Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

STATE ROUTE 520

SR 520 Program Overview

Summer 2013

The SR 520 Bridge Replacement and HOV Program is under construction, building vital safety and mobility improvements along the SR 520 corridor in Seattle, on Lake Washington, and on the Eastside.

The SR 520 program will invest more than $4 billion to replace vulnerable bridges and structures to meet modern safety standards. It will also improve travel reliability by adding continuous transit/HOV lanes, a new bicycle/pedestrian path across the lake, new shoulders, and improved interchanges throughout the corridor.

Construction is in full swing on new pontoons in Aberdeen and Tacoma, a new floating bridge on Lake Washington, and transit and HOV improvements to the Eastside. The next phase of construction is the West Approach Bridge North Project in Seattle, set to begin in summer 2014.

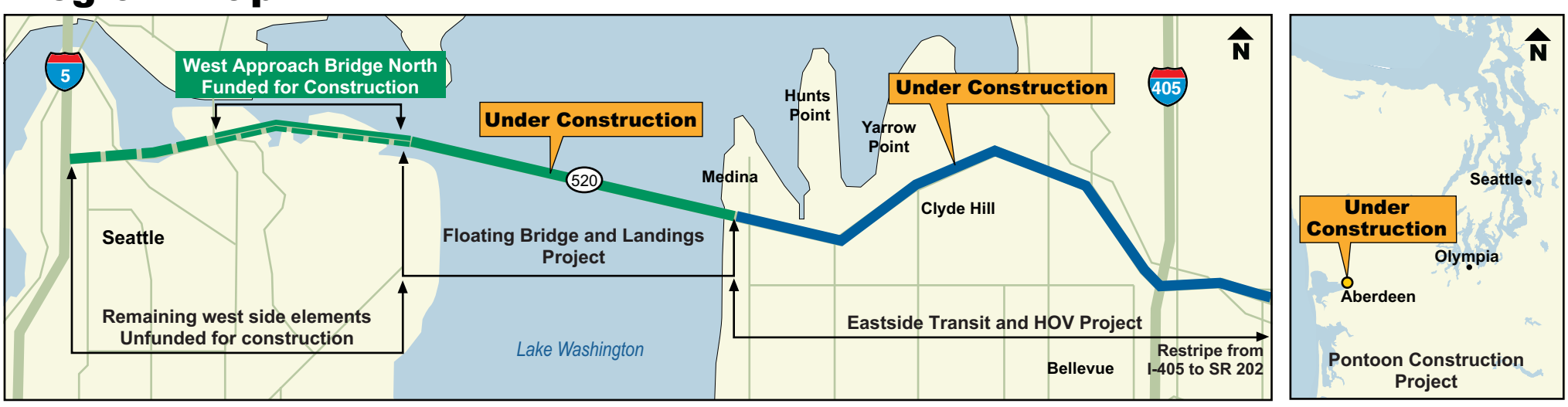
Rendering of the new SR 520 floating bridge, looking east

I-5 to Medina: Bridge Replacement and HOV Project
Replaces the SR 520 floating bridge, approaches and roadway with six lanes between I-5 and the eastern shore of Lake Washington. The floating bridge is currently under construction.

Medina to SR 202: Eastside Transit and HOV Project
Completes and improves the transit and HOV system from Evergreen Point Road in Medina to the SR 202 interchange in Redmond.

Pontoon Construction Project
Advances pontoon construction to replace the SR 520 floating bridge.

Program map



Major construction durations

	2011	2012	2013	2014	2015	2016
Pontoon Construction Project	■	■	■	■		
Eastside Transit and HOV Project	■	■	■			
Floating Bridge and Landings Project		■	■	■	■*	
West Approach Bridge North Project				■	■	■

***** *The contract allows until July 2015 to open the new bridge to traffic. The existing bridge will be removed after the new bridge is opened.*

Cost and funding

SR 520 program cost estimate - Updated 10/25/12		**$4.13B**
Funding received to date		**$2.72B**
State funding (Nickel and TPA)	$0.55B	
Federal funding	$0.12B	
SR 520 Account (tolling and future federal funding)	$1.61B	
TIFIA loan	$0.30B	
Deferred sales tax	$0.14B	
Unfunded need		**$1.40B**

Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

Building SR 520 in Seattle

Summer 2013

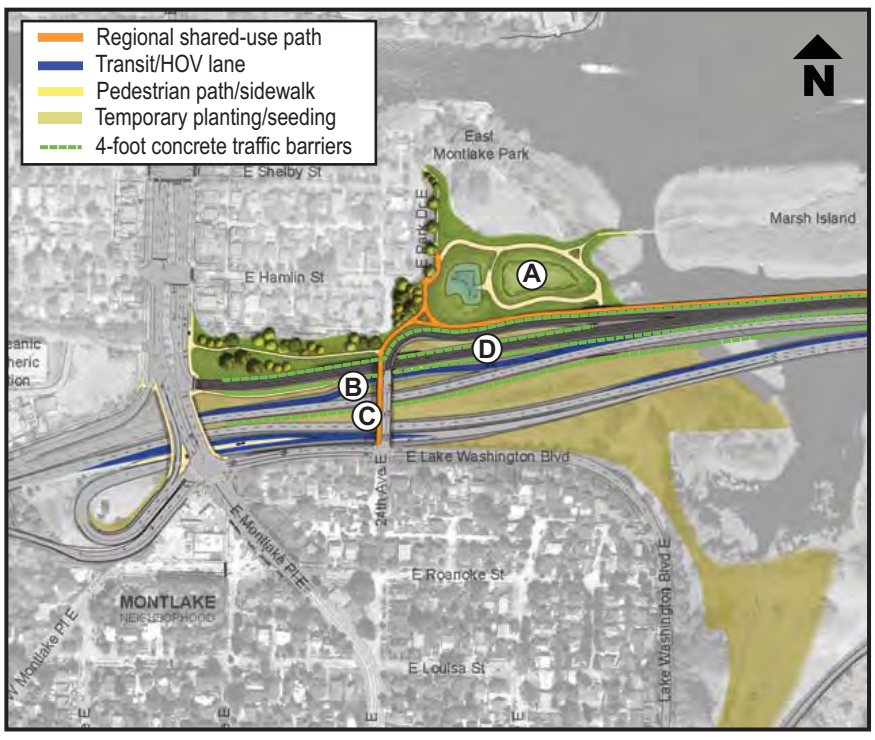
West Approach Bridge North Project

The existing west approach bridge connects the floating bridge to the Montlake interchange. The hollow columns supporting the bridge are vulnerable to a catastrophic earthquake, and the four-lane roadway has narrow shoulders and lacks transit/HOV lanes. The new west approach bridge will be built as two separate structures, a north bridge and a south bridge. At this time, WSDOT is funded to build the north half of the west approach bridge.

When complete, the West Approach Bridge North will connect westbound traffic from the floating bridge to Montlake. It will also feature a new 14-foot-wide regional bicycle/pedestrian path and a dedicated transit/HOV lane.

Eastbound traffic will continue to use the existing west approach structure until funding is provided for the south half of the new west approach bridge.

Construction is scheduled to start in summer 2014, and we plan to open the new west approach bridge north to drivers in fall 2016.



Bicyclists and pedestrians will enjoy a 14-foot-wide shared-use path.

LEGEND:

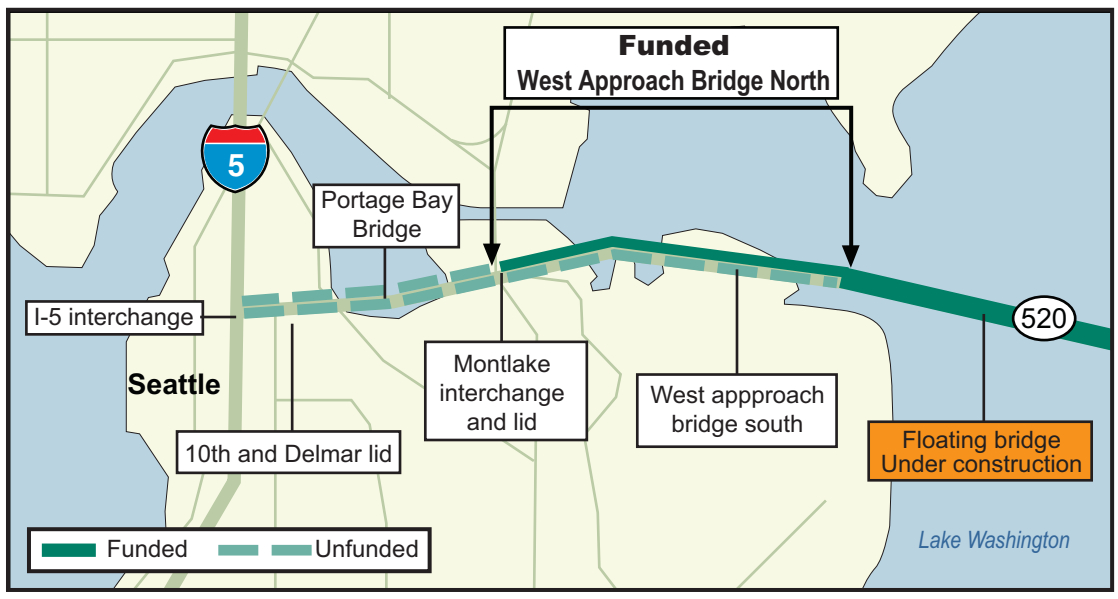
Ⓐ New stormwater treatment facility
Ⓑ Relocated Montlake freeway transit stop
Ⓒ New 24th Avenue East off-ramp and shared-use path
Ⓓ Two westbound lanes to Montlake Boulevard

What's next in Seattle?

WSDOT is continuing to seek funding to complete the remaining project elements in Seattle:

- West approach bridge (south half)
- Montlake interchange and lid
- Portage Bay Bridge
- 10th and Delmar area lid
- I-5 interchange

As funding is received, WSDOT will continue to work with the City of Seattle, surrounding neighborhoods and the traveling public to finalize design and construct the remaining portions of the corridor. Construction phasing will be determined as funding is received.



Program contact information

For more information:

Phone: 1-888-520-NEWS (6397)

Email: SR520Bridge@wsdot.wa.gov

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

Address: SR 520 Bridge Replacement and HOV Program
999 3rd Avenue, Suite 900
Seattle, WA 98104

Construction and closure information available online

www.wsdot.wa.gov/projects/SR520Bridge/WeekendClosures.htm

Washington State Department of Transportation

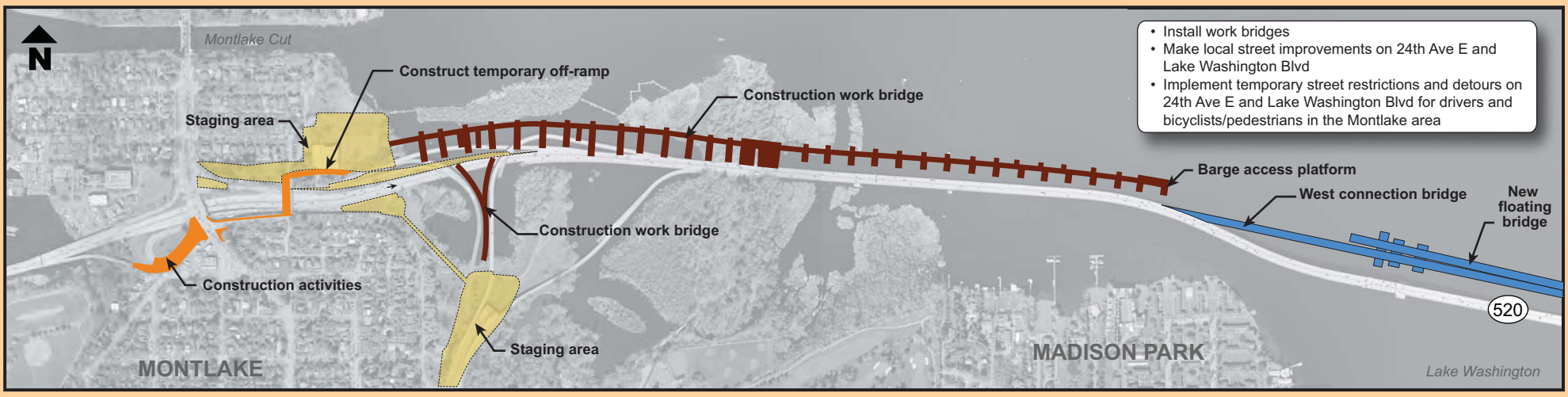
SR 520 Bridge Replacement and HOV Program

Coming soon: West Approach Bridge North construction

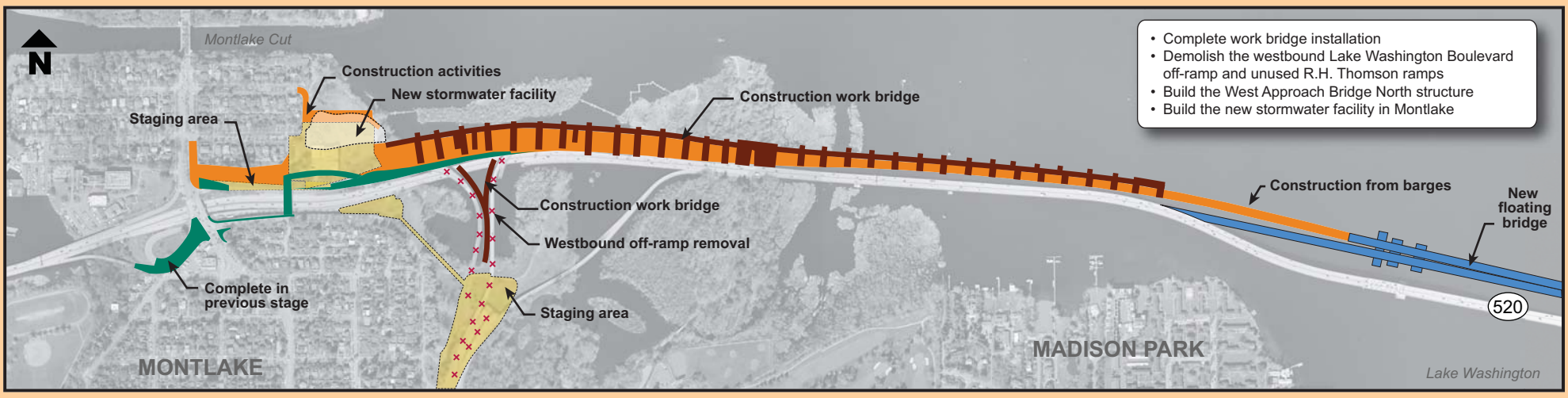
Summer 2014 through Fall 2016

Summer 2013

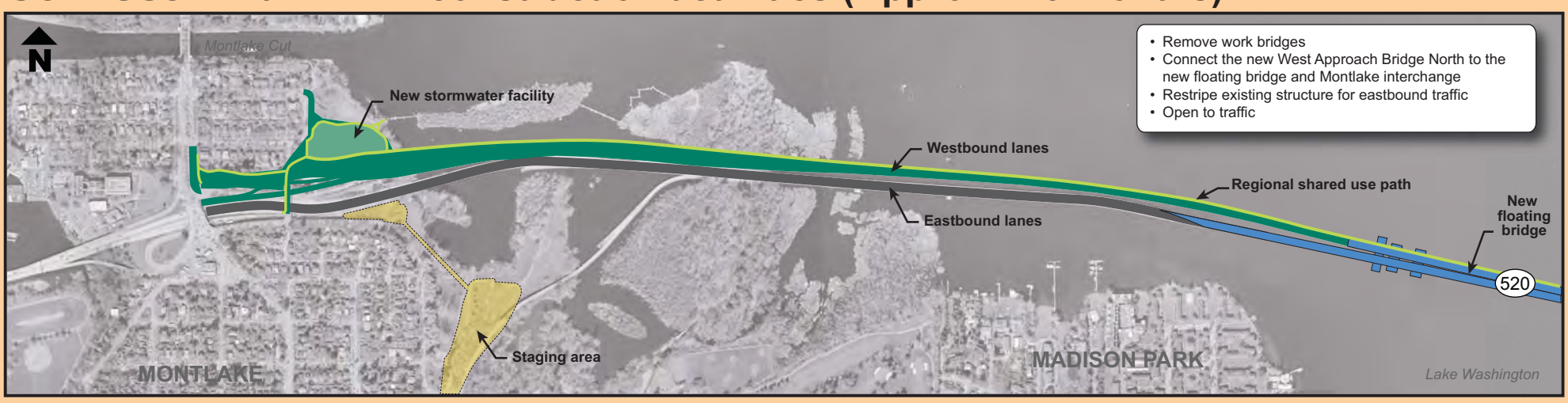
Prepare: Early construction activities (Approx. 4-6 months)



Build: Primary construction activities (Approx. 20-24 months)



Connect: Final WABN construction activities (Approx. 2-3 months)



How will WSDOT minimize construction effects?

As the West Approach Bridge North project moves forward WSDOT will employ construction techniques that minimize effects on neighbors and the traveling public, including the following:

- 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 barges 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
- Continue to coordinate with the community and City of Seattle on interim noise reduction measures

How can I get involved and find out more?

WSDOT is working to develop a Community Construction Management Plan (CCMP) that outlines best practices and communication tools to minimize construction effects. For example, the CCMP could identify opportunities for noise buffers and screening where appropriate for the duration of construction.

Additional detail about the CCMP process for West Approach Bridge North project will be made available on WSDOT's website, and will be provided at project-related public meetings later this year.

Crews use construction barges to complete work on new in-water structures on Lake Washington.

Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

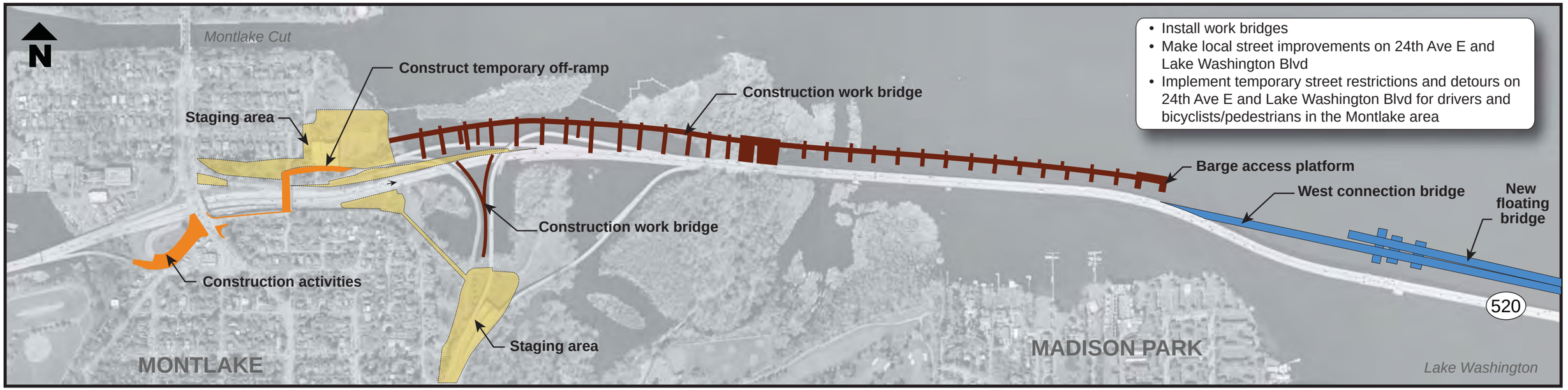
STATE ROUTE 520

Coming soon: West Approach Bridge North construction

Summer 2014

Summer 2014 through Fall 2016

Prepare: **Early construction activities (Approx. 4-6 months)**



LEGEND

- Staging areas
- Bicycle/pedestrian path
- Construction work bridge
- Existing roadway restriped
- Construction activities
- Construction completed
- ××× Ramp removal
- New floating bridge

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Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

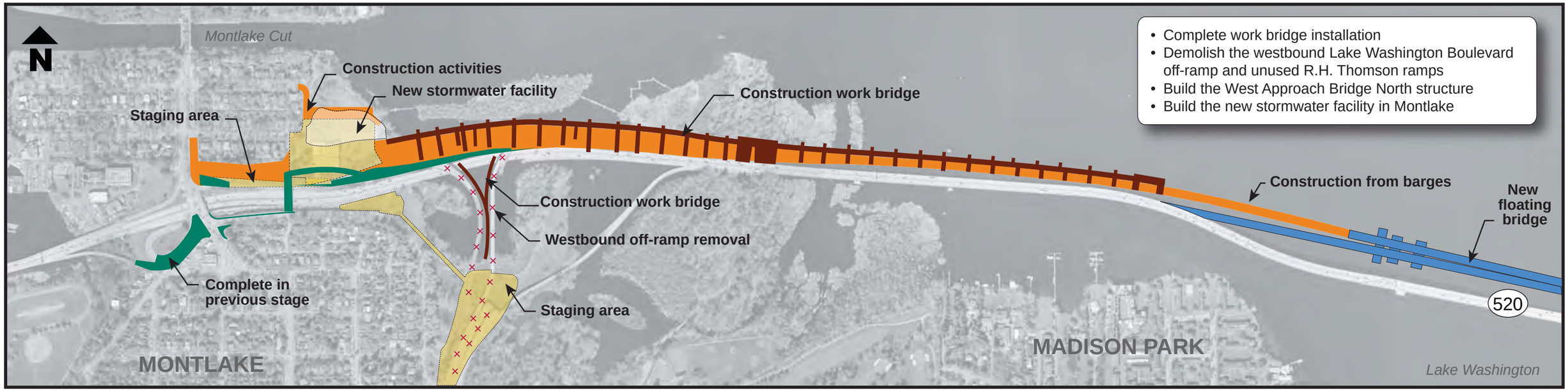
STATE ROUTE 520

Coming soon: West Approach Bridge North construction

Summer 2014

Summer 2014 through Fall 2016

Build: **Primary construction activities (Approx. 20-24 months)**



LEGEND

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Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

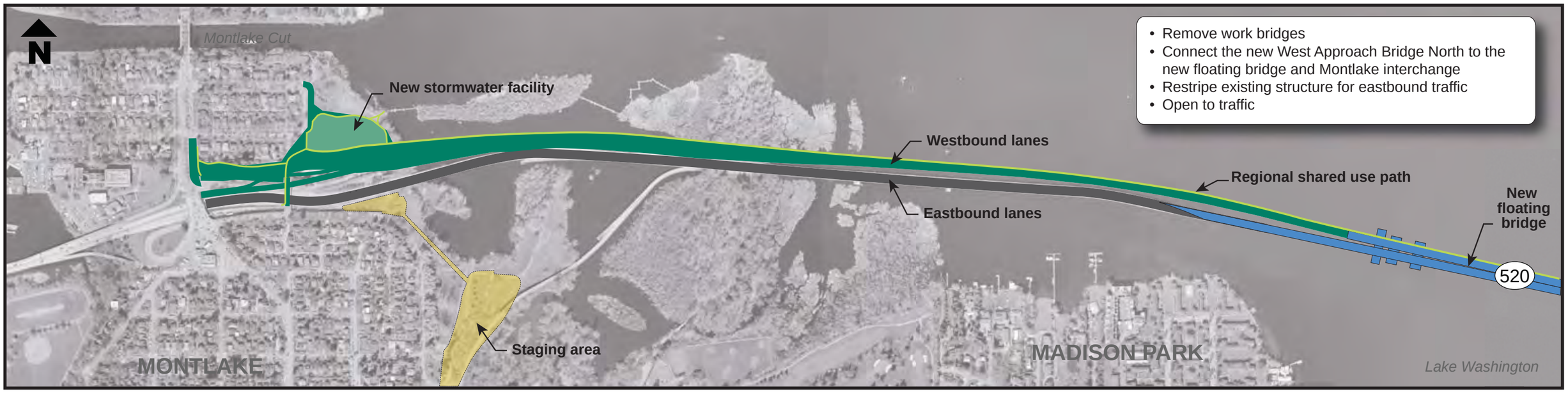
STATE ROUTE 520

Coming soon: West Approach Bridge North construction

Summer 2014

Summer 2014 through Fall 2016

Connect: **Final WABN construction activities (Approx. 2-3 months)**



LEGEND

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Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

STATE ROUTE 520

Construction notification information

WSDOT offers several options to stay up to date on the latest construction information:

Online:

- **SR 520 Orange Page:**
  www.wsdot.wa.gov/Projects/SR520Bridge/520orangepage/
  - Upcoming highway lane and ramp closures, nighttime noise, construction notices and other construction activities

- **Upcoming SR 520 full highway closures:**
  www.wsdot.wa.gov/Projects/SR520Bridge/WeekendClosures.htm
  - Upcoming weekend closure dates and detour maps

- **SR 520 drawspan information:**
  www.wsdot.wa.gov/Projects/SR520Bridge/BridgeAndLandings/DrawspanInfo.htm
  - Allowable opening hours and how to request an opening

- **Seattle area traffic:**
  www.wsdot.com/traffic/seattle/default.aspx
  - Live traffic maps, cameras and alerts

Phone and Email:

- **SR 520 construction hotlines:**
  - Eastside: 425-998-5200
  - Floating bridge: 425-576-7098
  - 24 hour Construction Hotline: 206-708-4657
- **Sign up for email or text alerts:**
  public.govdelivery.com/accounts/WADOT/subscriber/new?

Social media:

- **WSDOT Twitter:**
  @wsdot: Statewide news and information
  @wsdot_traffic: Puget Sound area traffic updates

- **WSDOT Facebook:**
  www.facebook.com/wsdot

On the road:

- Smarter Highways and other electronic message signs on SR 520, I-5, I-90 and I-405

Washington State Department of Transportation

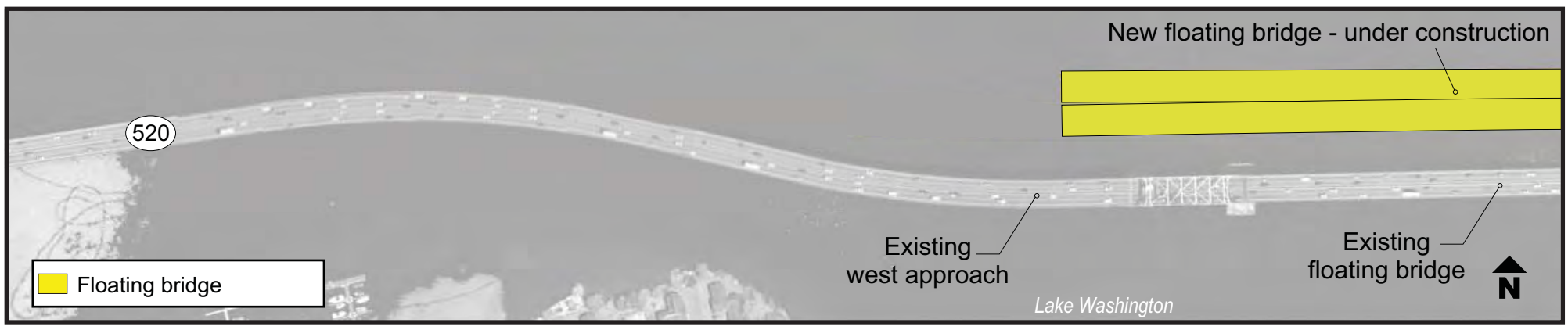
SR 520 Bridge Replacement and HOV Program

How will the West Approach Bridge North interface with other planned SR 520 projects?

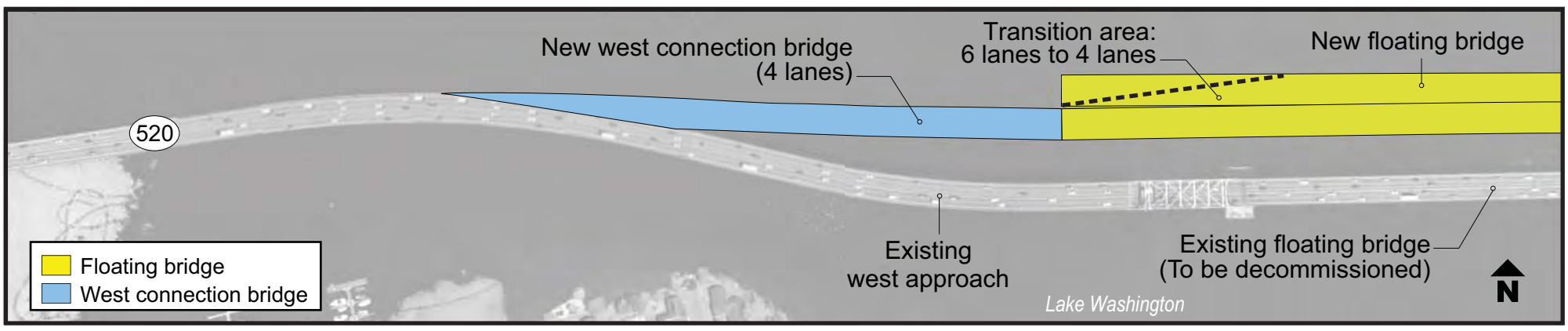
Summer 2013

The construction schedule for WABN is carefully timed to coincide with activities for both the new floating bridge and the west connection bridge:

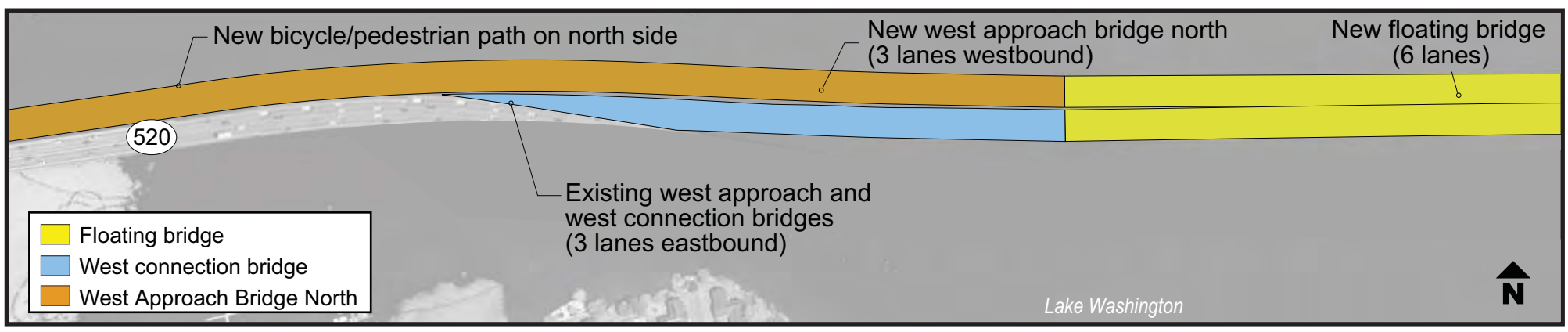
Floating bridge: Work on the new floating bridge is already underway on Lake Washington.



West connection bridge: Later in 2013, we'll begin building a structure that will connect the new floating bridge to the existing west approach bridge.

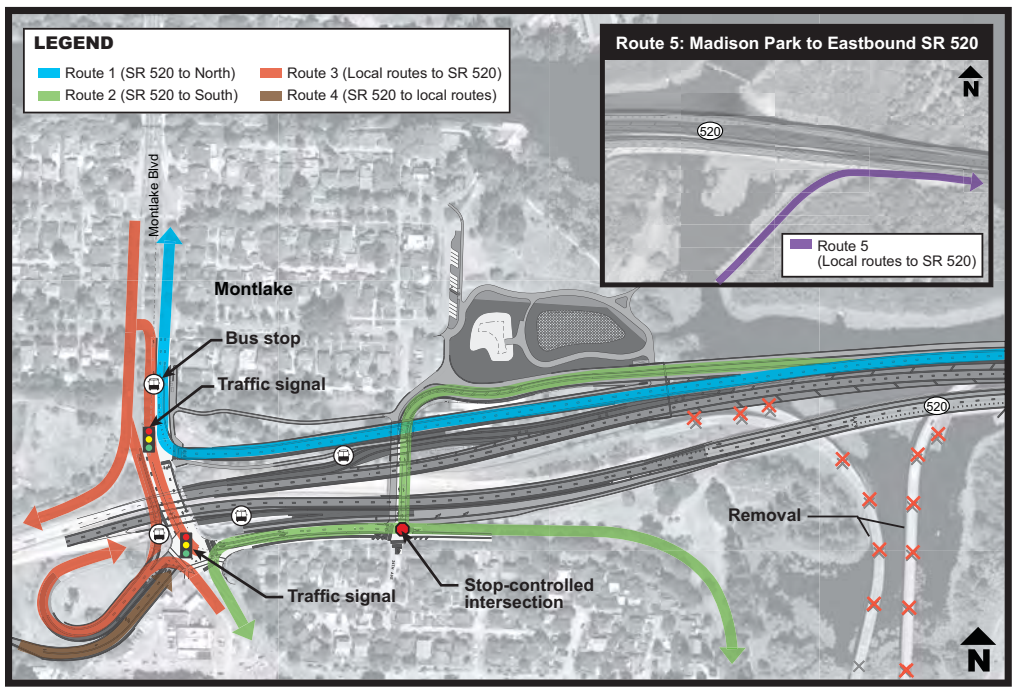


West Approach Bridge North: Starting in summer 2014, we will start work on the WABN. When WABN is complete, westbound traffic will travel on the new structure while eastbound traffic will travel on the existing west approach and the west connection bridge.



How will I drive around the Montlake area when the West Approach Bridge North is complete?

When the West Approach Bridge North project is complete, traffic access in the Montlake area will be similar to today. The key difference for drivers is that the westbound Arboretum off-ramp will be removed, and its function replaced by a new off-ramp at 24th Avenue East (indicated by the green line below). Local routes in the Montlake area are also shown below.



Community and environmental benefits

Bicyclists travel along Lake Washington Boulevard.

WSDOT strives to be a good neighbor and plans to implement a number of wetland and park improvements as part of the West Approach Bridge North (WABN) project.

Environmental enhancements will be made in the Arboretum at the Arboretum Creek, Azalea Way Pond, and Foster Island, and at sites on Lake Washington, Union Bay, Cedar River, and other locations.

Community improvements include a new multi-use trail in the Arboretum and a public park north of SR 520 on Portage Bay. A new, landscaped stormwater facility will also improve local trail connections near East Montlake Park.

When the WABN structure opens to drivers, it will also open to bicyclists. The new 14-foot-wide bicycle and pedestrian path on the north side will connect to the Montlake area, providing a second connection across Lake Washington.

Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

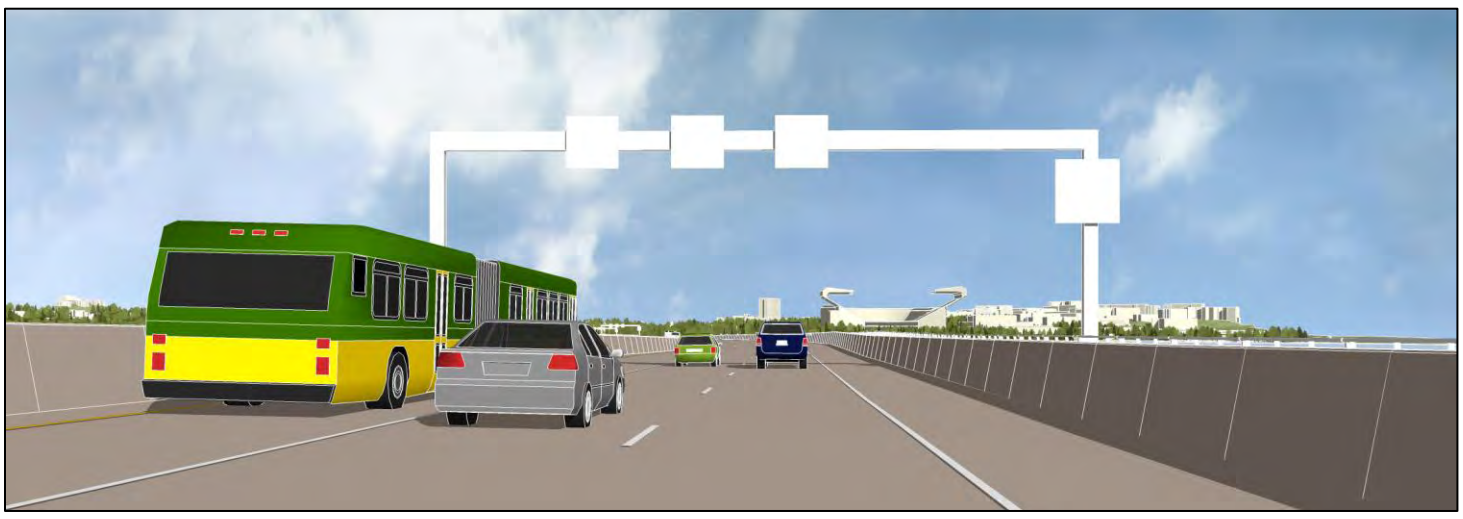
SR 520 - West Approach Bridge North Project Design

May 2013

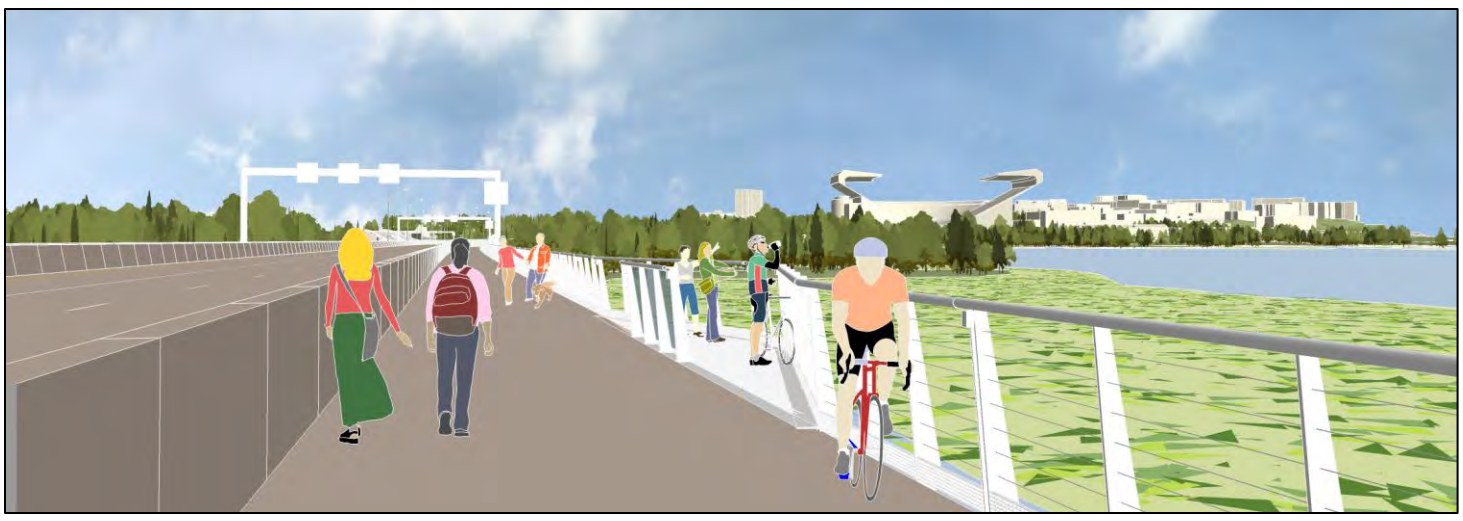
What will I see when traveling across the west approach bridge?

New features that SR 520 users will notice when driving, cycling, or walking across the west approach bridge include:

- Wider lanes and shoulders
- Four-foot noise reduction barriers
- 14-foot regional shared-use path on the north side of the bridge
- New Foster Island undercrossing
- "Belvederes," or viewpoints, along the shared-use path



When WABN opens to traffic in 2016, buses and carpools will be able to use a dedicated transit/HOV lane Between the Eastside and Montlake interchange.



Bicyclists and pedestrians enjoy the 14-foot-wide shared-use path.

Updated highway interchanges facilitate traffic exiting the highway.

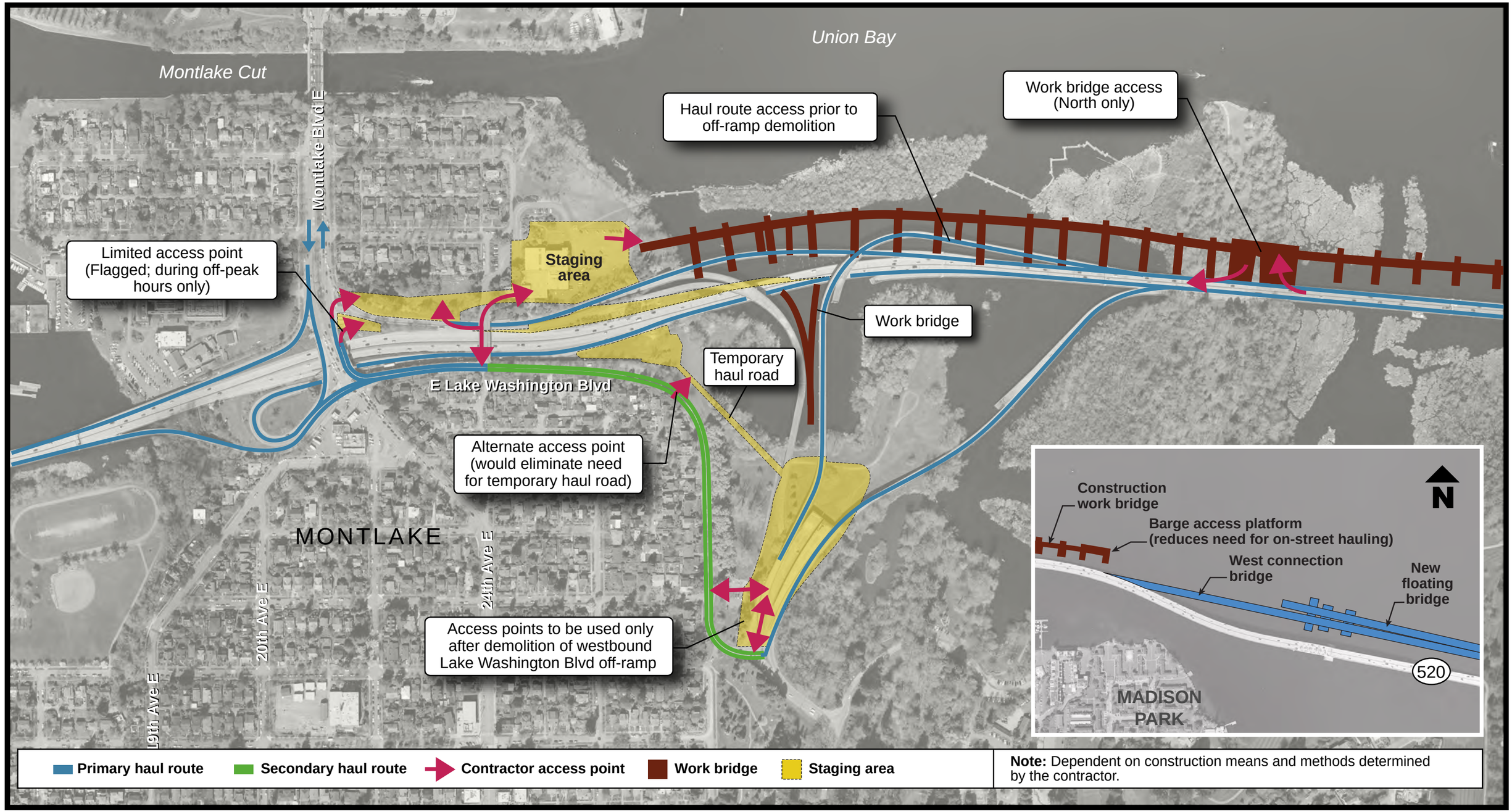
Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

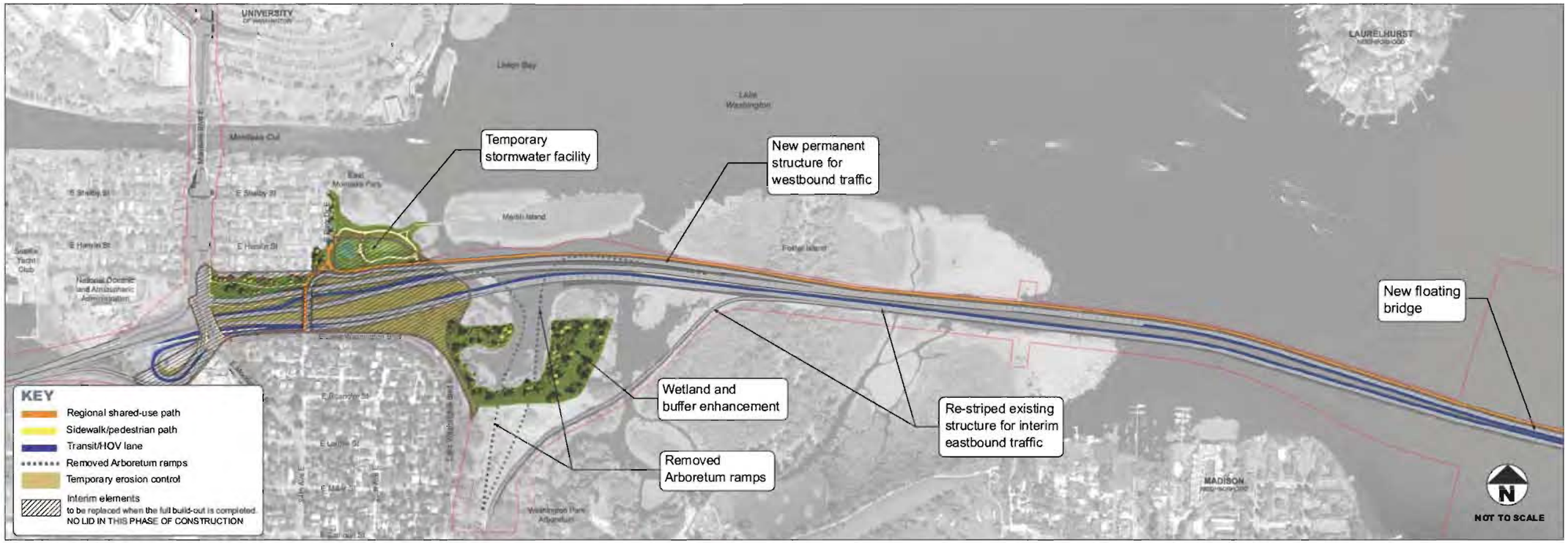
STATE ROUTE 520

Construction access and haul routes for West Approach Bridge North

June 2013



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

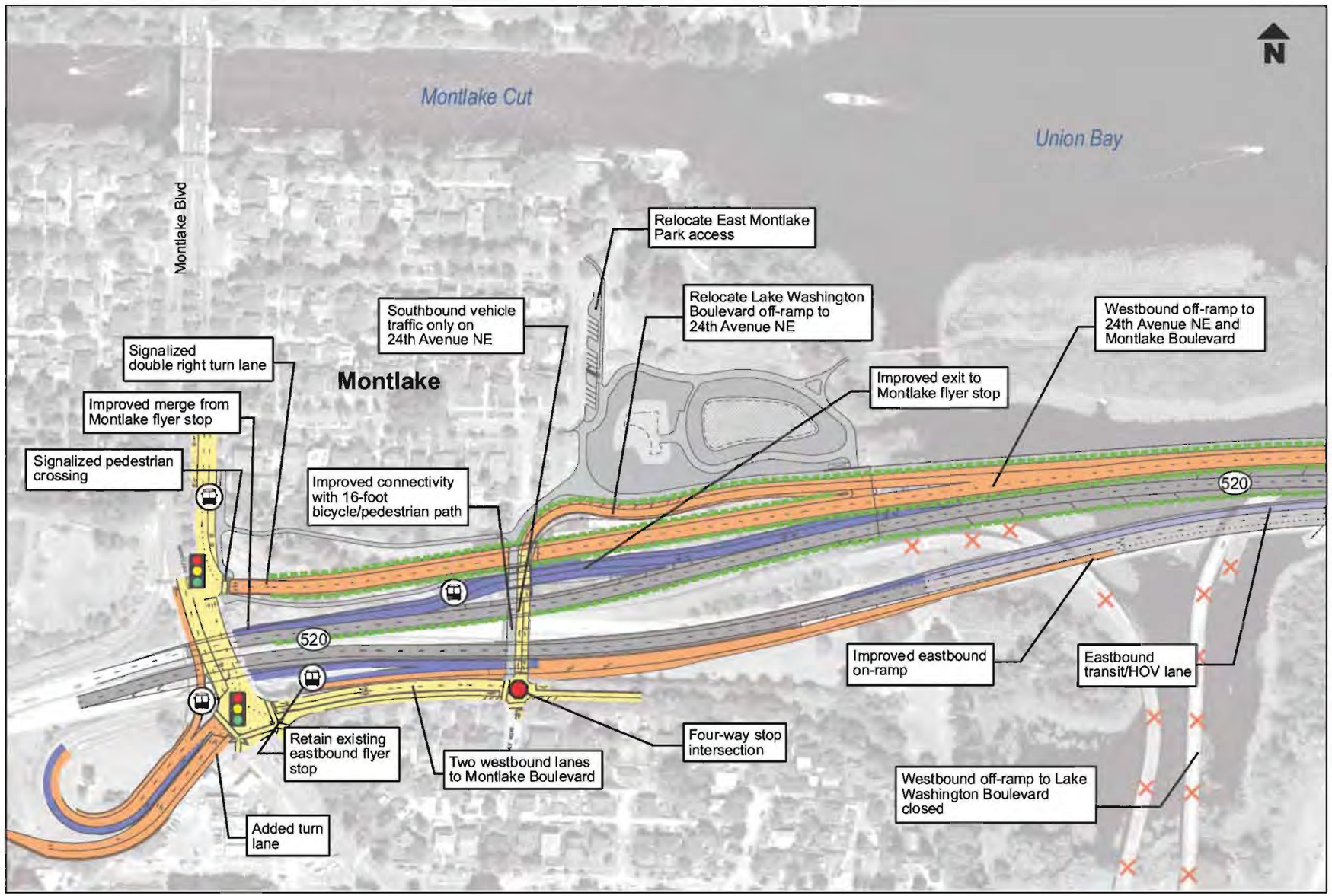
- Advances aquatic, wetland, and parks mitigation
- Constructs the permanent regional shared-use path between Redmond and Seattle
- Improves bicycle and pedestrian connectivity
- Maintains existing bus service and access
- Improves transit connectivity and reliability by extending the HOV/transit lane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

Construction Period

Summer 2014 to Winter 2016

CONCEPTUAL
DRAFT - THIS SKETCH ONLY DEPICTS THE IDEA. ENGINEERING, OPERATIONS AND ENVIRONMENTAL ANALYSIS REQUIRED.

Key features of the West Approach Bridge North phase



Noise reduction strategies

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

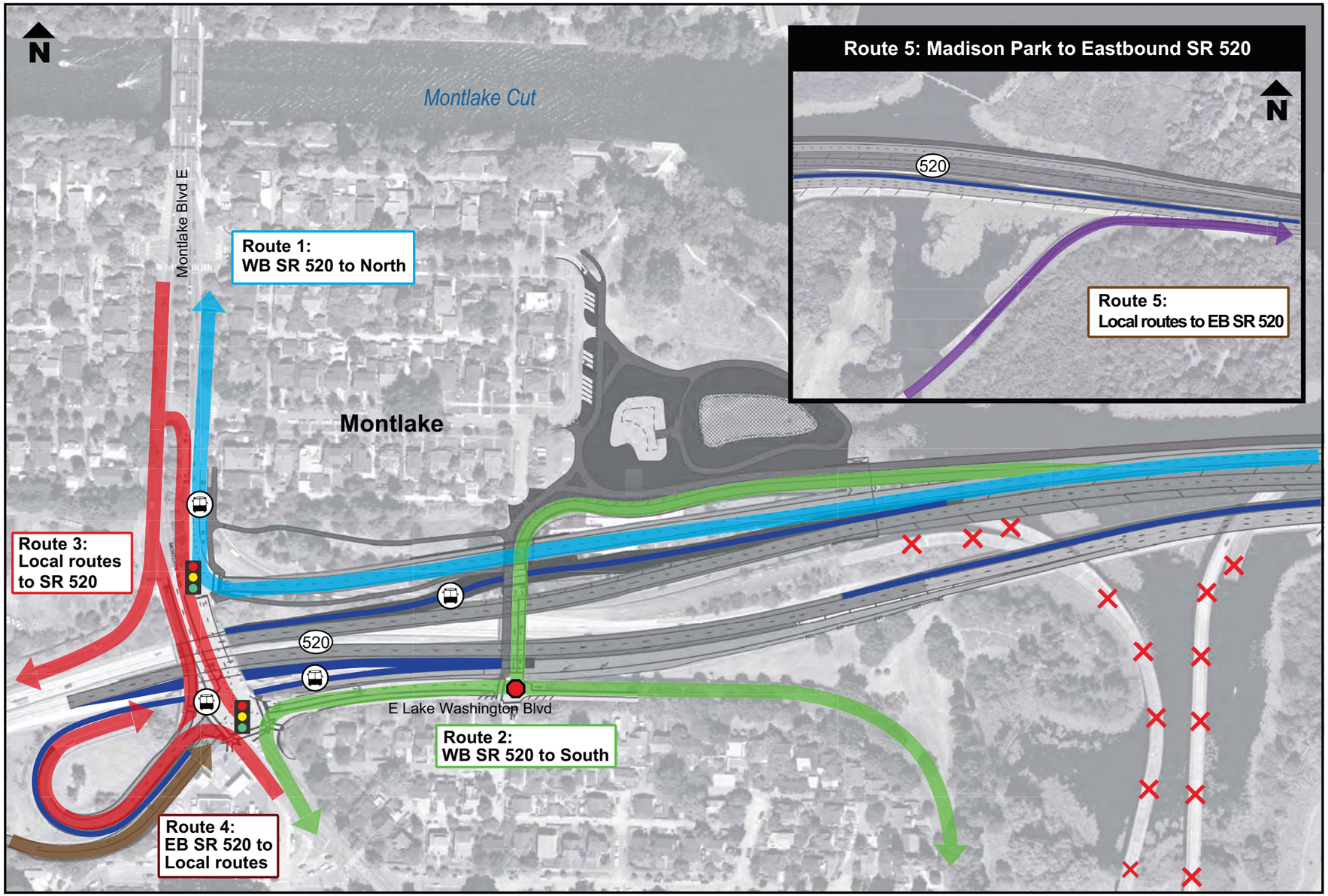
- 4-foot concrete traffic barriers with noise-absorptive coating/material
- Encapsulated bridge joints
- Quieter concrete pavement will also be used on the new bridge

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

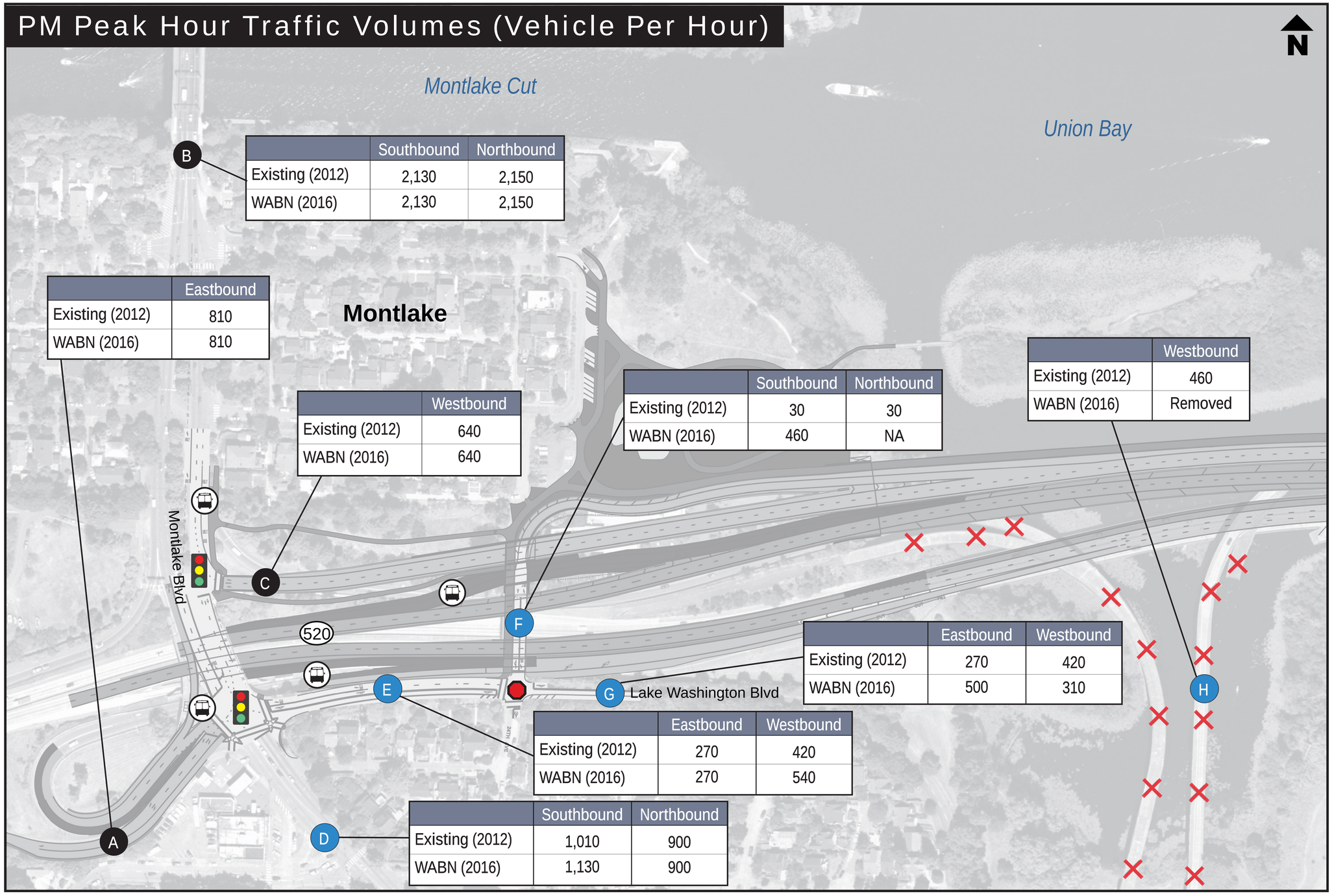
- SR 520 highway
- On- and off-ramps
- Local arterials
- Transit/HOV ramps
- Removal of on- and off-ramps
- Stop-controlled intersection
- Traffic signal
- Bus stop
- 4-foot concrete traffic barriers

How will I travel to my destination?



Traffic volumes in the Montlake area (existing and with WABN)

PM Peak Hour Traffic Volumes (Vehicle Per Hour)



	Southbound	Northbound
Existing (2012)	2,130	2,150
WABN (2016)	2,130	2,150

	Eastbound
Existing (2012)	810
WABN (2016)	810

	Westbound
Existing (2012)	640
WABN (2016)	640

	Southbound	Northbound
Existing (2012)	30	30
WABN (2016)	460	NA

	Westbound
Existing (2012)	460
WABN (2016)	Removed

	Eastbound	Westbound
Existing (2012)	270	420
WABN (2016)	500	310

	Eastbound	Westbound
Existing (2012)	270	420
WABN (2016)	270	540

	Southbound	Northbound
Existing (2012)	1,010	900
WABN (2016)	1,130	900

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

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.

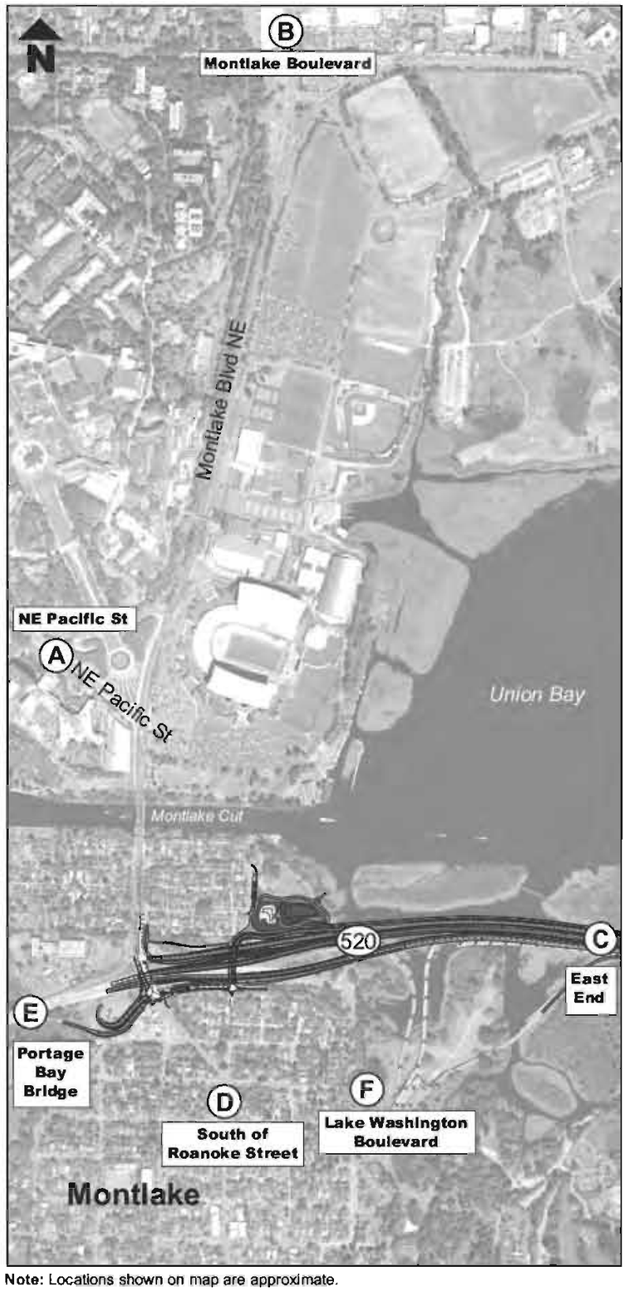
LOCATIONS

- A Eastbound off-ramp to Montlake Blvd.
- B Montlake Blvd. across Montlake Bridge
- C Westbound off-ramp to Montlake Blvd.
- D Montlake Blvd. south of E. Lake Washington Blvd.
- E E. Lake Washington Blvd. west of 24th Ave E.
- F 24th Ave E.
- G E. Lake Washington Blvd. east of 24th Ave. E.
- H Westbound off-ramp to Lake Washington Blvd. (to be removed)

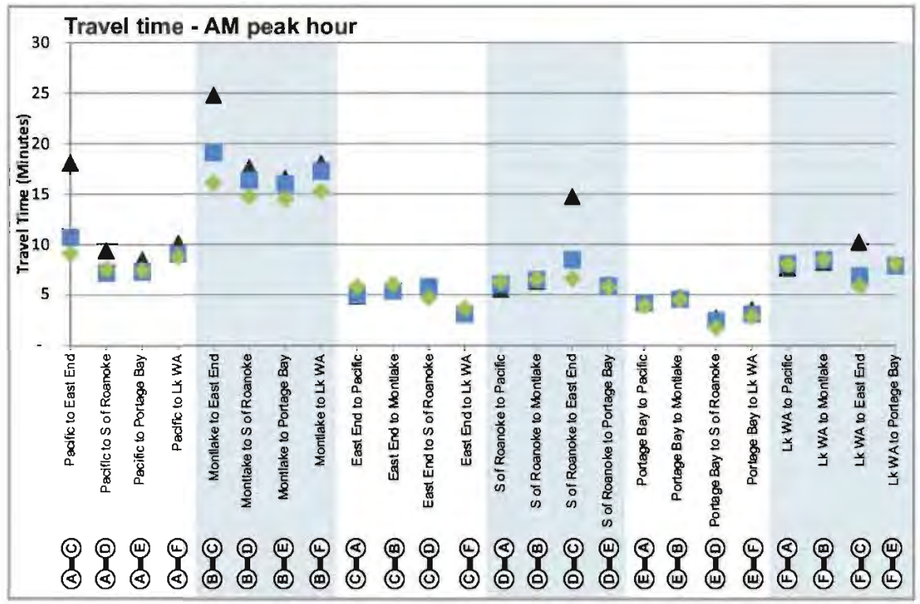
LEGEND

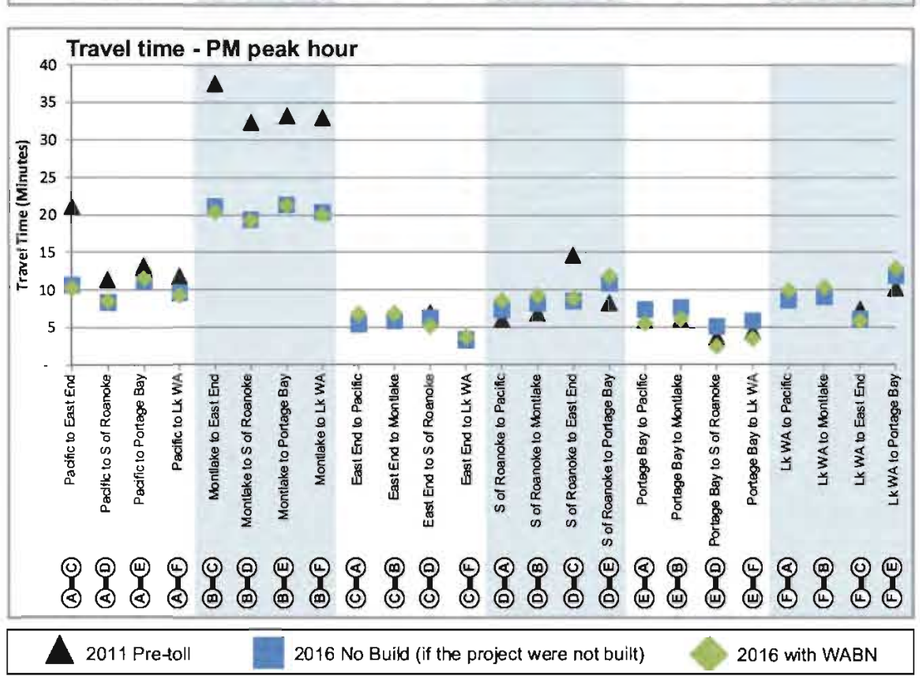
- No traffic volume change with WABN
- Traffic volume change with WABN
- Ramp removal
- Stop-controlled intersection
- Traffic signal
- Bus stop

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:

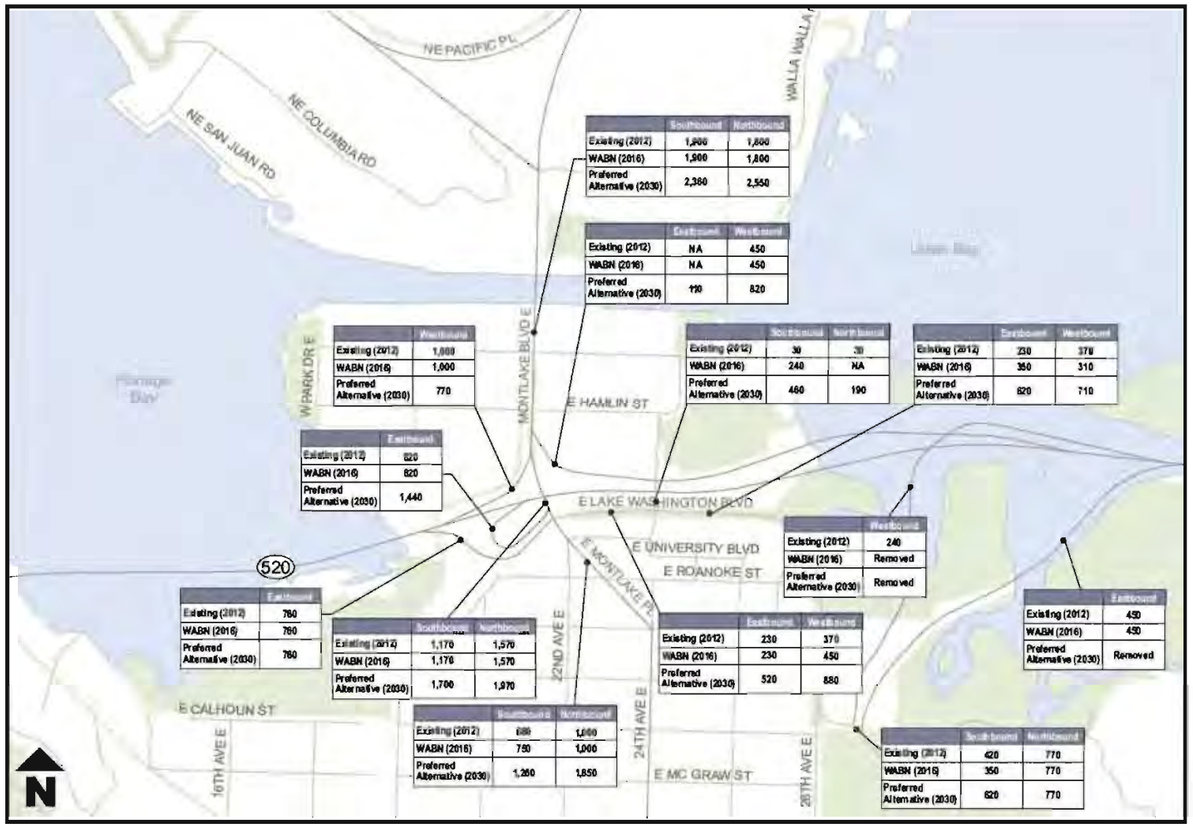
- Southbound travel times have improved on Montlake Boulevard
- Travel time to SR 520 eastbound have improved
- Northbound travel times are slightly longer during the evening commute period

2016 No Build compared to 2016 WABN:

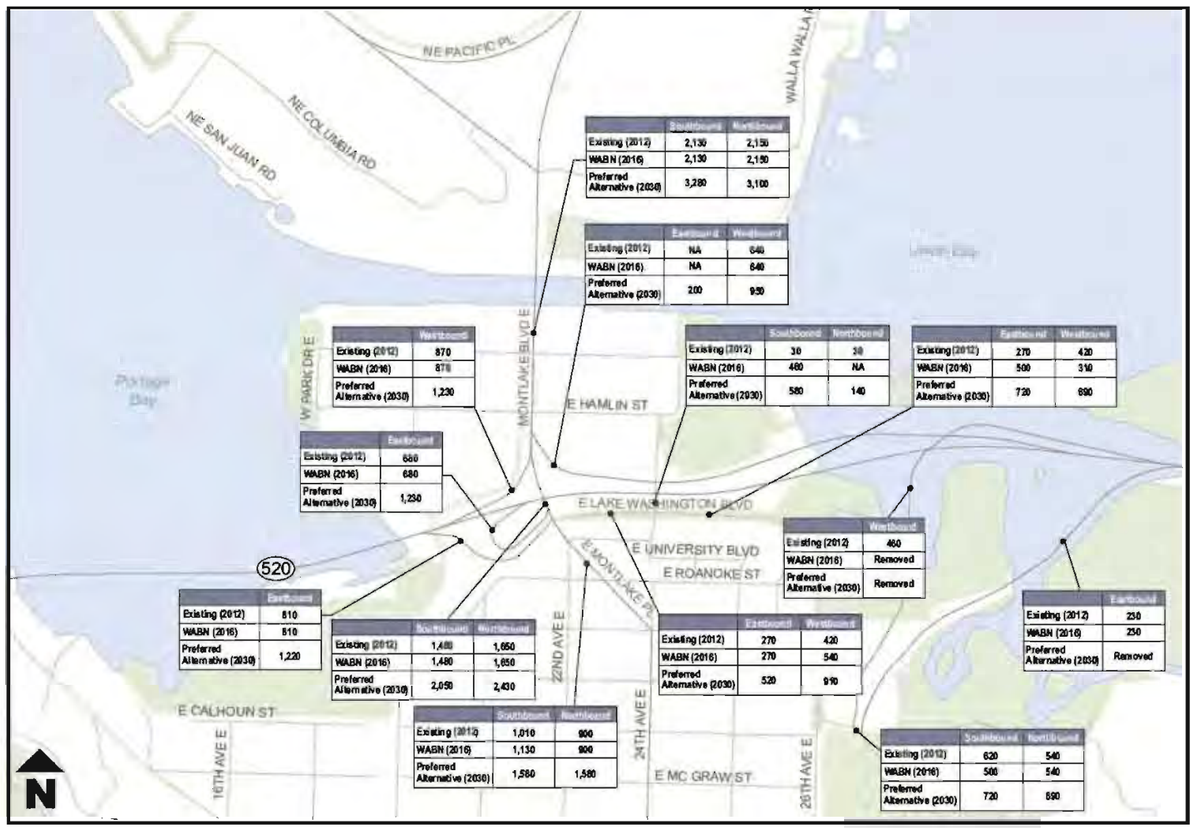
- Morning travel times after WABN is operational will be similar to 2012 travel times
- Eastbound off-ramp to Montlake Boulevard will improve after WABN is operational
- Northbound travel during the evening commute will be slightly longer after WABN is operational
- Signal efficiency allows more traffic 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

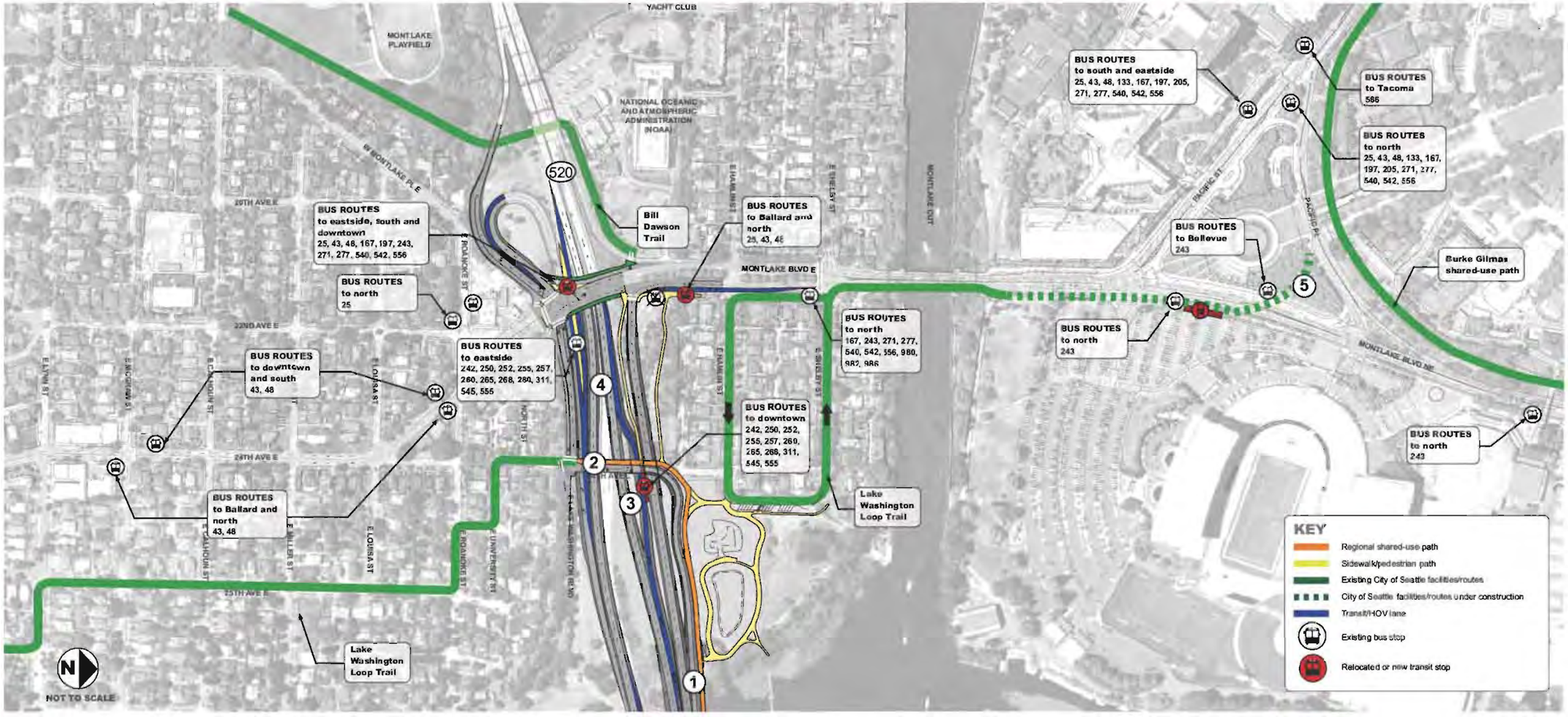
Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

I-5 to Medina: Bridge Replacement and HOV Project

STATE ROUTE 520

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

CONCEPTUAL

DRAFT - THIS SKETCH ONLY DEPICTS THE IDEAL ENGINEERING, OPERATIONS AND ENVIRONMENTAL ANALYSIS REQUIRED.