

SR 520 Bridge Replacement and HOV Program

I-5 to Medina: Bridge Replacement and HOV Project



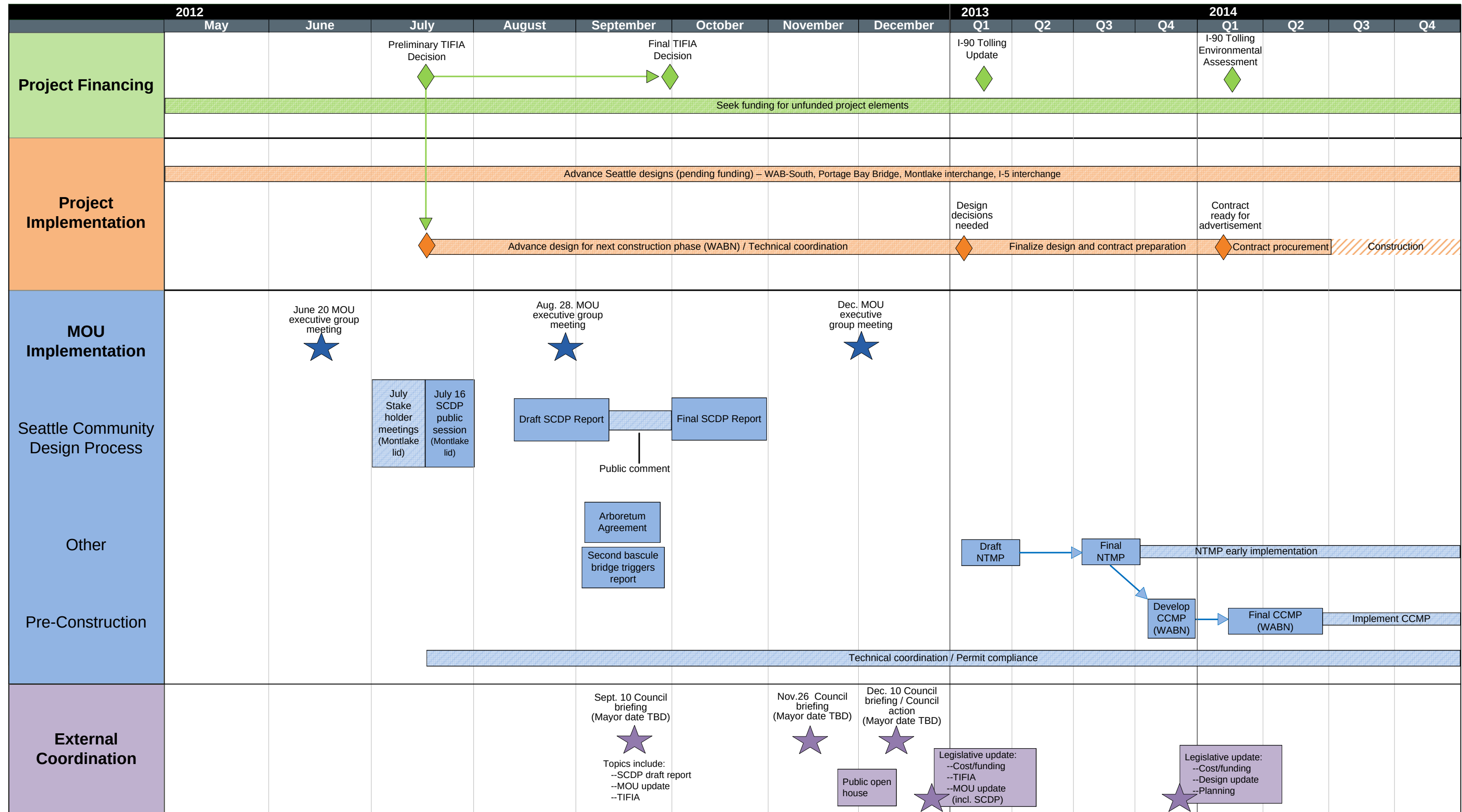
Abbreviations

CCMP: Community Construction Management Plan
NTMP: Neighborhood Traffic Management Plan
SCDP: Seattle Community Design Process
WABN: West Approach Bridge North
CEVP: Cost Estimation Validation Process
TIFIA: Transportation Infrastructure Finance and Innovation Act

SR 520 Project/MOU Implementation Process Flowchart

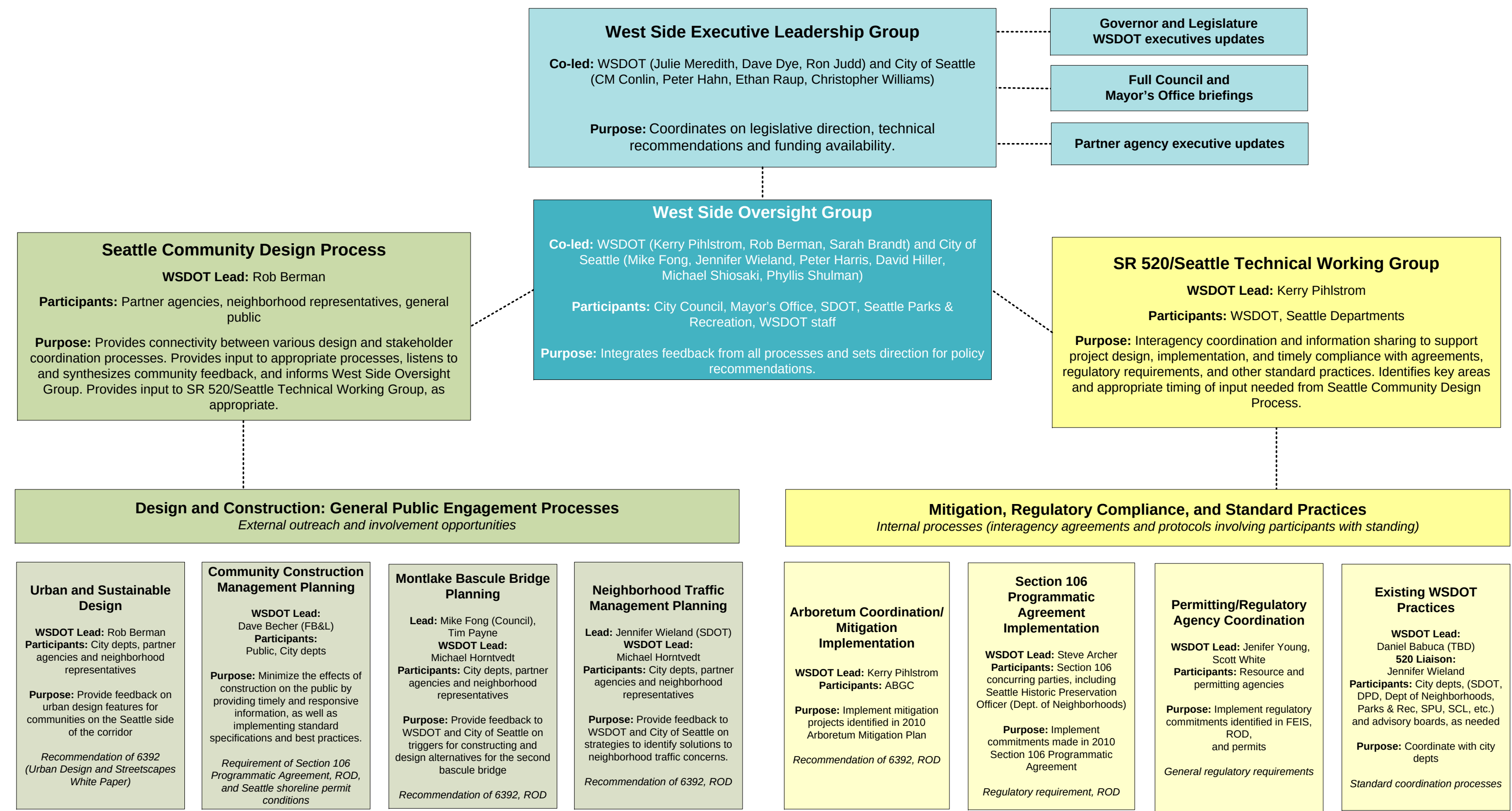
DRAFT - Updated: July 9, 2012

Conceptual – For Planning Purposes Only



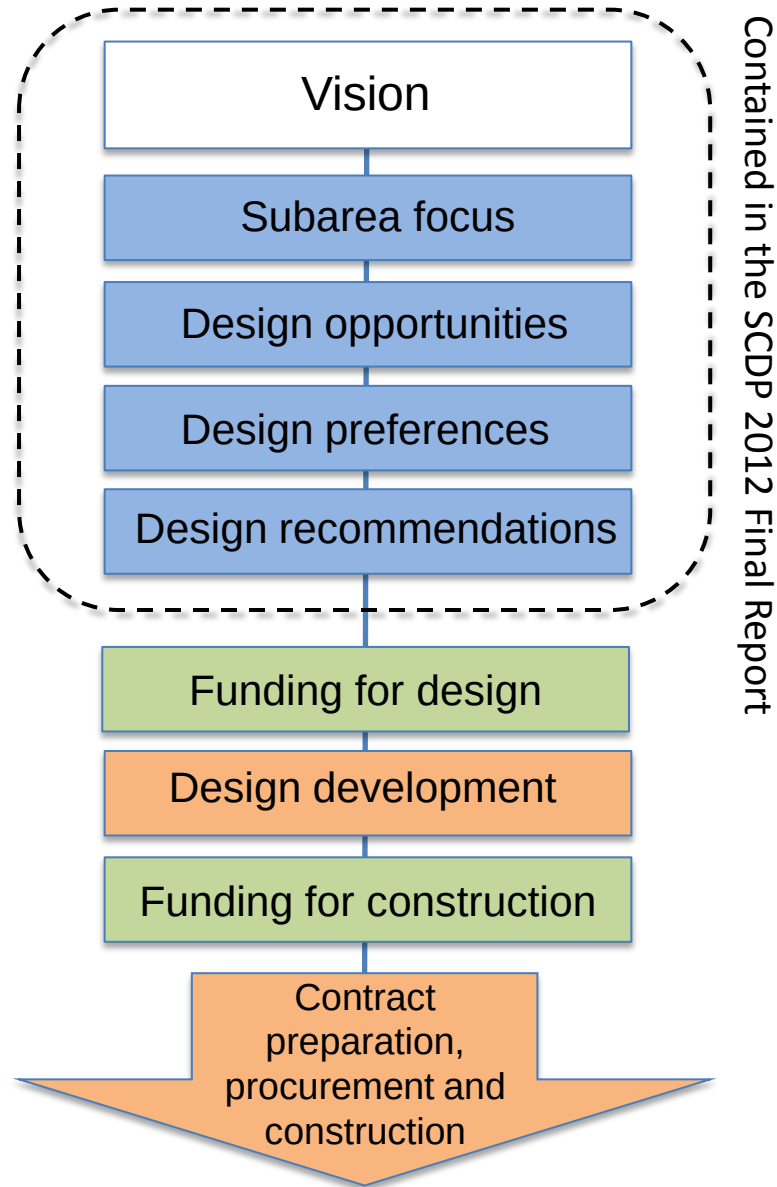
Attachment 1: Seattle/SR 520 MOU Implementation Framework for Coordination

Draft / Work in Progress -- Updated April 19, 2012



NOTE: This chart illustrates how the City of Seattle and WSDOT will coordinate to implement commitments agreed to in the 2011 Memorandum of Understanding. This is not a decision-making diagram.

West Side Design Progression



**DRAFT -
FOR INTERNAL
DISCUSSION
August 16, 2012**

**Proposed schedule through 2012:
SDC and Seattle Community Design Process (SCDP)**

(With special attention to SDC endorsement for Sept. 10, 2012 Seattle City Council briefing)

SCDP project team intends to carry the following to City Council:

1. Update on MOU process through August 2012
2. Overview of expected process through December, including expected endorsement of ‘preferences’ by various stakeholder groups, such as Cascade Bicycle Club, Seattle Design Commission, Seattle Bicycle Advisory Board, and Seattle Pedestrian Advisory Board, by the end of October 2012.
3. Overall Vision for the west side of the SR 520 corridor, including the Vision for user experiences, and supporting diagrams
4. Explanation of project design progression

In order to maximize the SCDP project team’s effectiveness and credibility with City Council, we need SDC’s written endorsement of:

1. SCDP (and next steps)
2. Overall Vision
3. Guidance on specific design elements

SDC meeting dates and expected outcomes

August 16 Full SDC

1. Discuss the nature/extent of SDC endorsement and guidance we are seeking
2. Endorsement of Vision
3. Preliminary discussion of design preferences

August 22 Subcommittee

1. Further discussion of design preferences
2. Final review/discussion of SDC endorsement/guidance letter to City Council/Mayor
3. Continue conversation of tiered delivery approach

September 6 SDC internal business meeting (no SR 520 staff attend)

1. SDC reviews and endorses letter to provide to City Council

September 10 Seattle City Council briefing

1. MOU implementation progress update
2. SCDP and overview of design preferences (TBD)
3. Second bascule bridge triggers analysis update (TBD)

September 20 Full SDC

1. Outcomes of council briefing
2. Continue conversation of design preferences, design delivery approach, and design progression

October – December 2012

1. West Approach Bridge design coordination
2. Continued coordination on west side design development

Our Overall Vision

The SR 520 Corridor is a critical, regional highway facility that enters the northern edge of downtown Seattle. **Our vision for this corridor is to become the premier gateway to the City of Seattle by reconnecting to the early Seattle vision of *Nature meets City*.**

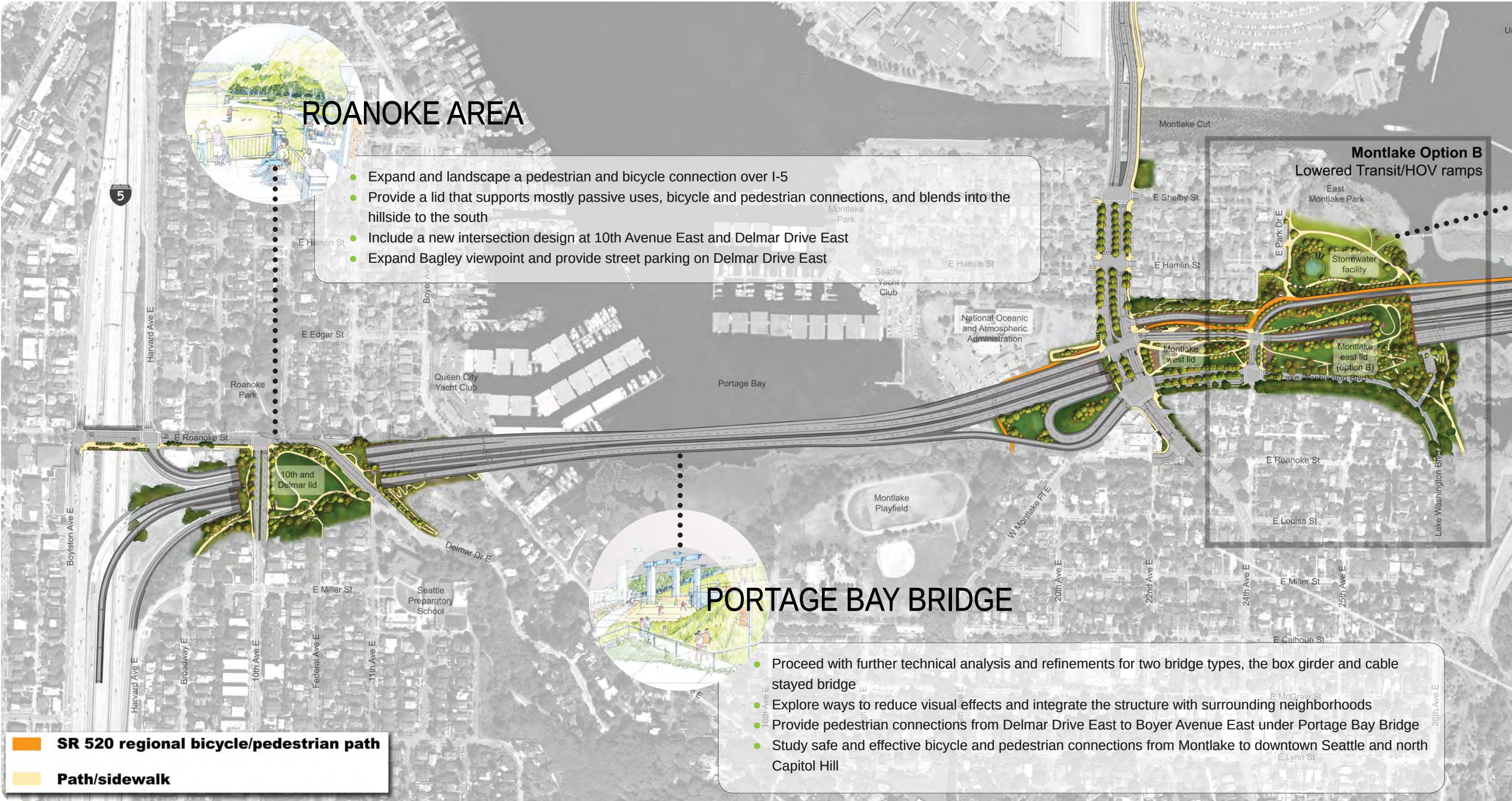
On the Seattle side, the SR 520 corridor aims to restore two important, intersecting axes that are shown in the historic 1909 “Seattle Parks and Boulevard Plan” that was created by the Olmsted brothers for the City of Seattle. The first is an east-west (natural) axis wherein a forested SR 520 corridor completes a gap in an “Emerald Necklace” by linking Interlaken Blvd. and the Arboretum as well as providing the primary gateway opportunities into downtown Seattle. The second is a north-south (urban) axis that begins with Montlake Blvd. at the University of Washington and extends along 23rd Ave. to Capitol Hill. The SR 520 Project has the opportunity to take the northern portion of this axis along Montlake Blvd. and create grand “parkway” that extends though East Lake Washington Blvd. into the Arboretum.

Our Vision for Current Users and Future Generations

We intend to implement our Program in a manner that yields affordable solutions and fosters groundbreaking sustainability practices that support regional and local connectivity, ecology and the use of low-carbon materials. Further, the design of the corridor will balance aesthetics, functionality, proportion and sense of speed along the SR 520 facility to provide a memorable experience for all users.

Specifically:

- As motorists progress westbound from Lake Washington they will continue to experience a safe, efficient highway corridor that also represents a series of gateways from the edge of the lake into Montlake, across Portage Bay, and into downtown Seattle.
- Pedestrians will always feel comfortable, visible, and safeguarded from vehicles on adjacent roadways. Their pathways will be well marked. Some pathways will allow pedestrians to efficiently move to their destinations such as transit stops or playgrounds. Other pathways will allow them to linger and enjoy their surroundings.
- Cyclists will have great connections, good sight distances, and reasonable grades. Their wait times and passage through intersections will be equal to or shorter than motorized vehicles.
- Transit users will enjoy convenient access to buses as well as safe, comfortable shelters.
- All users should experience features that are scaled to their location and vantage points including bridge elements, tunnel portals, and overlooks.
- The aesthetic expression of all constructed features shall be “naturalistic-contemporary” and complement their natural and residential surroundings.





MONTLAKE AREA

- **Overall:** Enhance connections for all users including bicyclists, pedestrians and transit users
- **Canal Reserve area:** Shift regional bicycle and pedestrian path onto the Montlake lid for better connections and to preserve open space
- **Stormwater area:** Integrate the stormwater wetland into the existing park and shoreline
- **Montlake lid area:** Activate the west portion of the lid and provide passive space at the east end. Option to lower transit/HOV ramps under the east side of the lid (see option B)
- **Lake Washington Boulevard:** Design the roadway to buffer neighbors from traffic and integrate with the north entry of the Arboretum
- **Montlake Boulevard:** Provide planted medians for continuity and accommodate multimodal travel



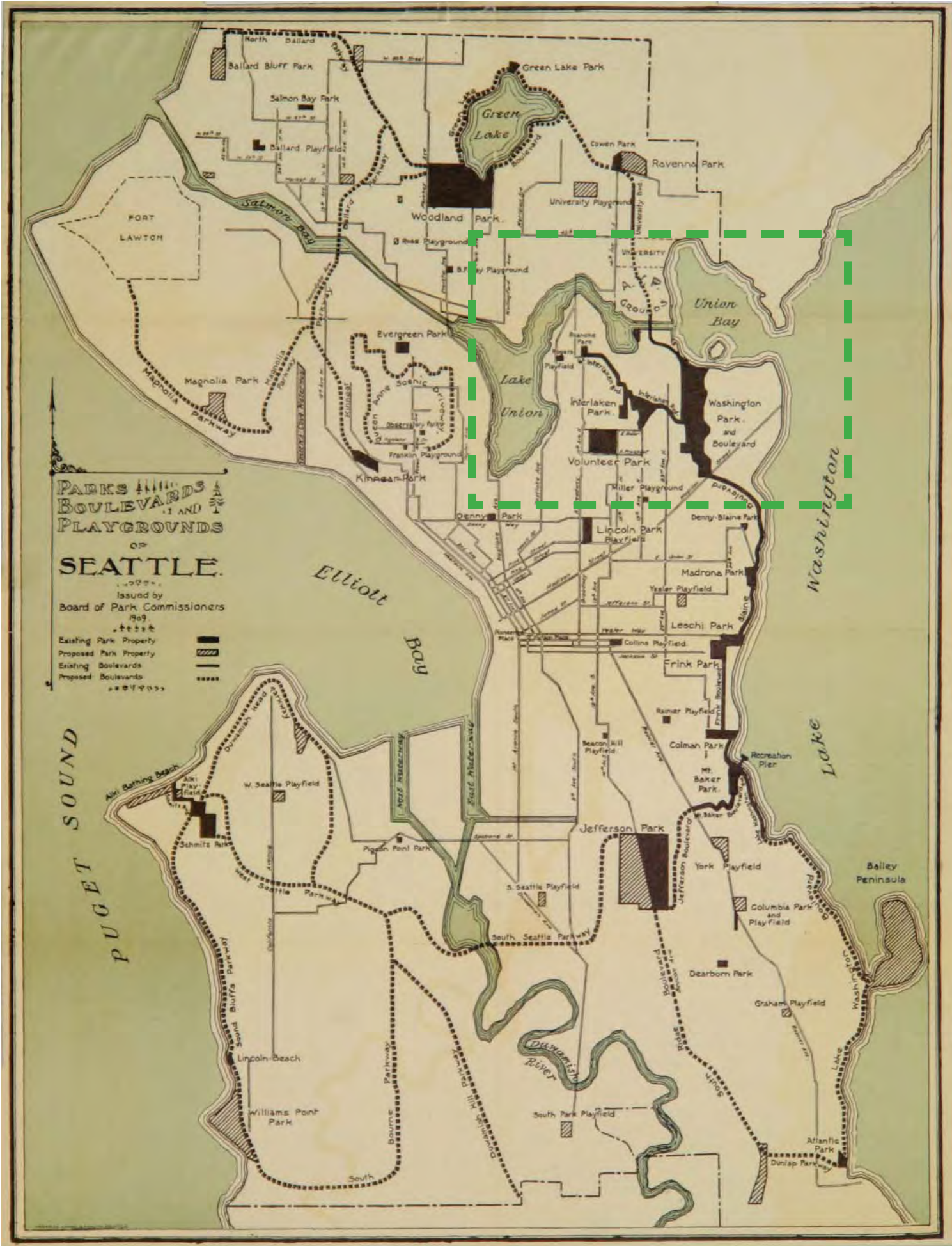
WEST APPROACH BRIDGE

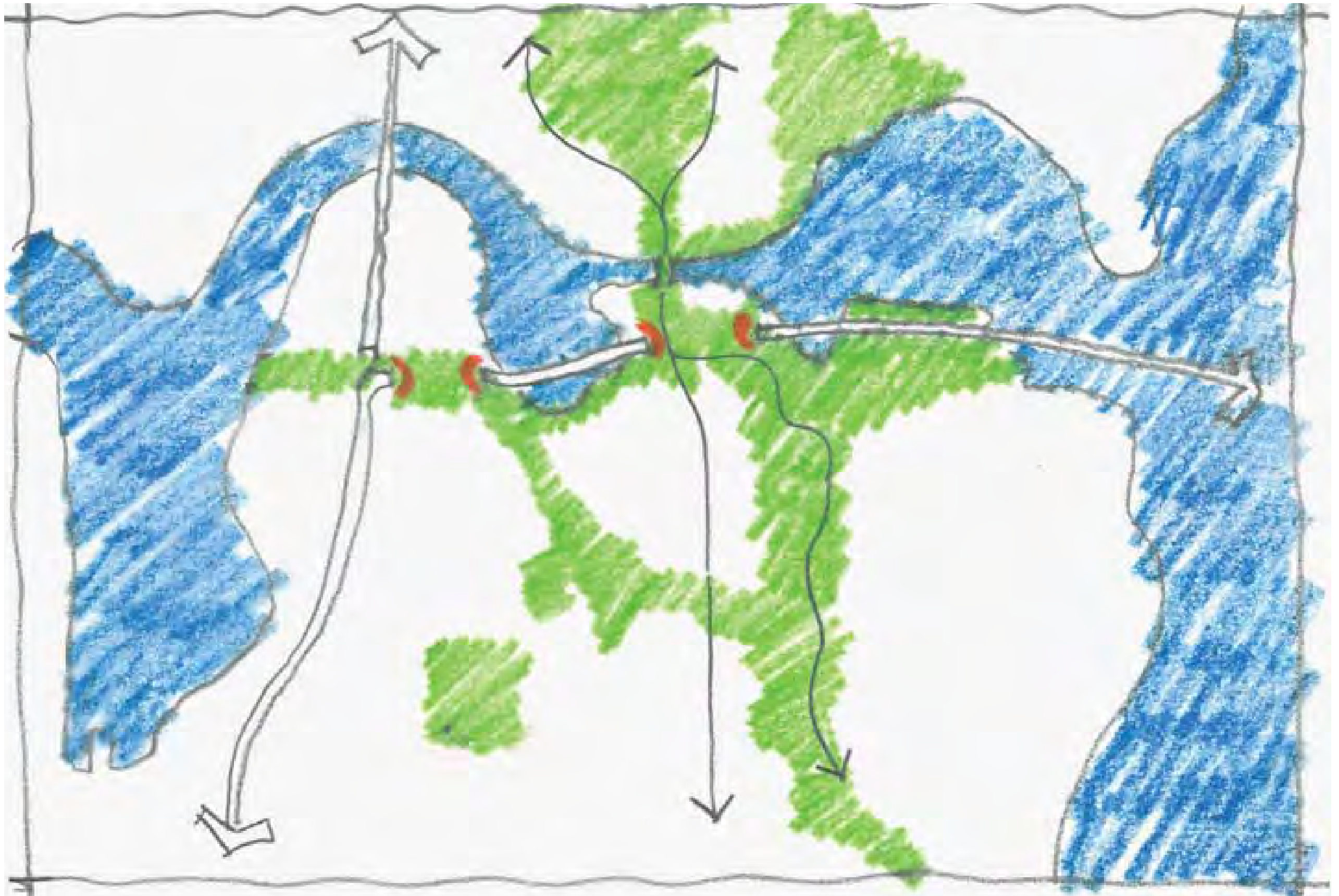
- Incorporate simple and clean design of the structure
- Make pathways under the bridge safe and attractive for users
- Include belvederes or resting places along the north side



North
Not to Scale

1909 Seattle Parks and Boulevard Plan





SR 520 gateway opportunities and integration into the parks and boulevard network

Vision Key Map



Improving an Urban Axis
Montlake Boulevard East connects two major activity centers: the University of Washington and downtown Seattle, with opportunities to work with partners to enhance the quality of experiences, safety and efficiency of mobility, and the vibrancy of diverse neighborhoods.

Integrating an Historic Boulevard
Montlake Boulevard East and East Lake Washington Boulevard are the historic footprint of the Olmsted multimodal parkway, providing varied users a sense of journey and arrival

Enhancing the Natural Blue-Green Axis Along the Corridor
The SR 520 project connects lakes, marshes, bays, shorelines, urban forests and open spaces.

Identifying Gateways to Seattle
The SR 520 project provides a series of natural and built “gateways” or defined entries, into Seattle: bridges, forests, bays, and lid portals.

Geographical Areas Key Map



Design Preferences



Baseline alternative with refinements based on community input (July 2012)

PORTAGE BAY BRIDGE DESIGN CONCEPTS

Highlights of the Portage Bay Bridge: Cable Stay Option

The Cable Stay bridge design option maintains the roadway operations of the baseline while being shifted slightly to the north to ease constructability issues. Other issues that relate to the three primary perspectives of the bridge are:

Over

- Two sets of moderate height cable stay towers (approximately 180 feet tall) at west end of bridge

Under

- One hillside foundation west of Boyer Avenue East with main span of 800 feet minimizing impacts on Queen City Yacht Club operations
- Longer span reduces in-water foundations and allows improved visibility and water access across Portage Bay
- Gap of 15 feet between bridge structures reduces scale of structure from below and allows light and air flow

On

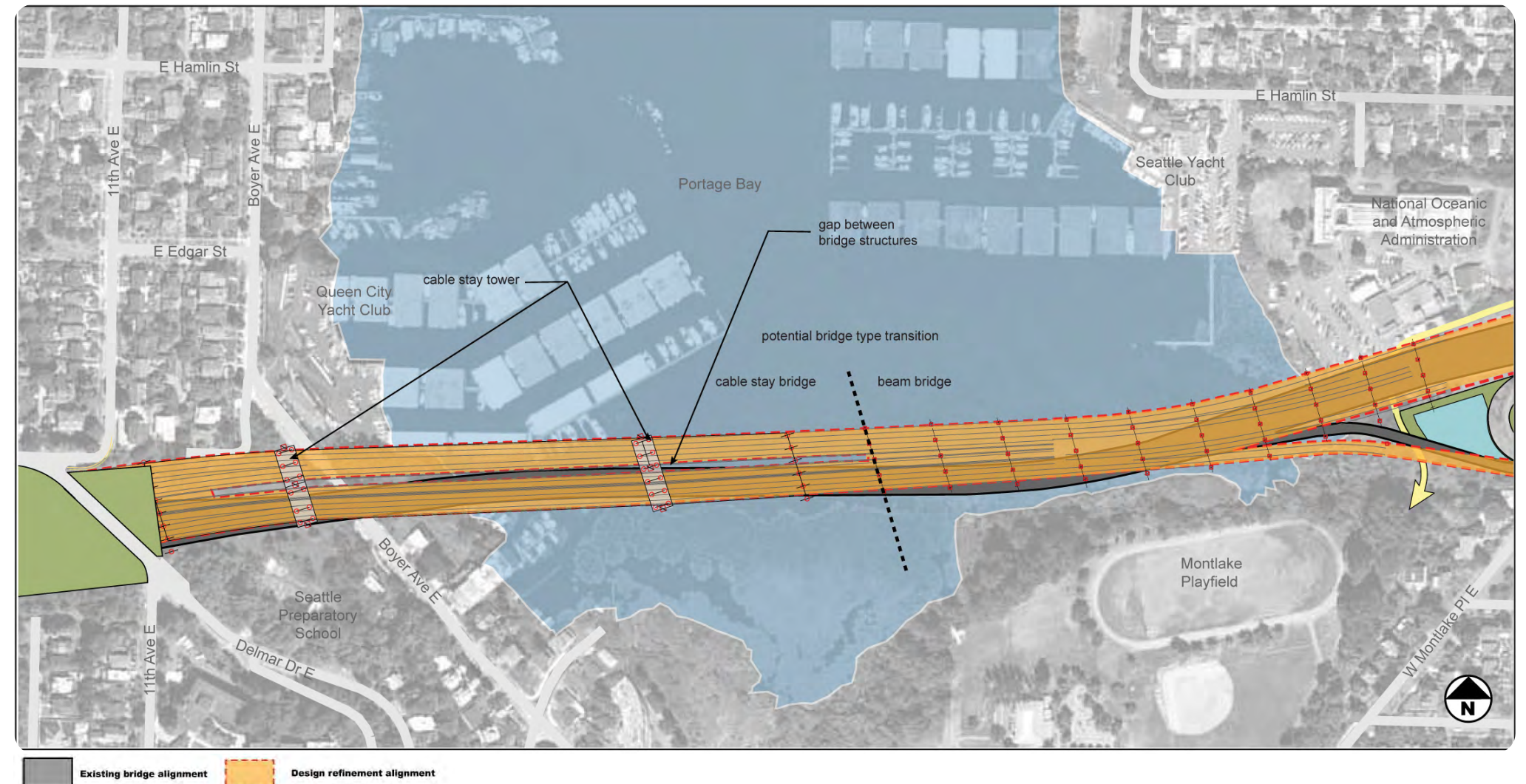
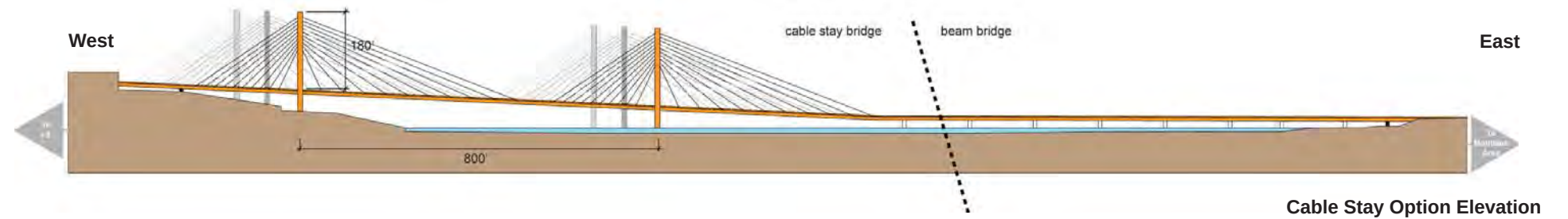
- Thin, light bridge deck supported by cable stays
- Eastern bridge type beam bridge with common span lengths

Benefits

- Provides a regional signature bridge at Portage Bay
- Represents a modern design with lightness and transparency
- The long span opens the bay below for access and visibility
- Less material and less in-water work

Considerations

- Higher design complexity needs to stay within the budget
- The towers must have rational and beautiful design



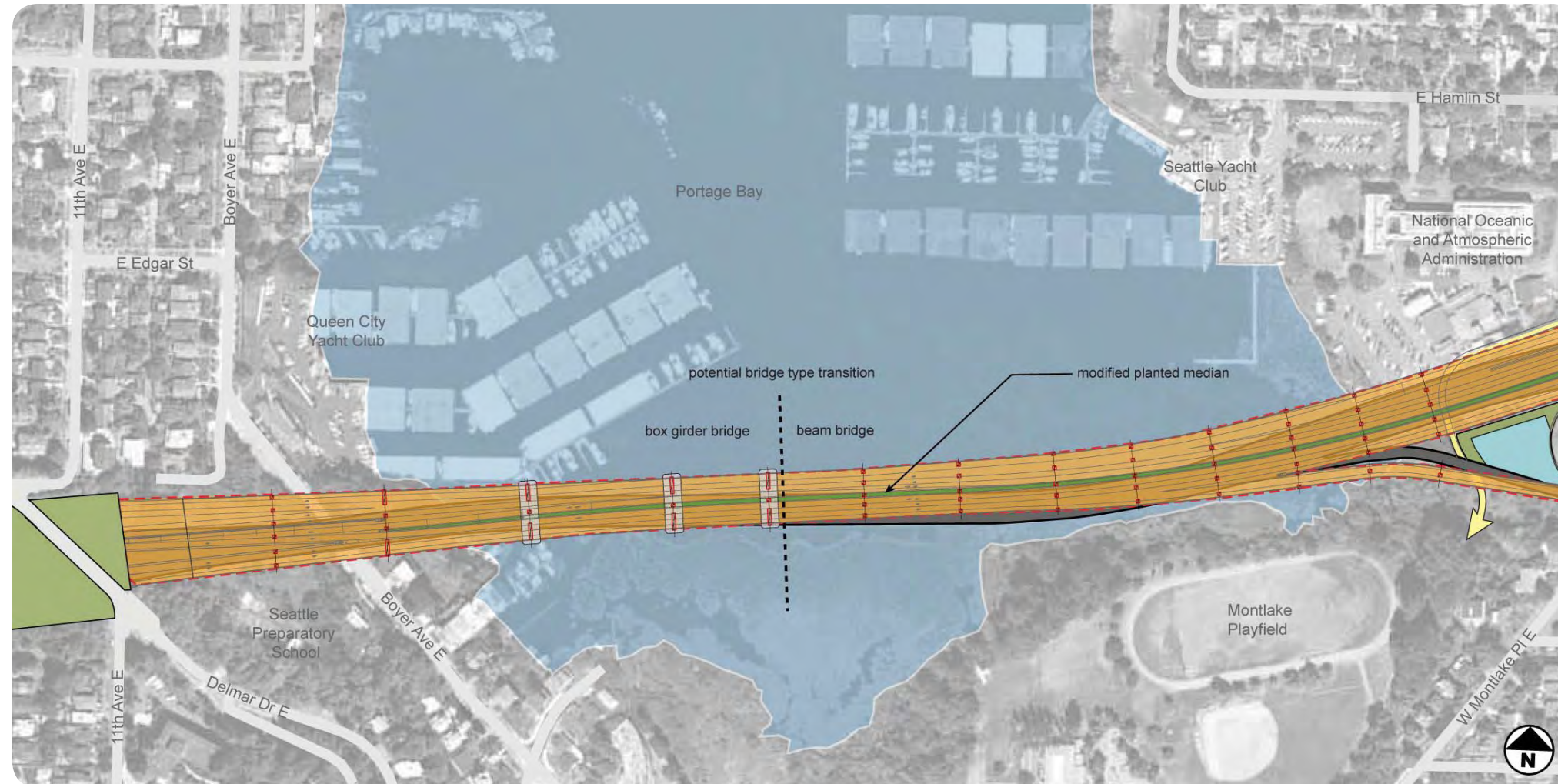
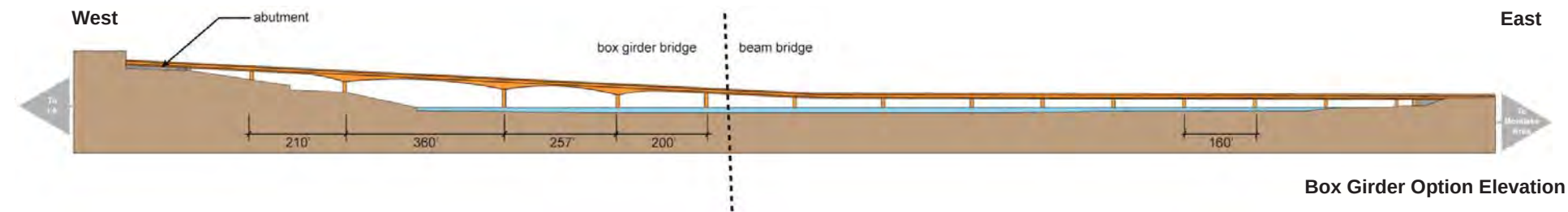
View from West Montlake Park facing southwest



View from Montlake Boulevard E. facing west



View from Montlake Playfield facing northwest



View from West Montlake Park facing southwest



View from Montlake Boulevard E. facing west



View from Montlake Playfield facing northwest

Highlights of the Portage Bay Bridge: Box Girder Option

The box girder bridge design option maintains the roadway operations of the baseline while the alignment is shifted slightly to the north to ease constructability issues. Other issues that relate to the three primary perspectives of the bridge are:

Over

- No structure above bridge deck

Under

- Box girder bridge at the west end with a maximum span length of 360 feet
- More structure under bridge

On

- Thicker bridge deck with segmental construction
- Beam bridge to the east with variable span lengths
- Modified planted median

Benefits

- Cost-efficient structure with moderate span lengths
- Variable depth at the columns provides curvilinear form

Considerations

- Moderate span lengths create operational and construction impacts on west end of bridge
- More in-water and hillside foundations in poor soils because more spans are required

Design Preferences



Baseline design with refinements based on community input (July 2012)