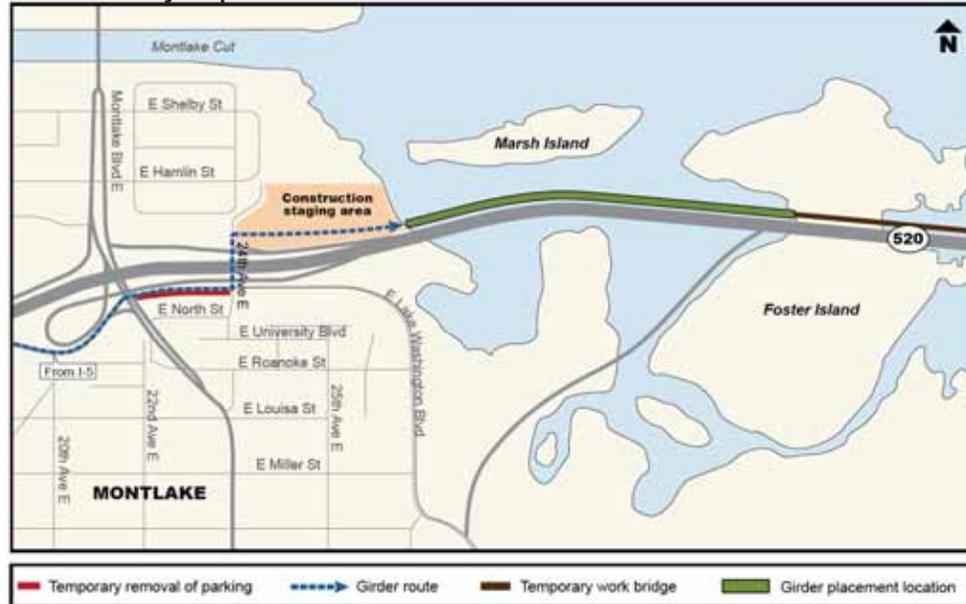


# Bridge girder delivery and installation

*Scheduled to begin in mid-September and continue for four to five months*

September 2016

## Truck delivery map



## What to expect

- **Nighttime truck deliveries:** Intermittent deliveries between 9 p.m. and 5 a.m. using the route in the map shown to the left. Deliveries could occur up to five nights per week, Monday through Friday.
- **Intermittent flagging:** Flaggers will briefly hold traffic traveling in both directions on East Lake Washington Boulevard and on the westbound SR 520 off-ramp to East Lake Washington Boulevard. There will also be a rolling slowdown on the eastbound SR 520 on-ramp from Montlake Boulevard.
- **Parking restrictions:** Parking will be restricted at night on East Lake Washington Boulevard between Montlake Boulevard and 24th Avenue East. Follow the information on posted no parking signs.
- **Construction lights:** Bright lights may be seen as crews install girders overnight. For safety, crews may use flood lights in addition to lights from construction equipment to illuminate the work area.
- **Noise:** At night, you might hear crews bringing girders in by truck and use cranes to install them. During the day, crews will use hammers to attach brackets to the girders at the MOHAI site.



## Arboretum Waterfront Trail closed intermittently over the next three weeks

The Arboretum Waterfront Trail is scheduled to close intermittently over the next three weeks as crews prepare and then install girders over the portion of the trail that is north and south of SR 520.

Scheduled trail closure dates:

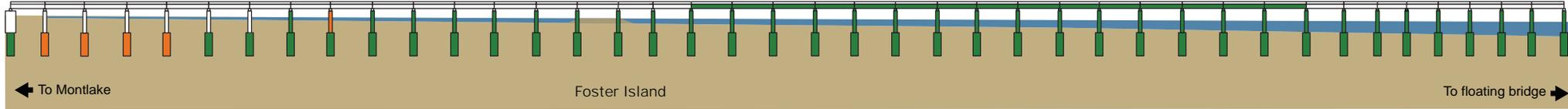
- 7 a.m. to 5 p.m. Friday, Sept. 9
- 8 p.m. Thursday, Sept. 15, through 5 p.m. Friday, Sept. 16
- 8 p.m. Monday, Sept. 19, through 5 p.m. Friday, Sept. 23

**Note:** Due to the dynamic nature of construction activities, schedules are subject to change.

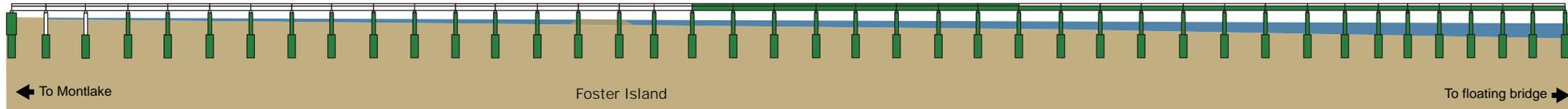
## Construction progress on the West Approach Bridge North

September 2016

Beginning of August:



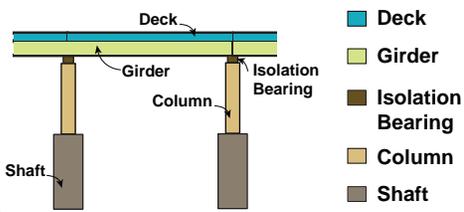
Beginning of September:



PROGRESS KEY: ■ Complete ■ Under construction  To be constructed

Note: This graphic is for illustrative and tracking purposes only. It is not to scale and is in profile view.

### STRUCTURE LEGEND:



- BY THE NUMBERS:**
- 99 of 99 casings complete
  - 99 of 99 shafts complete
  - 89 of 95 columns complete
  - 70 of 104 bearings complete
  - 168 of 353 girders complete
  - 8 of 41 sections of roadway deck complete



### Casings

A bridge casing is a large steel pile that provides the permanent mold for the bridge's concrete foundation. After a casing is fixed into a lakebed, crews drill out soils, place metal rebar inside for strength and then fill the casing with concrete to create the shaft.



### Shaft installation

This large machine drills soils out of the casing before crews place metal rebar inside for added strength. Once the rebar is placed inside, crews fill the casing with concrete to create the shaft.



### Rebar cage

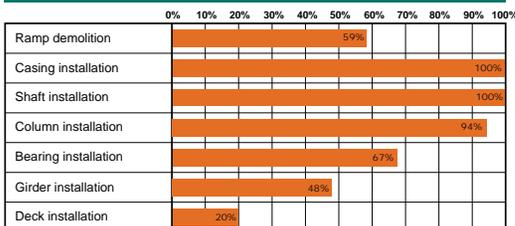
Rebar cages are used to strengthen the foundation of the West Approach Bridge North (WABN) before concrete is poured to create a shaft. All 194 rebar cages are tied by hand.



### Ramp removal

In order to build the WABN project, crews are removing and replacing the westbound SR 520 off-ramp to Lake Washington Boulevard and the westbound SR 520 off-ramp to Montlake Boulevard. Crews are also removing the never-completed R.H. Thomson "Ramps to Nowhere" to restore the Arboretum to a more park-like setting.

### WABN PROGRESS



### Columns

The current west approach bridge's hollow columns are vulnerable to earthquake. All new WABN columns will be strengthened with rebar and filled with concrete. WSDOT also worked with the Seattle Design Commission to incorporate fluted columns into the WABN design for aesthetic appeal.



### Bearings

The current west approach bridge structure does not use bearings, which makes it vulnerable to earthquakes. The new WABN structure will use isolation bearings to allow each section of the bridge to move independently as needed during an earthquake.



### Girders

More than 350 girders will be set in place before the bridge deck is poured to create a new roadway for drivers.



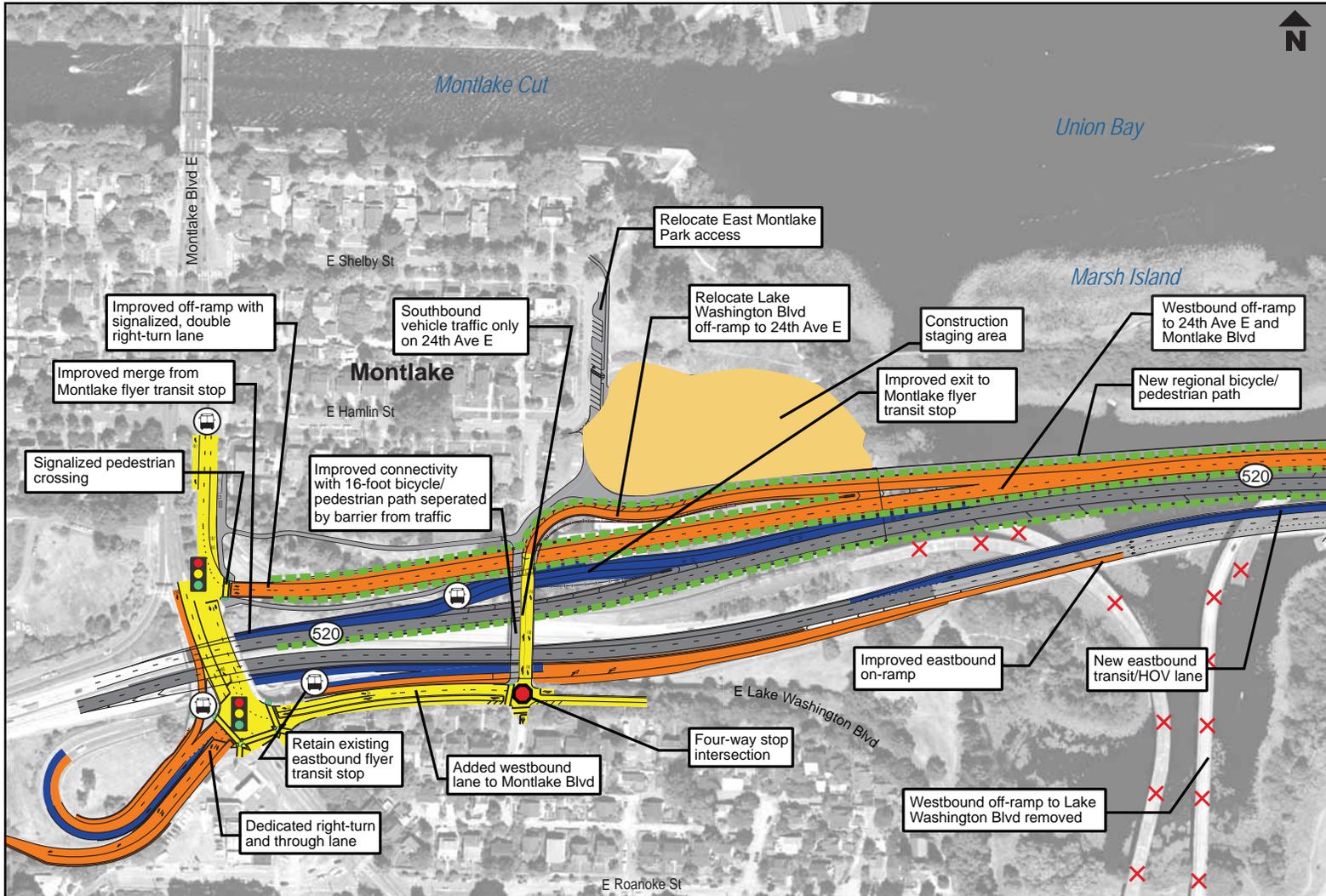
### Roadway deck

Crews will pour 41 sections of roadway deck to complete the 1.2-mile-long WABN structure. After the deck has been poured, crews will grind, pave and stripe the deck before opening the bridge to traffic.





## Key features of the West Approach Bridge North Project



### Noise reduction strategies

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

- 4-foot concrete traffic barriers (taller than standard barrier)
- Encapsulated bridge joints
- Quieter concrete pavement on the new bridge

### LEGEND

- Construction staging area
- SR 520 highway
- On- and off-ramps
- Local arterials
- Transit/HOV ramps
- ✗ Removal of on- and off-ramps
- 4-way stop
- Traffic signal
- Bus stop
- 4-foot continuous concrete traffic barriers