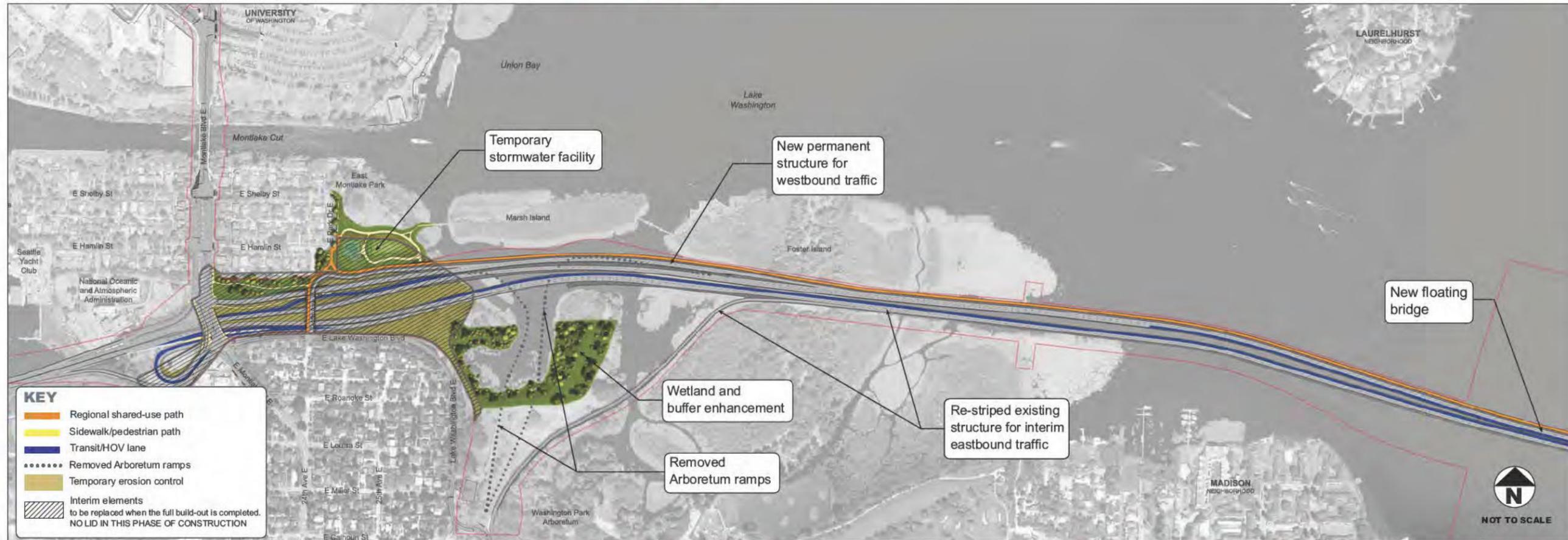


West Approach Bridge North - Overview



The Washington State Department of Transportation (WSDOT) continues to build the SR 520 corridor westward by constructing the West Approach Bridge North (WABN), which replaces one of the most vulnerable corridor elements. WSDOT received a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan to fund WABN construction. The new WABN could be completed and ready to connect to the new floating bridge by the end of 2016.

To refine the federally-approved baseline design, WSDOT convened the Seattle Community Design Process to hear from the public, agency partners, and design professionals, including the Seattle Design Commission (SDC). We heard input on the following:

- Parks, green, and community spaces
- Multi-modal connections and traffic flow
- Other environmental considerations such as noise and visual quality

WSDOT also collaborated with the City of Seattle through technical working groups focused on WABN design refinements. Our work resulted in a design that achieves the following:

Future-Compatibility

- Advances the next phase of full corridor build-out
- Accommodates potential future light rail
- Incorporates ongoing community input
- Interim design at Montlake does not preclude future decisions

Bridge and Corridor Safety

- Addresses next major vulnerable structure on the West Side
- Incorporates corridor and local traffic mobility improvements
- Extends a 6-lane corridor from Redmond to Montlake vicinity
- Improves safety for pedestrians and bicyclists by completing the regional shared-use path from Redmond to Seattle

Community and Environmental Benefits

- Advances aquatic, wetland, and parks mitigation
- Constructs the permanent regional shared-use path between Redmond and Seattle
- Improves bicycle and pedestrian connectivity
- Maintains existing bus service and access
- Improves transit connectivity and reliability by extending the HOV/transit lane to Seattle
- Reduces concrete volumes by nearly 50 percent as a result of baseline design refinements

Construction Period

Summer 2014 to Winter 2016

West Approach Bridge - Bridge Design Development

Vision

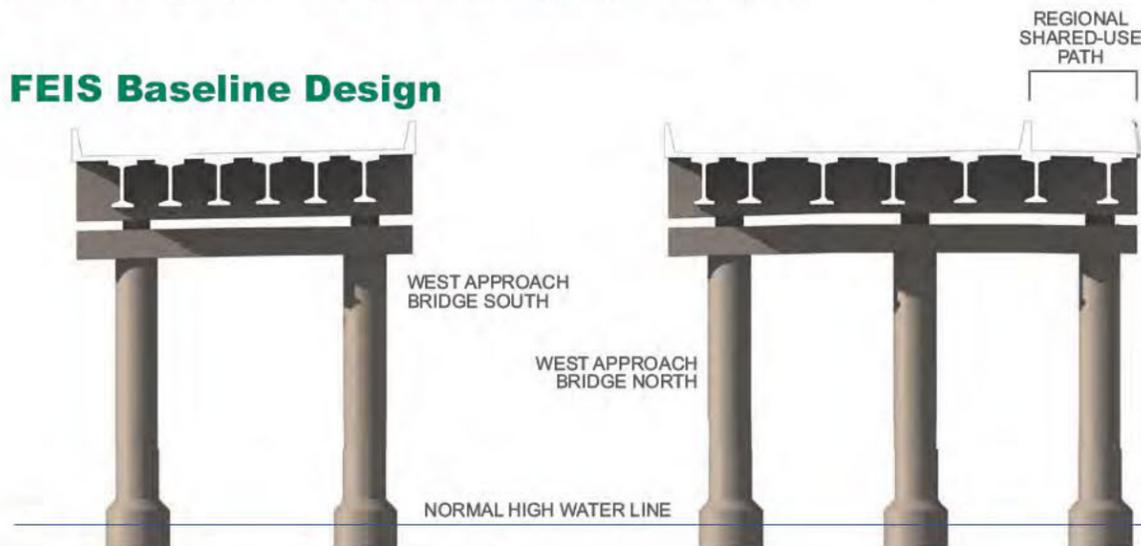
Our vision for the SR 520 corridor is to become the premier gateway for the City of Seattle by **reconnecting to the early Seattle vision of Nature meets City**.

We intend to implement the SR 520 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.

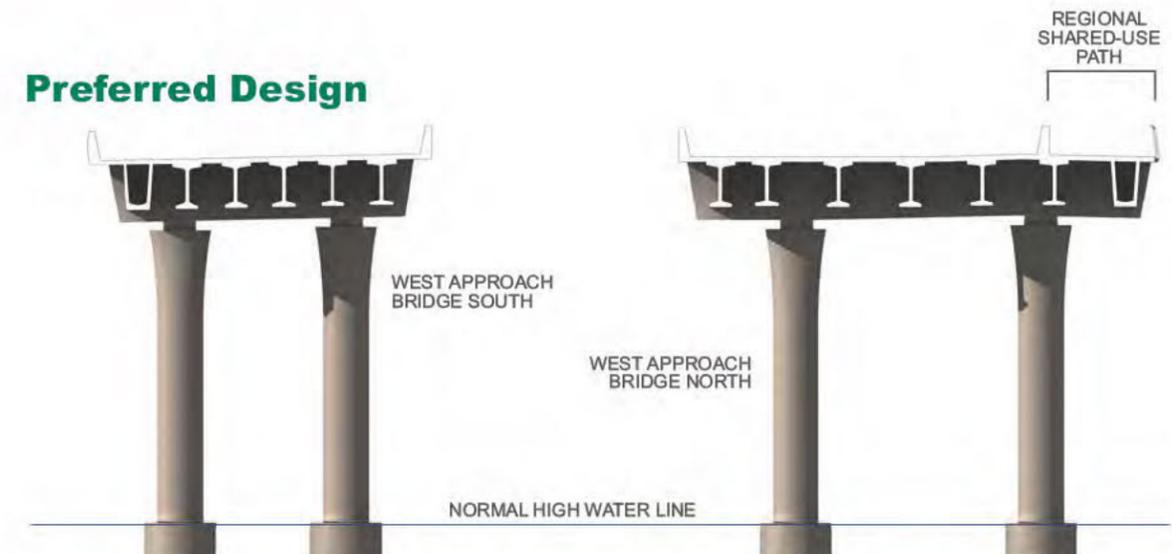
Design Refinements

From September - November 2012, the West Approach Bridge design team worked closely with the **Seattle Design Commission** to refine the baseline design established during the Final Environmental Impact Statement (FEIS) process, resulting in a preferred design that better reflects the goals and principles outlined in the project **Vision**.

FEIS Baseline Design



Preferred Design



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West Approach Bridge - Preferred Bridge Design

Preferred Design

Typical Pier



View of preferred design at a typical pier, facing northwest



View of preferred design at a typical pier, facing southwest

Preferred Design

Expansion Joint



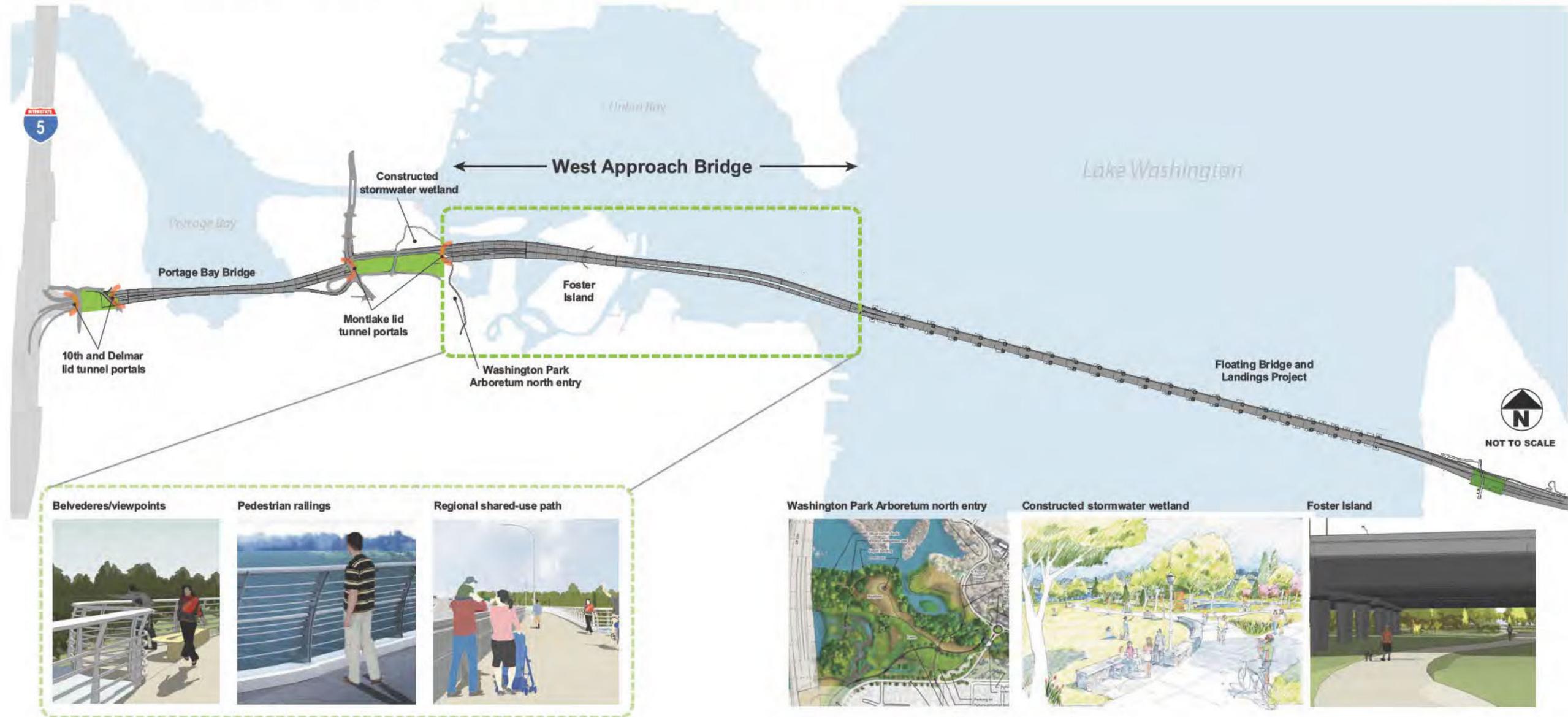
View of preferred design at an expansion joint, facing northwest



View of preferred design at an expansion joint, facing southwest

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West Approach Bridge - Setting and Context



Elements of Continuity

The West Approach Bridge is seen as an “Element of Continuity,” a connective element between the floating bridge and Montlake gateway and a passage through the natural green gateway of Foster Island and the Washington Park Arboretum.

Elements of Continuity are part of a design approach that ensures that elements located or repeated throughout the SR 520 project corridor, such as retaining walls, roadside plantings or the regional shared-use path, are consistent in their aesthetic treatment in order to provide positive user guidance and experience.

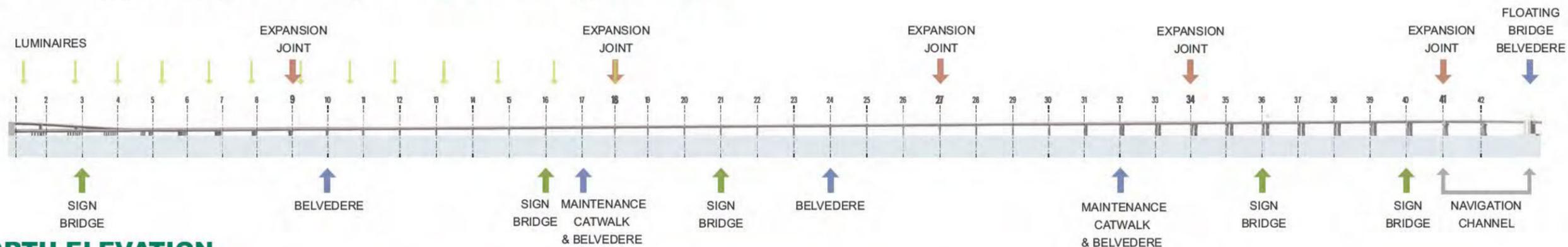
Elements of Distinction

Elements of Distinction ensure that the look and feel of singular project elements, such as the Portage Bay Bridge or Montlake and 10th and Delmar lid portal entries, receive unique aesthetic treatments that are sensitive to the surrounding context. Elements of distinction along the west side corridor include:

- Constructed wetland facility at East Montlake Park
- West Approach Bridge pedestrian undercrossings
- Foster Island
- Washington Park Arboretum north entry

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West Approach Bridge - User Experience



NORTH ELEVATION



*A belvedere is a widened area of the shared-use path that provides a place to stop, rest, and enjoy the view. Belvederes typically include benches and/or interpretive signage as well as a low screen wall for protection from the main path.

KEY

— Shared-use path



CONCEPTUAL

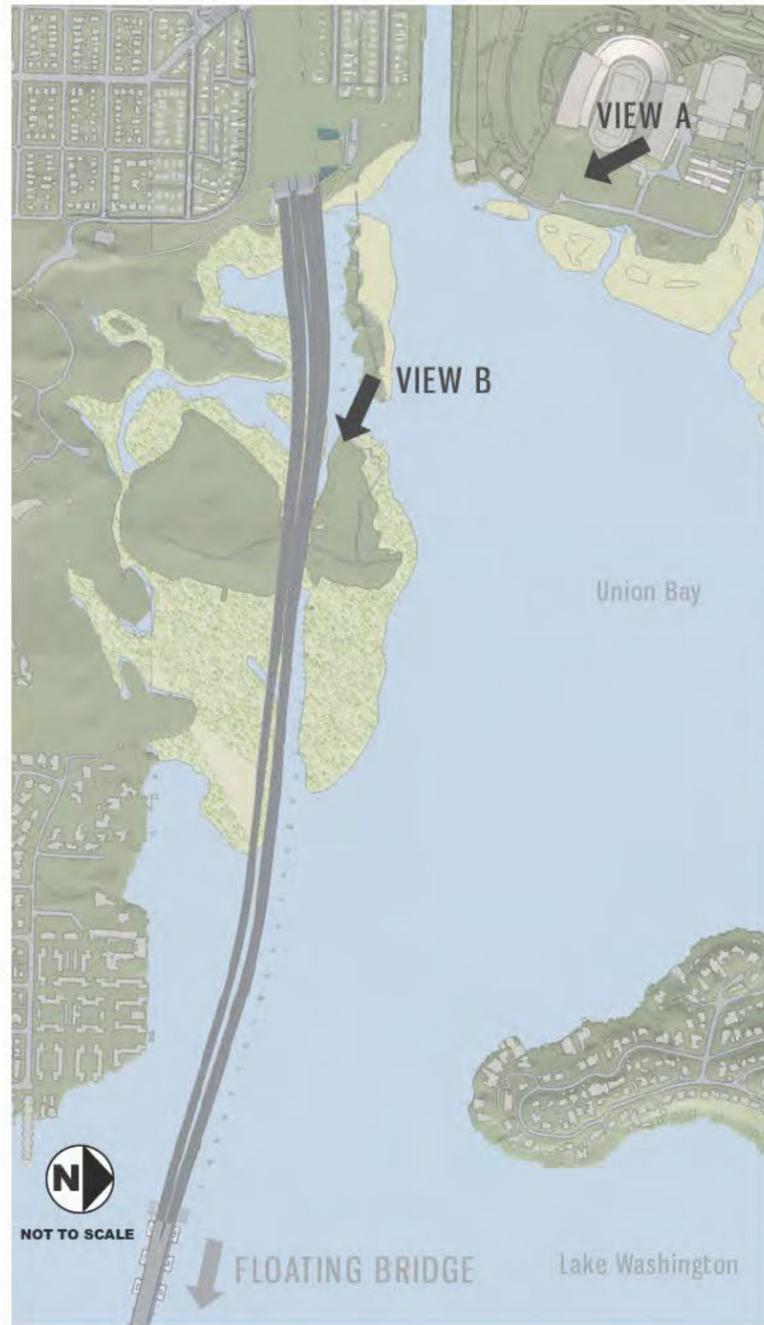
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West Approach Bridge - Visual Comparison with Existing Bridge

**View A from Husky Stadium:
Existing Bridge**



**View A from Husky Stadium:
West Approach Bridge**



**View B from Marsh Island boardwalk:
Existing Bridge**



**View B from Marsh Island boardwalk:
West Approach Bridge**



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West Approach Bridge - Visual Comparison with Existing Bridge

**View C from Webster Point:
Existing Bridge**



**View C from Webster Point:
West Approach Bridge**



**View D from Madison Park:
Existing Bridge**



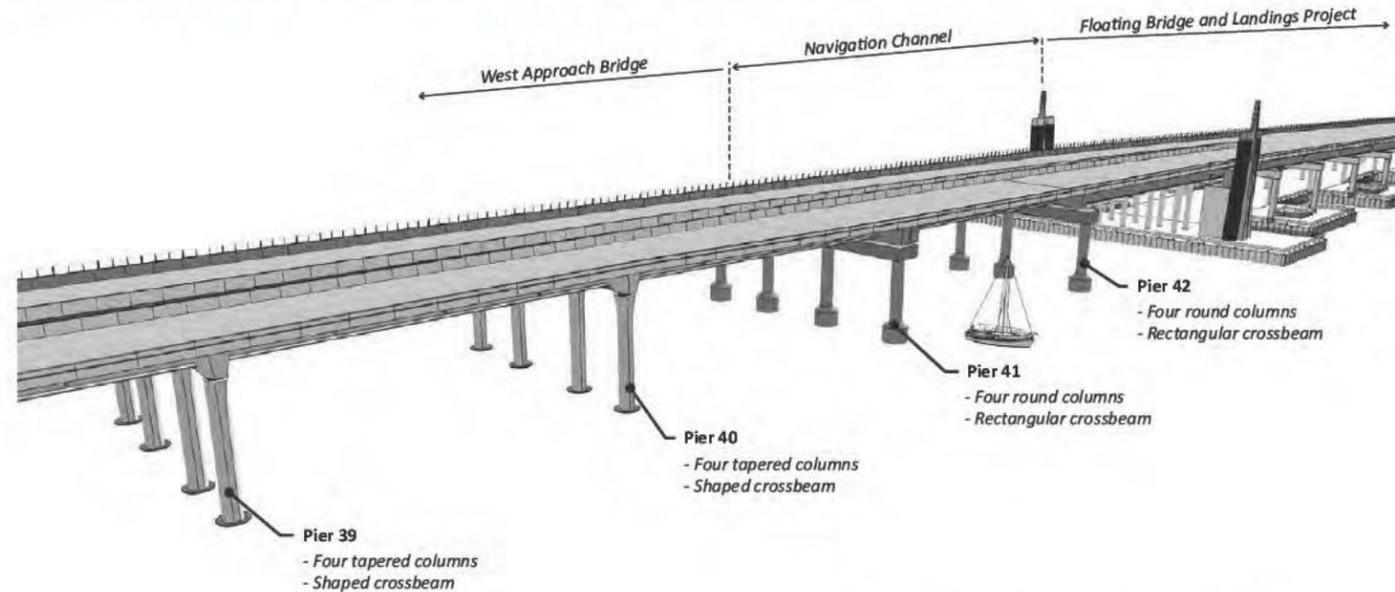
**View D from Madison Park:
West Approach Bridge**



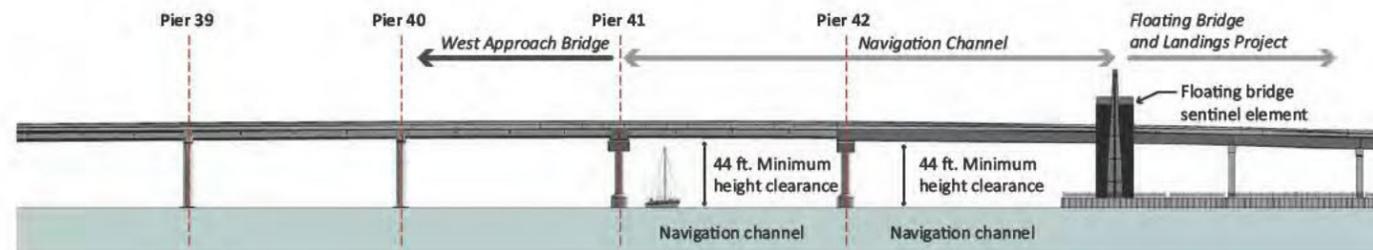
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West Approach Bridge - Project Interface with Floating Bridge

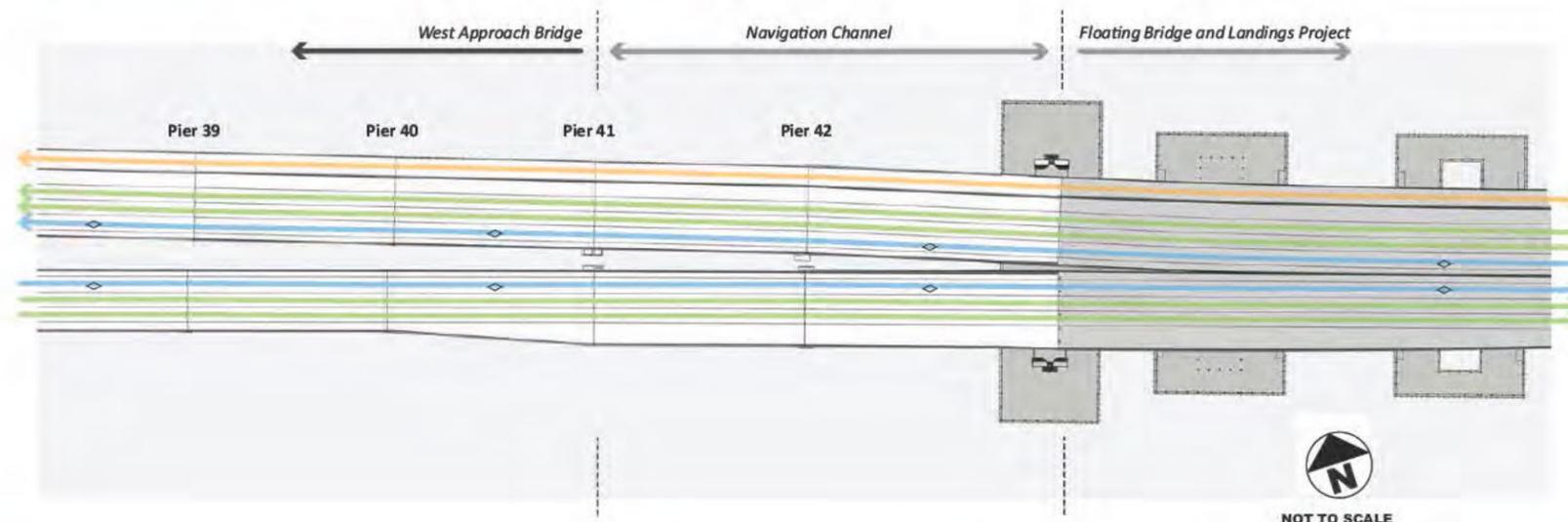
Architectural Features at Project Interface



Transition Span - South Elevation



Channelization at Project Interface



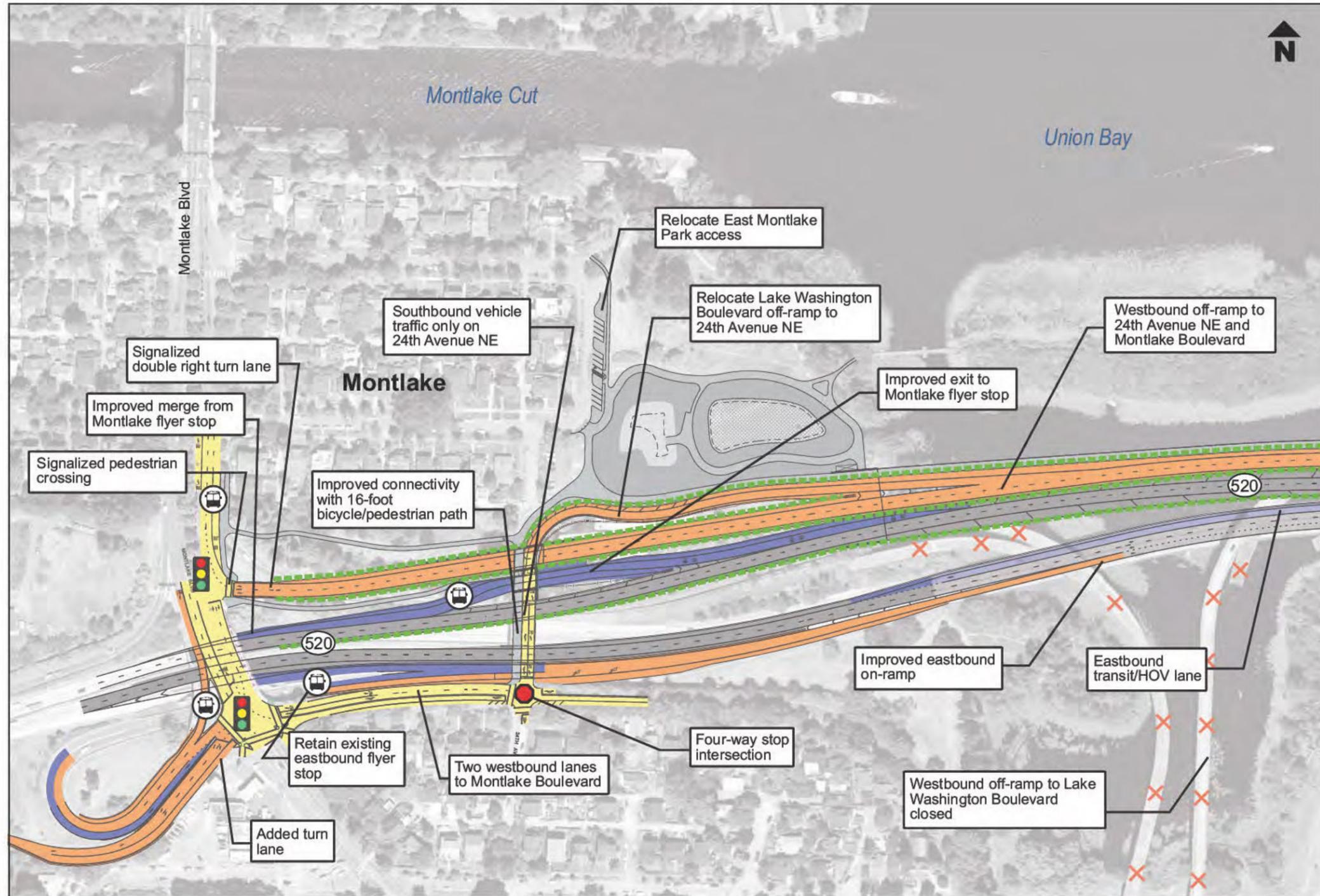
KEY

- Regional shared-use path
- General purpose lanes
- Transit/HOV lanes



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Key features of the West Approach Bridge North phase



Noise reduction strategies

West Approach Bridge North noise-reduction strategies include the following:

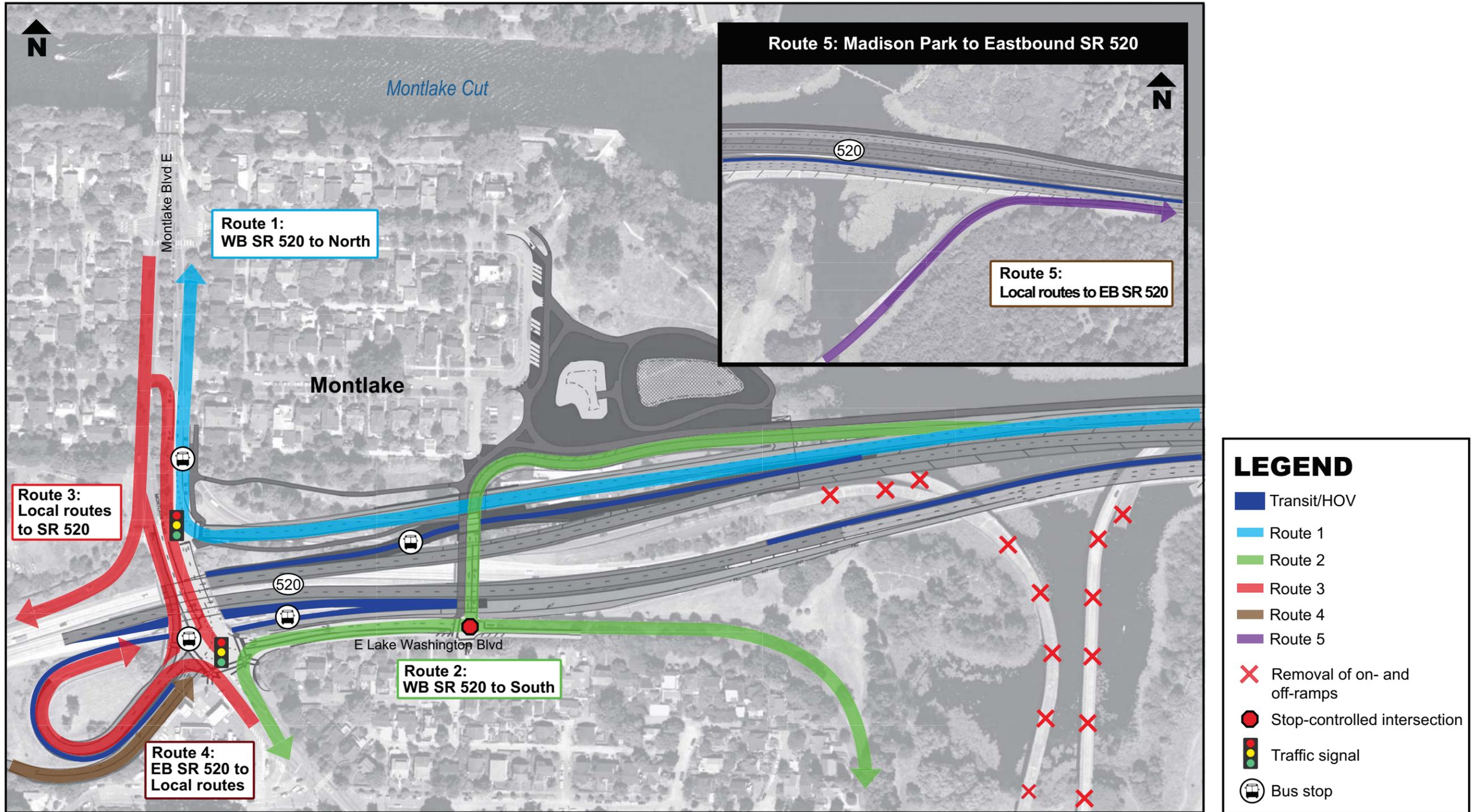
- 4-foot concrete traffic barriers with noise-absorptive coating/material
- Encapsulated bridge joints
- Quieter concrete pavement will also be used on the new bridge

WSDOT will continue to work with the City of Seattle and adjacent communities to look at interim noise abatement measures during construction. This could include measures such as noise barriers, noise screens and/or visual buffers.

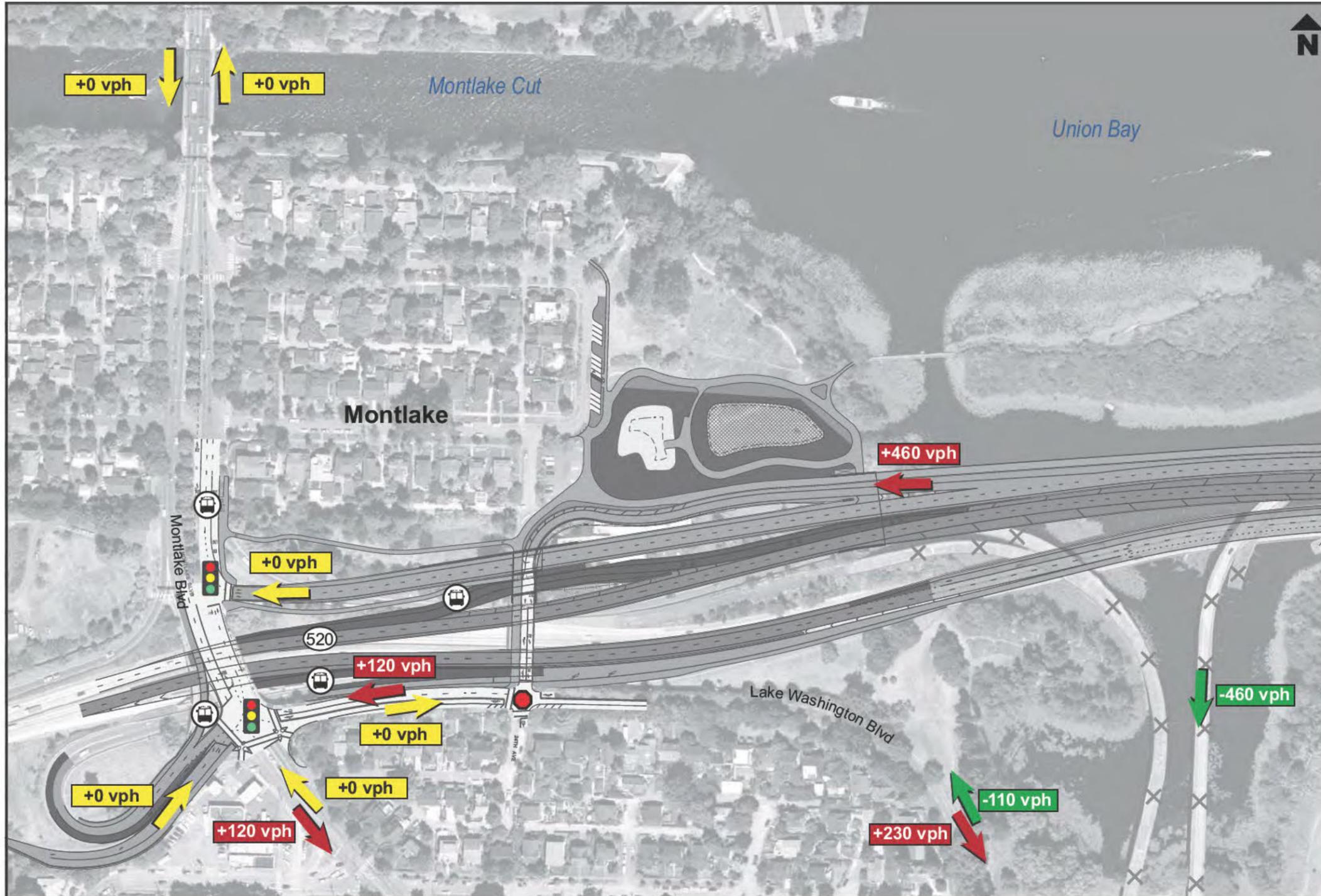
LEGEND

- SR 520 highway
- On- and off-ramps
- Local arterials
- Transit/HOV ramps
- ✗ Removal of on- and off-ramps
- Stop-controlled intersection
- 🚦 Traffic signal
- 🚌 Bus stop
- ▬ 4-foot concrete traffic barriers

How will I travel to my destination?



How will local traffic volumes change with the West Approach Bridge North phase?



What does this mean?

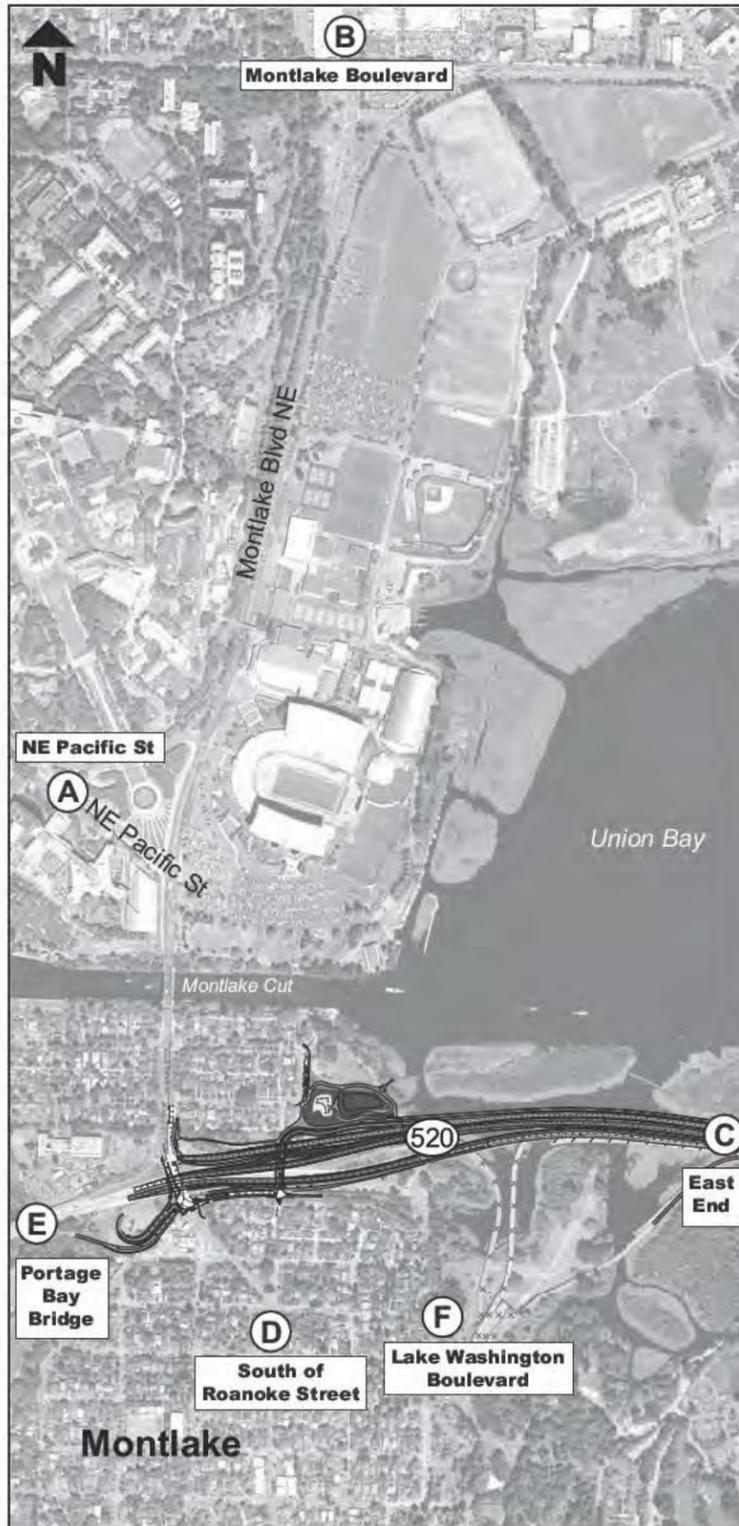
- Westbound Lake Washington Boulevard off-ramp relocated to 24th Avenue East.
- Eastbound Lake Washington Boulevard on-ramp remains open.
- 120 cars per hour represents 2 cars per minute.
- 460 cars per hour represents 8 cars per minute.

LEGEND

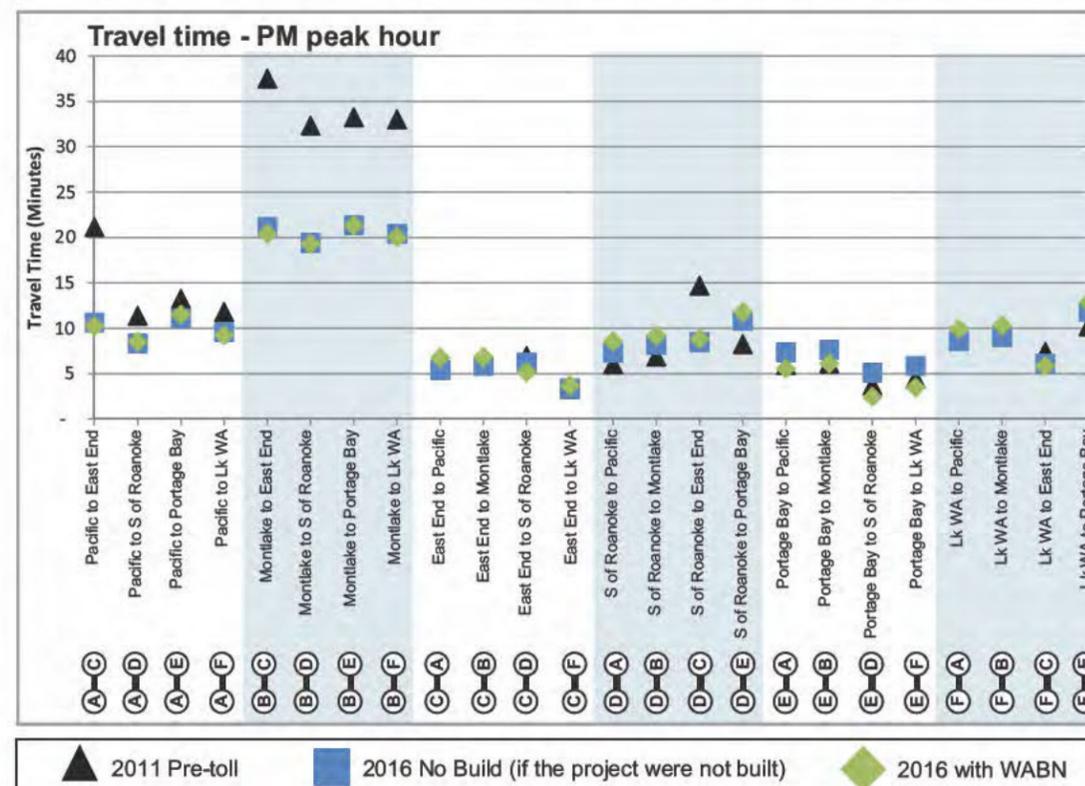
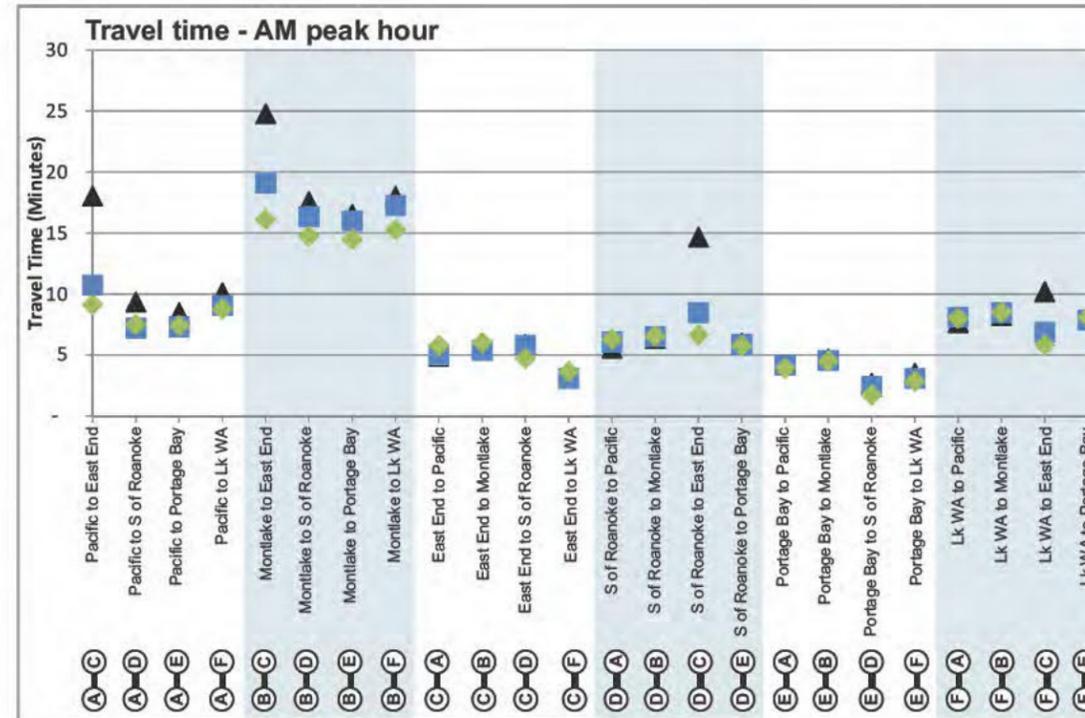
- ➔ Reduced traffic per hour
- ➔ Additional traffic per hour
- ➔ No change in traffic per hour
- ✗ Removal of on- and off-ramps
- Stop-controlled intersection
- 🚦 Traffic signal
- 🚌 Bus stop

Note: All numbers represent change in average vehicles per hour during the afternoon peak period.

Estimated travel times for key local routes after WABN completion



Note: Locations shown on map are approximate.



Key Findings

- Travel times on local routes were longer under pre-toll scenario.
- On average, local travel times will be approximately the same.

Pre-toll compared to 2016 No Build Travel Time Benefit:

- Southbound travel times have improved on Montlake Boulevard
- Travel time to SR 520 eastbound have improved
- Northbound travel times are slightly longer during the evening commute period

2016 No Build compared to 2016 WABN:

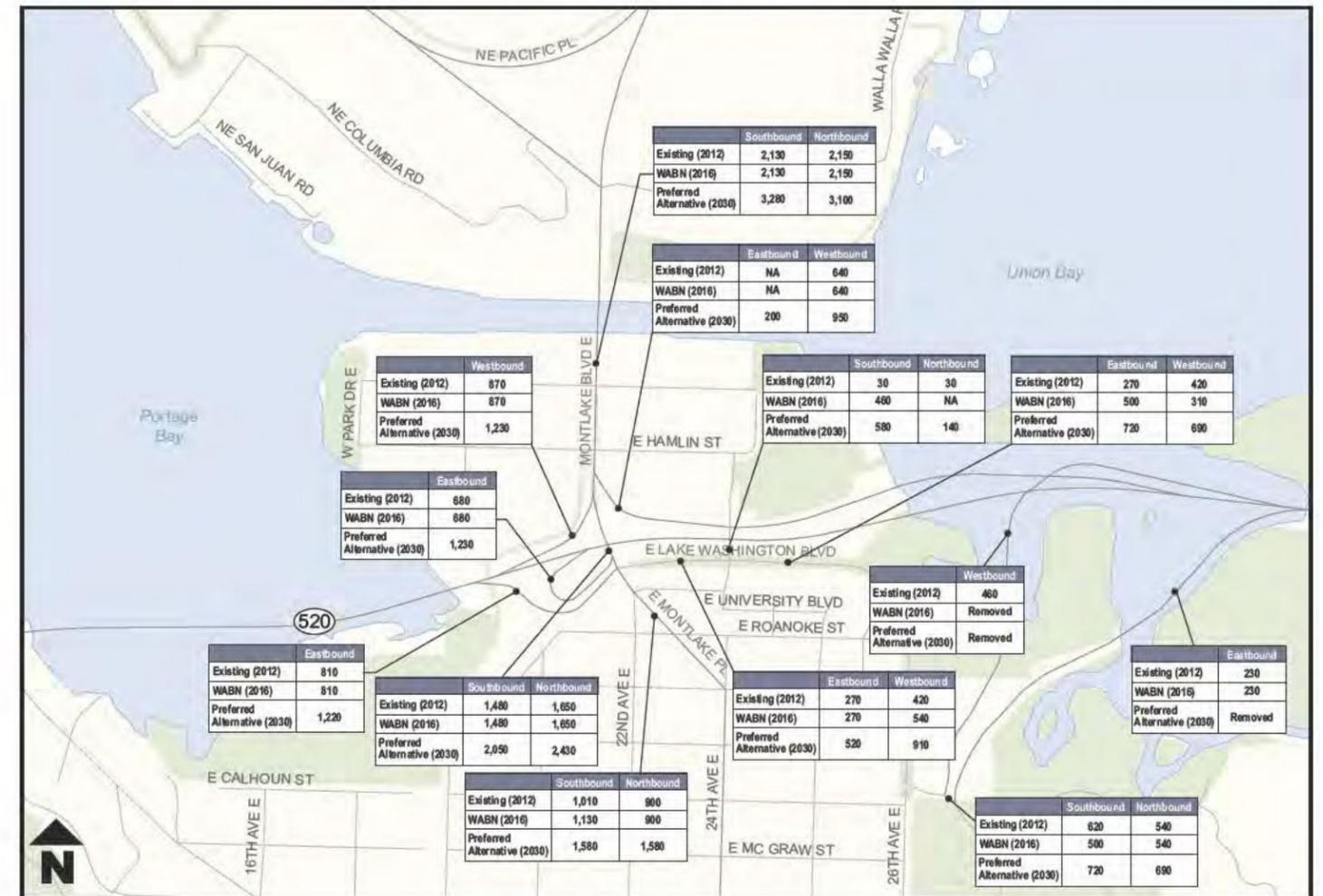
- Morning travel times after WABN is operational will be similar to 2012 travel times
- Eastbound off-ramp to Montlake Boulevard will improve after WABN is operational
- Northbound travel during the evening commute will be slightly longer after WABN is operational
- Signal efficiency allows more traffic to reach arterial rather than being congested on eastbound off-ramp

Traffic volumes in the Montlake area

AM Peak Hour Traffic Volumes (VPH)



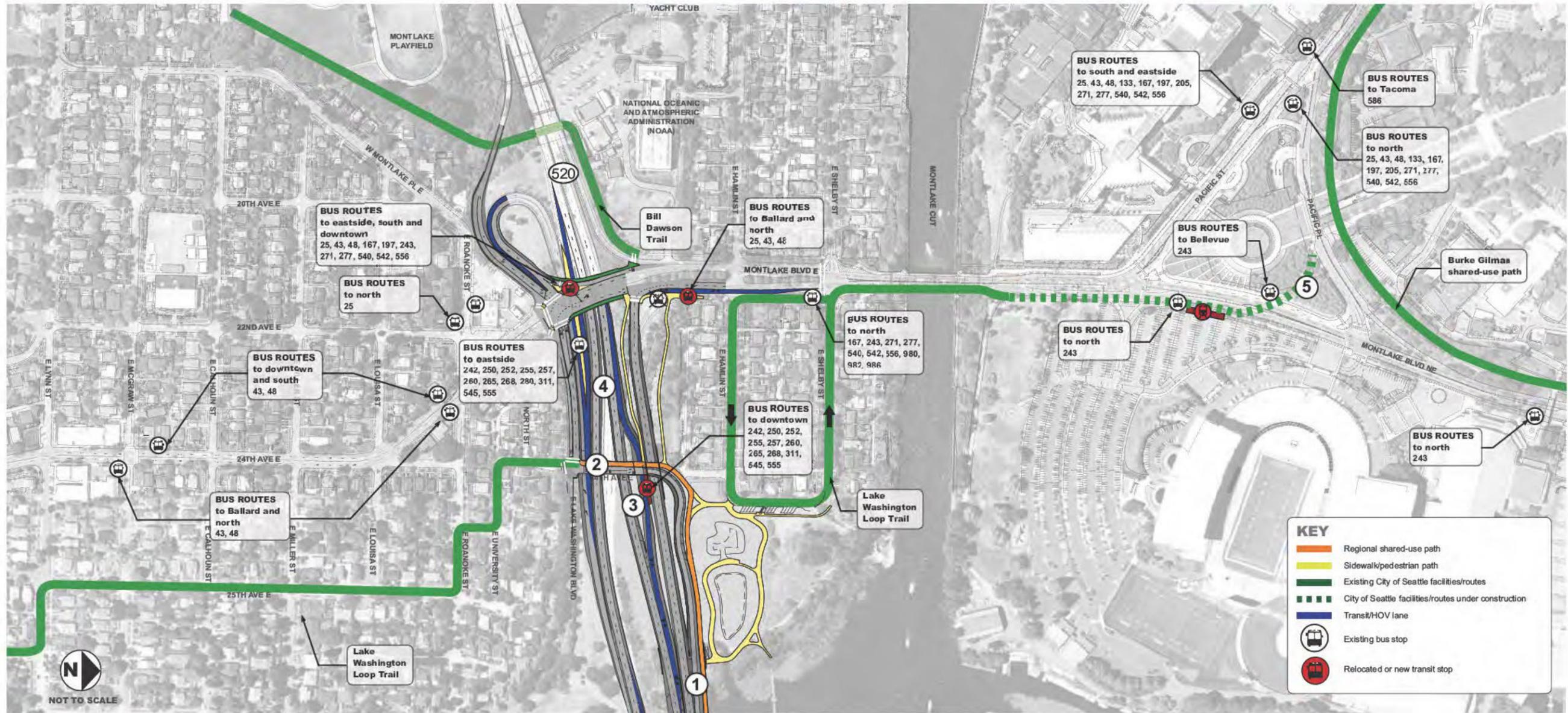
PM Peak Hour Traffic Volumes (VPH)



Source: King County (2008) GIS data (Streams, streets, water body), CH2M Hill (2008) GIS data (park). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.

Note: Traffic volumes are shown in vehicles per hour. This diagram is intended to provide traffic volume information only and does not illustrate changes in roadway configuration for each phase.
WABN: West Approach Bridge North

West Approach Bridge North - Transit and Bicycle/Pedestrian Mobility



Key Benefits

- ① Constructs the permanent regional shared-use path between Redmond and Seattle
- ② Improves bicycle and pedestrian connectivity, including interim bicycle/pedestrian connections at 24th Avenue East
- ③ Maintains regular bus service during construction and includes interim relocation of westbound flyer stop
- ④ Improves traffic and transit mobility by adding eastbound and westbound transit/HOV lanes
- ⑤ Bicycle and pedestrian connections provided from future ULink light rail station with shared-use overcrossing at Montlake Boulevard NE (constructed by others)
- ⑥ Accommodates potential future light rail
- ⑦ Incorporates ongoing community input

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West Approach Bridge North - Sustainability Practices

The West Approach Bridge North (WABN) integrates four key sustainability goals:

- Reuse, reduce, or recycle
- Reclaim existing sites and facilities
- Reduce greenhouse gases
- Improve access for all users

Using these goals, the WABN phase uses criteria to improve the environmental, social, and economic welfare of communities and travelers affected by construction and operation of WABN.

Implementation Criteria

- Assure integration of urban and sustainability design principles.
- Increase transit and HOV access.
- Increase access to public open space.
- Reduce infrastructure impacts on the natural environment.
- Reduce construction-related noise and pollution.
- Advance aquatic, wetland, and parks mitigation.
- Construct the permanent regional shared-use path between Redmond and Seattle.
- Improve bicycle and pedestrian connectivity.
- Improve transit connectivity and reliability by extending the HOV/transit lane to north Seattle.
- Reduce concrete volumes by nearly 50 percent as a result of baseline design refinements.

Reduced infrastructure impacts



Constructed stormwater wetland treats runoff

Aquatic, wetland and parks mitigation



Habitat enhancements restore shorelines and wetlands

Permanent and interim bike/ped connections



Regional shared-use path provides connections across Lake Washington and interim connections at 24th Avenue East

Innovative design and construction techniques

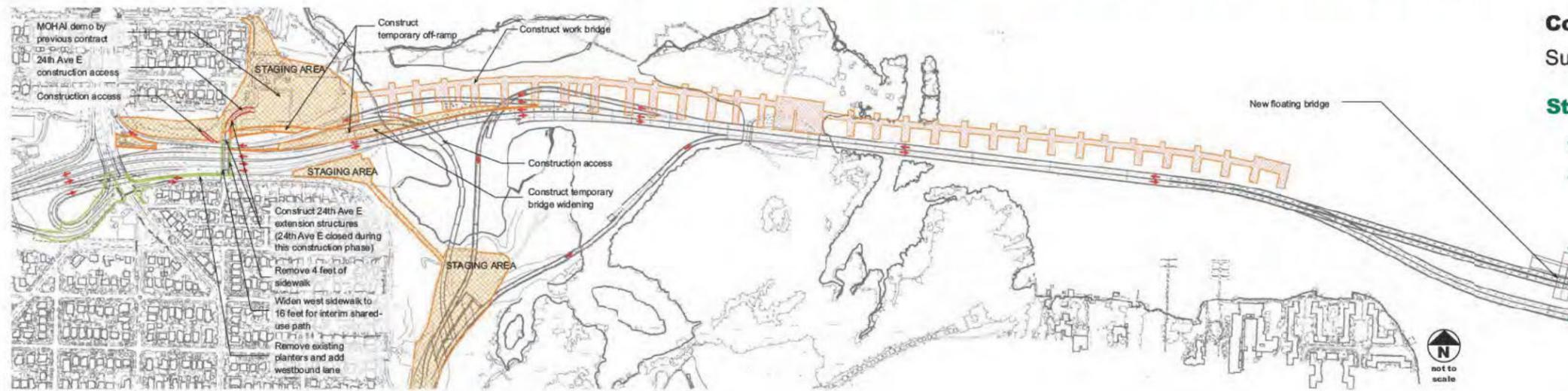


Innovative bridge design reduces concrete volumes by nearly 50 percent

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West Approach Bridge North - Conceptual Construction Staging



Construction Period:

Summer 2014 to Winter 2016

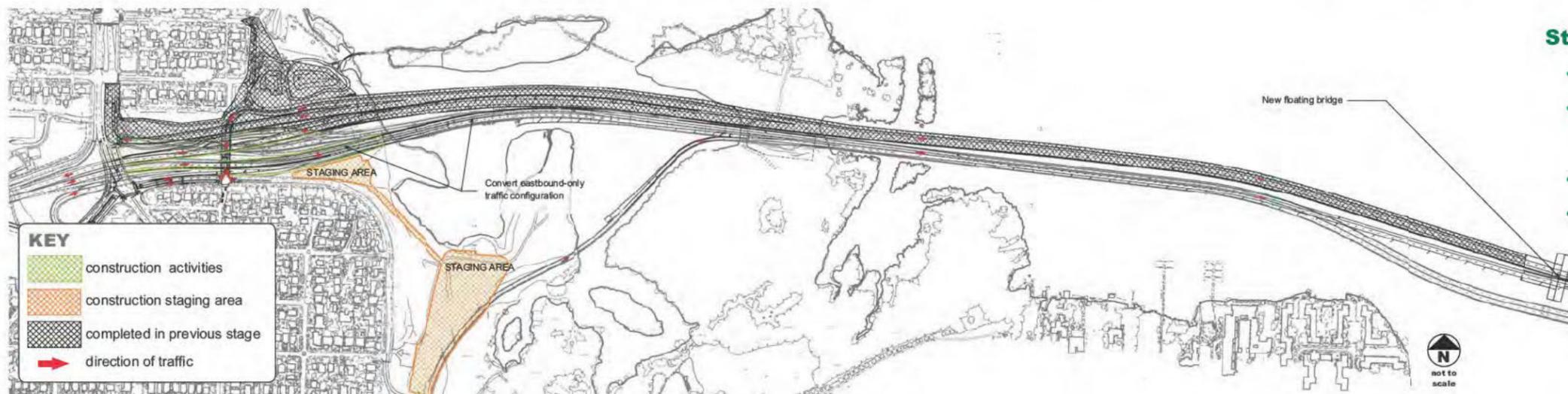
Stage 1 - Approximately 4-6 months duration

- Make local street improvements
- Construct temporary ramp to Montlake Boulevard East and 24th Avenue East
- Extend 24th Avenue East
- Construct work bridge
- Conduct limited lane closures



Stage 2 - Approximately 20-24 months duration

- Construct stormwater facility at old MOHAI site
- Switch traffic to temporary ramp to Montlake and 24th Avenue East
- Remove RH Thompson Expressway ramps and westbound Lake Washington off-ramp
- Continue work bridge construction
- Construct West Approach Bridge North
- Conduct limited weekend and night closures



Stage 3 - Approximately 2-3 months duration

- Remove work bridge
- Conduct paving and grading work at the west end
- Reconfigure traffic to 6-lane
- Conduct limited weekend and night closures

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West Approach Bridge North - Construction Commitments

As the West Approach Bridge North (WABN) phase of the SR 520 project moves forward, the Washington State Department of Transportation (WSDOT) is committed to construction management practices that avoid, minimize, and mitigate the effects of WABN construction activities on neighbors, communities and the traveling public.



Community Construction Management Plan (CCMP)

A CCMP is a plan developed between WSDOT and local communities that outlines best practices and communication tools to minimize construction effects. Examples include a Tree and Vegetation Management and Protection Plan and other commitments made through the Section 106 process. Additional detail about the CCMP for the WABN phase of construction will be made available at project-related public meetings coming soon.

Neighborhood Traffic Management Plan (NTMP)

The Seattle Department of Transportation (SDOT) and WSDOT are developing a Neighborhood Traffic Management Plan for the Seattle neighborhoods around the SR 520 project area to identify issues and solutions to neighborhood traffic concerns through an advisory group, which will:

- Define traffic management measures to proactively reduce SR 520 project construction effects.
- Develop long-term traffic management strategies.

Appropriate regulatory mitigation measures

Regulatory mitigation will address effects to parks, cultural and historic resources, and wetland and aquatic resources.

Design techniques to minimize effects

WSDOT will incorporate the following design techniques to minimize impacts:

- Streamlined bridge design with fewer columns than prior designs. This design reduces overall materials and equipment needs.
- Use of pre-cast materials built off-site to minimize activity on Lake Washington.

Construction Techniques

WSDOT will:

- Keep SR 520 open to traffic during construction with limited weekend and evening closures in coordination with other projects.
- Build the west approach structure using work bridges and limited barge work in order to limit truck traffic on local streets.
- Restrict nighttime construction work to reduce noise effects.
- Evaluate ways to buffer and screen adjacent communities from construction activities.