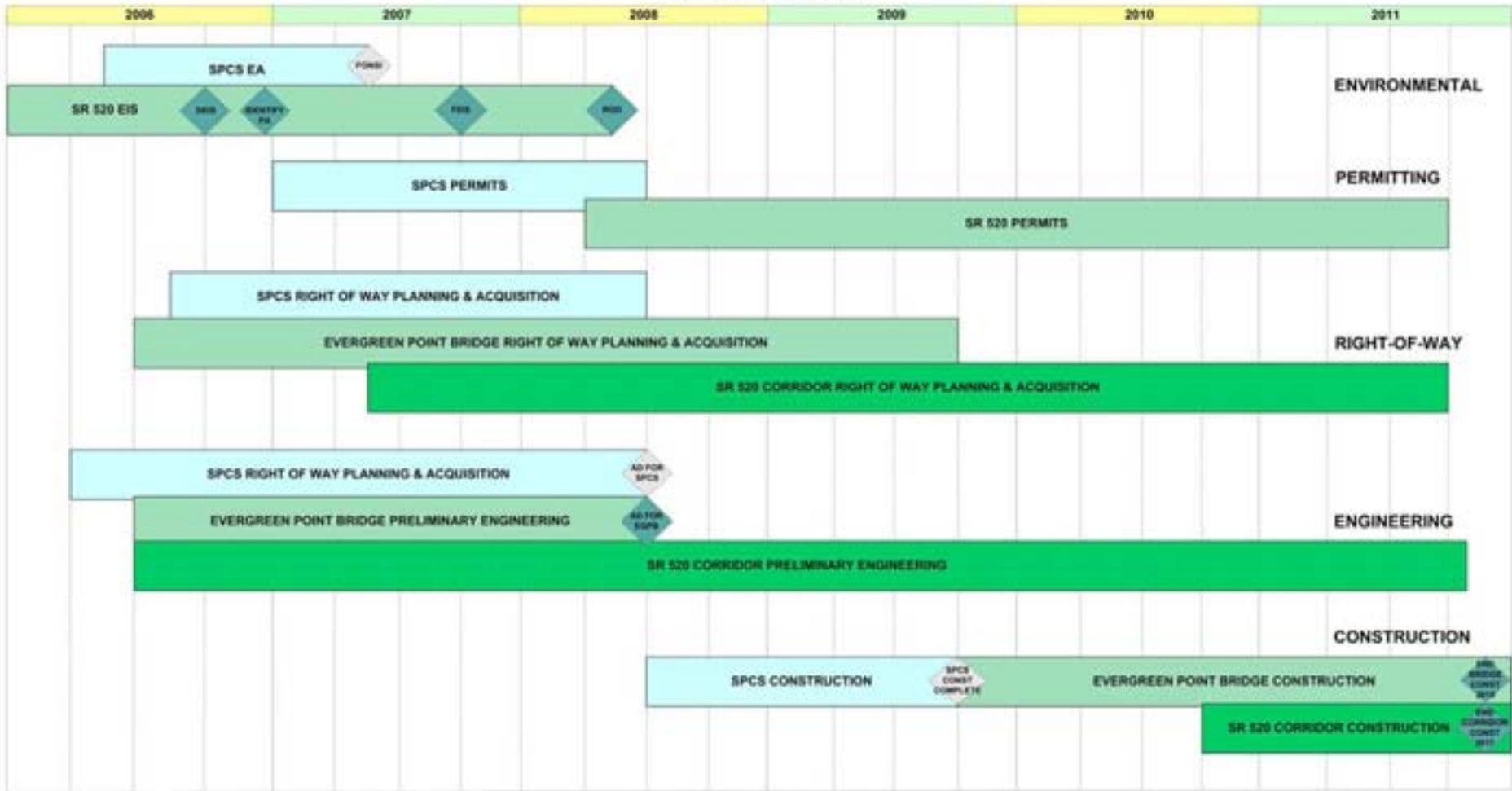


What is our implementation
schedule and plan?

Project Schedule



SR 520 BRIDGE REPLACEMENT & HOV PROJECT
SUMMARY SCHEDULE*



DRAFT - June 2006
*Based on modified 2005 CEVP schedule to reflect current implementation plan

Implementation Plan



- Environmental process
- Design development and approval
- Right-of-way
- Construction planning

Implementation Milestones



- Preferred Alternative – Late 2006
- Record of Decision – Early 2008
- Permitting – 2008-2011
- SPCS completed – 2008-2009
- Evergreen Point Bridge construction – 2009-2015
- Corridor construction – 2010-2017

Delivery Strategy



- Early right-of-way acquisition where possible
- Advance early design activities during environmental analysis
- Replace Evergreen Point Bridge first
- Complete corridor construction as funding permits
- Proactive risk management
- Keep traffic flowing during construction

Environmental Permitting Strategies



- Early engagement of resource agencies during environmental process
- Dedicated staff to streamline process
- Interagency agreements facilitate permit acquisition
- Coordination with tribal governments and resource agencies

Environmental Mitigation



- Sound walls along much of SR 520 in Seattle and the Eastside
- Stormwater treatment facilities including wetlands, water quality wet vaults and flow control systems
- Culvert replacement for fish passage
- Better traffic operations improving air quality
- Improved navigation channel matching I-90
- Both 4-Lane and 6-Lane Alternatives have similar natural and built environment effects (6-Lane generally more)

Right-of-Way



- Minimize property effects using context sensitive solutions (CSS)
- Acquire right-of-way early where possible
- Disclose property effects early
- Negotiate and acquire right-of-way quickly after record of decision

Construction Planning



- Construction assumed in three segments:
 - Evergreen Point Bridge
 - Seattle communities
 - Eastside communities
- Ongoing planning includes:
 - Phasing and sequencing scenarios
 - Contract planning assessment(s)
 - Alternative project delivery and procurement options

Special Projects Construction Site (SPCS)



- SPCS ready for SR 520 construction by 2009
- The site will be a large plot of land (at least 30 acres) along a waterfront
- The construction site will be used for the SR 520 Bridge pontoons and future WSDOT projects
- The goal is to build the pontoons in at least three years (8-10 pontoons every six months) to meet the SR 520 Bridge schedule



Flooding of the graving dock to launch Homer Hadley Bridge pontoons, Blair Waterway, 1981



Hood Canal Bridge pontoon construction site, Concrete Technology, 2006

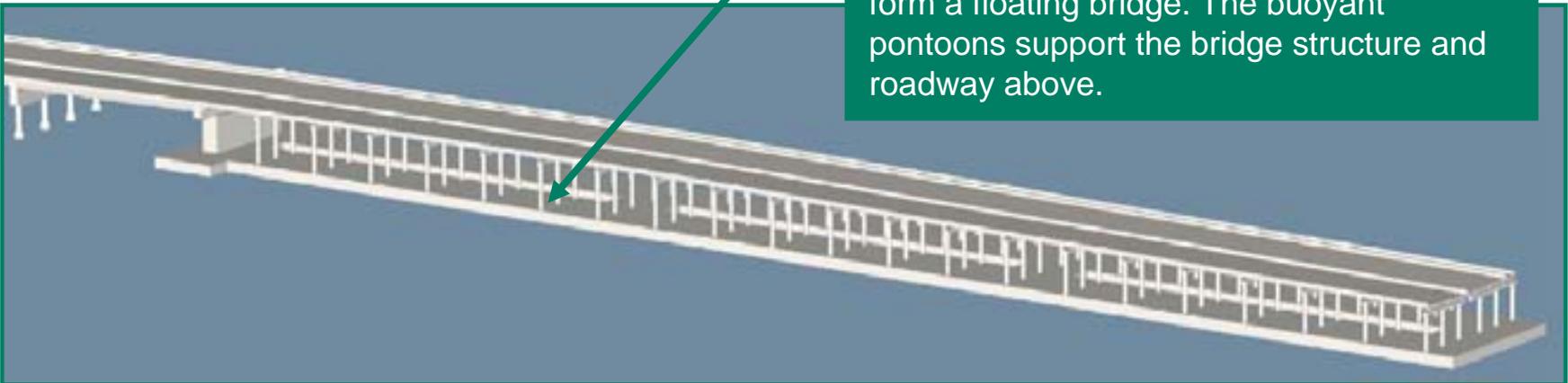
Bridge pontoons and Construction



- Up to 55 new pontoons needed for Evergreen Point Bridge
- Pontoons will be sized to support future high-capacity transit (HCT)
- 4-Lane: 60-foot wide pontoon
- 6-Lane: 75-foot wide pontoon

What are pontoons?

Bridge pontoons are very large hollow concrete structures that are built and outfitted at a construction site, floated to the bridge location, and then pieced together to form a floating bridge. The buoyant pontoons support the bridge structure and roadway above.



Traffic Management During Construction



- Two lanes of traffic in each direction will be maintained during construction.
- Night and occasional weekend closures will occur.
- New Evergreen Point Bridge will be built to the north of the existing bridge. This allows the new floating section to be moved into place and anchored without disturbing the existing bridge.
- Specific techniques and plans will be developed to manage traffic flow and detour routes on local streets.

Cost and Construction Timeframe



Alternative	Cost *	Construction Timeframe (years)
4-Lane	\$1.7 - 2.0 billion	Proposed start: 2009 – 2010
6-Lane	\$2.3 – 2.8 billion	New bridge open: 2013 – 2015
6-Lane with Options	\$2.3 - 3.1 billion	Estimated construction end: 2015 – 2017

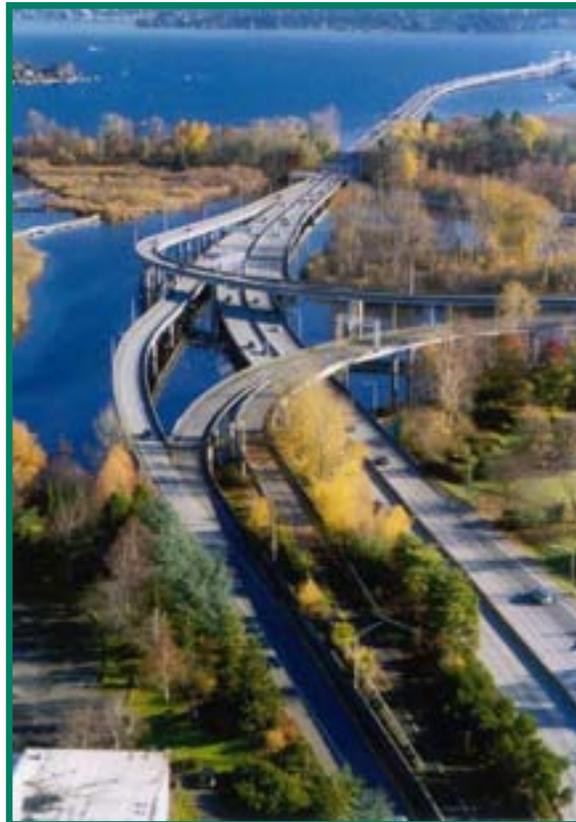
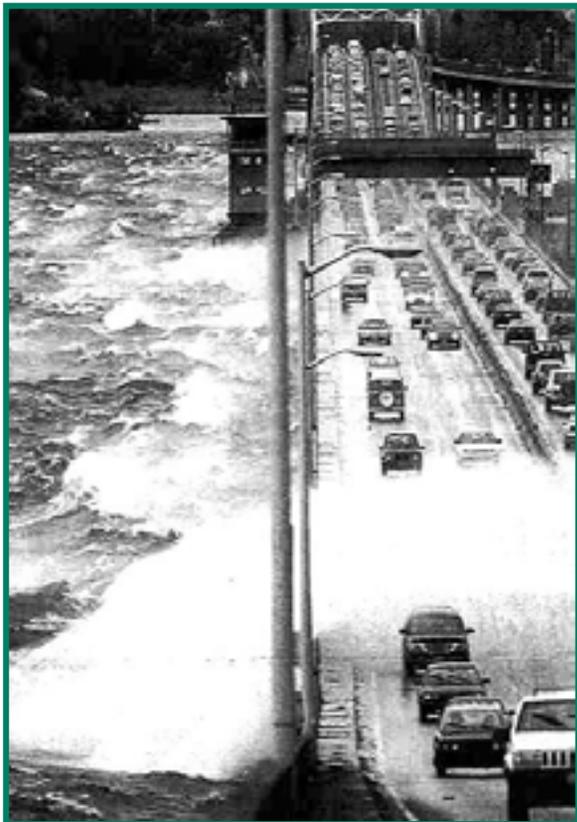
* Cost Estimation Validation Process 2005

SR 520 is Vitrally Important to the Puget Sound Region



- The SR 520 structures are vulnerable to earthquakes and windstorms and have a limited remaining life.
- Congestion will continue to increase with population growth – 1.6 million more people by 2040.
- SR 520 is a key corridor facilitating economic growth.
- The project implementation plan is focused on proactive risk management.

SR 520 Bridge Replacement and HOV Project



Final questions and discussion

**Expert Review Panel
June 21, 2006**

PUBLIC COMMENT



**Alaskan Way Viaduct &
Seawall Replacement Project
and
SR 520 Bridge Replacement
and HOV Project**



Expert Review Panel

June 2006

SR 520 Bridge Replacement and HOV Project



Funding Source	Amount
2003 State Nickel Package	\$52 million
2005 State Transportation Partnership Package	\$500 million
2005 Federal Funding	\$1 million
Future Electronic Tolls	\$700 million
Total Identified	\$1.25 billion
Funding Needs*	\$0.45 – \$1.85 billion

** Includes cost of 6-Lane options*