



Northgate Link Extension

Contract N125 Update on TBM Tunneling

Capital Committee

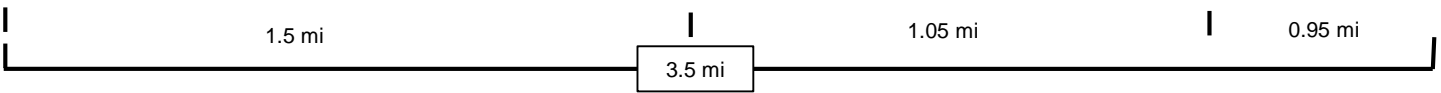
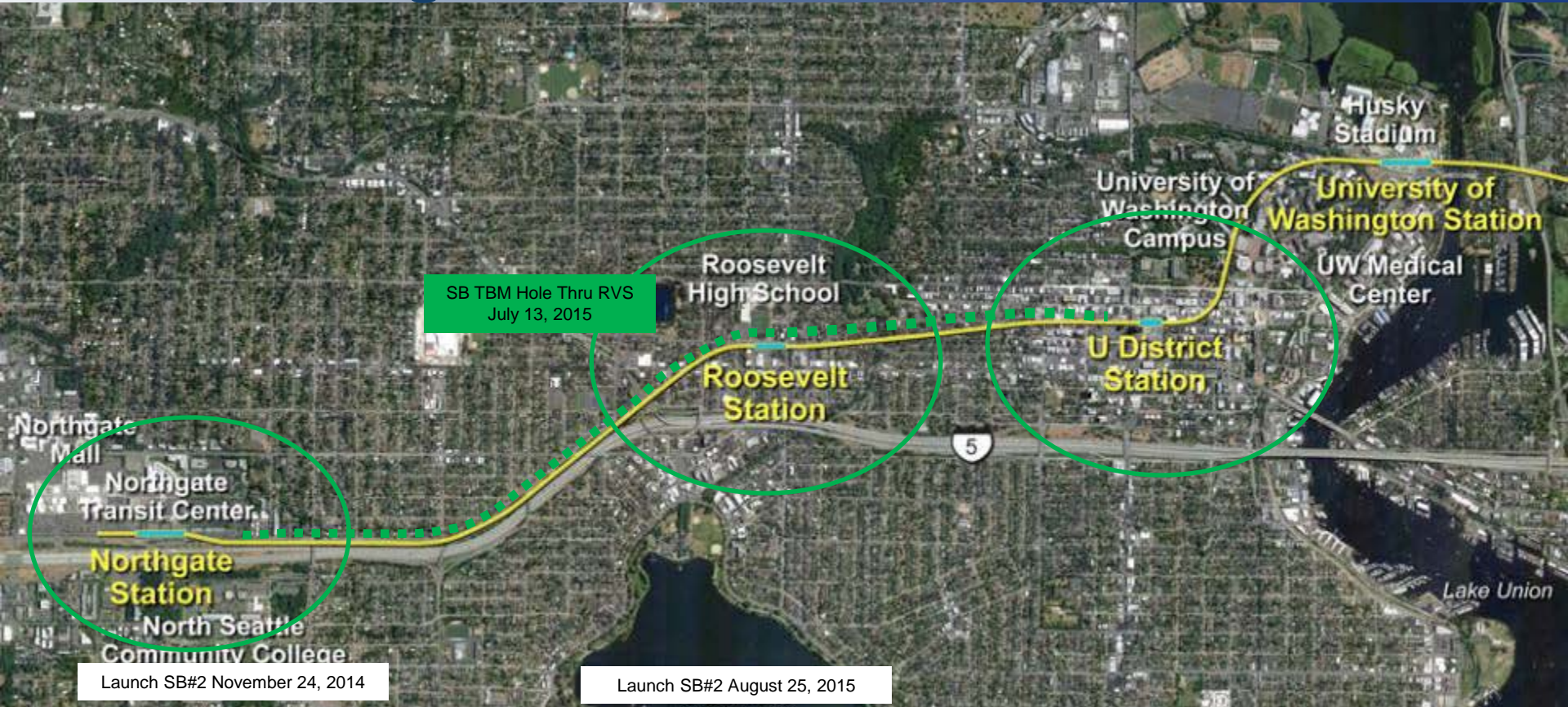
February 11, 2016

 **SOUNDTRANSIT**

TBM #1 Progress

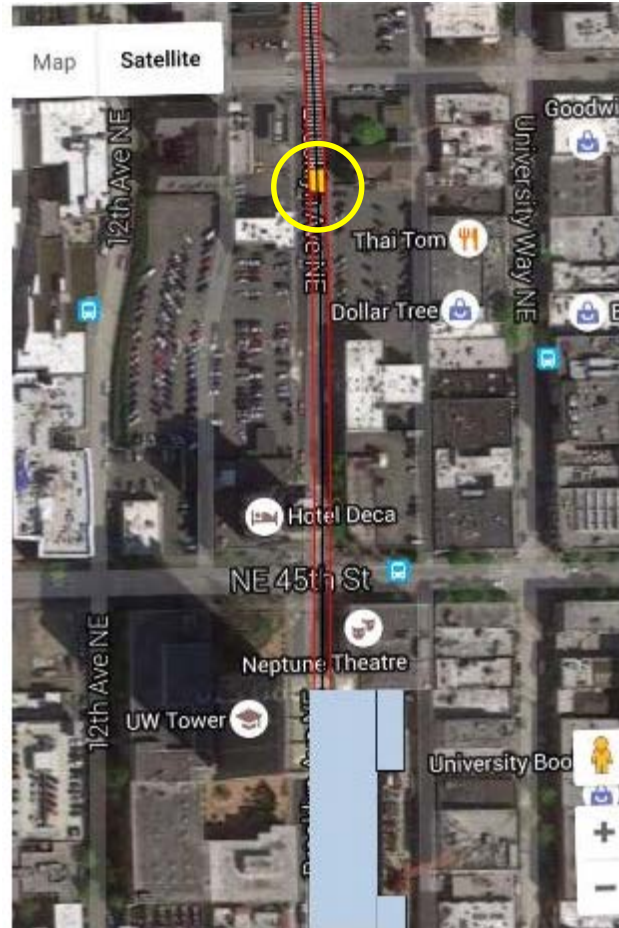


TBM #2 Progress



TBM #2 Location

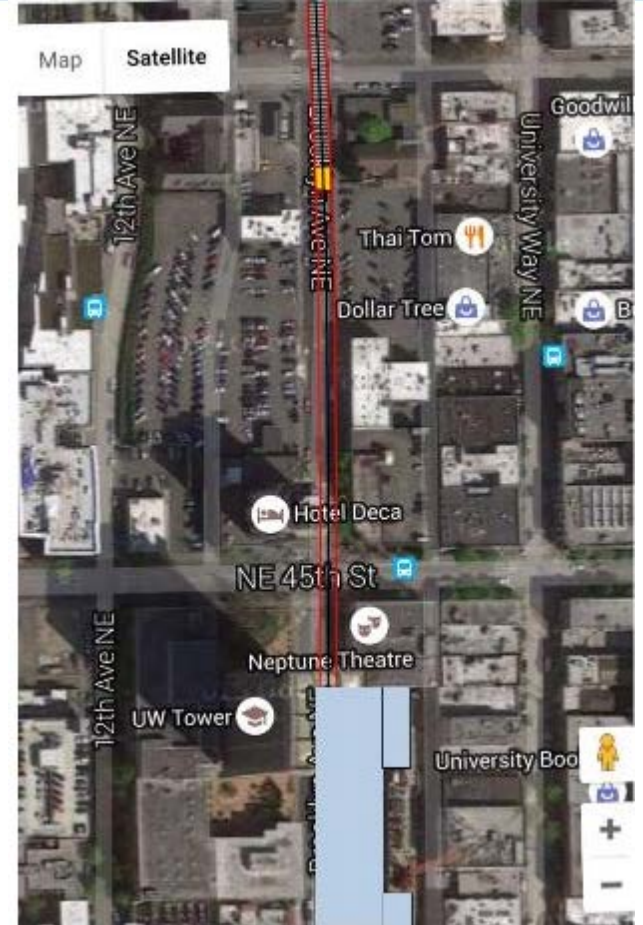
- 650 Ft. North of UDS
- Under Brooklyn Avenue
- South of NE 47th Street
- Bottom of TBM 100 Ft. deep



- No mining since December 28
- Contractor stopped TBM to investigate
- Discovered damage to TBM motors and drive gear
 - Mining hard till-like soils with boulders
 - Drive motor #1 broken
 - Progressively removed all six motors
 - Subsequent damage to drive gears
 - Repair and replace motors
- Repairs and testing for past 7 weeks
- TBM #2 Schedule to re-start mid-February

Plan – Final 650 Ft.

- TBM #2 to relaunch and complete drive to UDS
- Consultation with TBM manufacturer and independent experts
- Adopt reduced conservative mining parameters
- Torque restrictions and “Safe Sets”
- Complete tunnel within 2 months
- Repair at UDS for final drive to UWS



Contingency Plan – Final 650 Ft.

- If TBM #2 cannot be finish final 650 ft:
- Potential options identified
 - *SEM (Sequential Excavation Method)*
 - *Repair in Place*
 - *Remove and Repair*
 - *TBM*
- Contractor responsible for Means and Methods
- Work concurrent with other construction
- All running tunnels by end of 2016

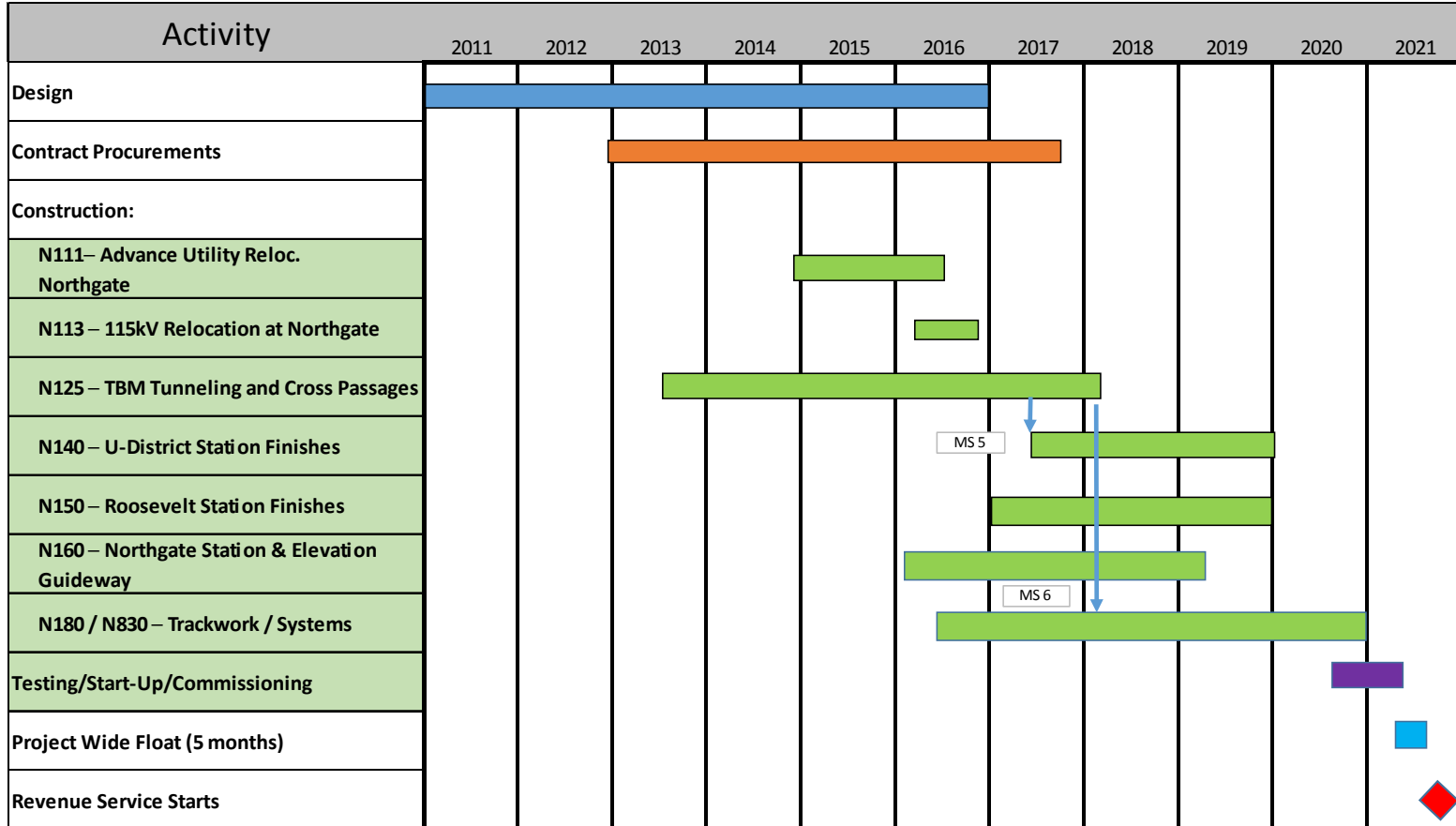


UDS to UWS (SB)

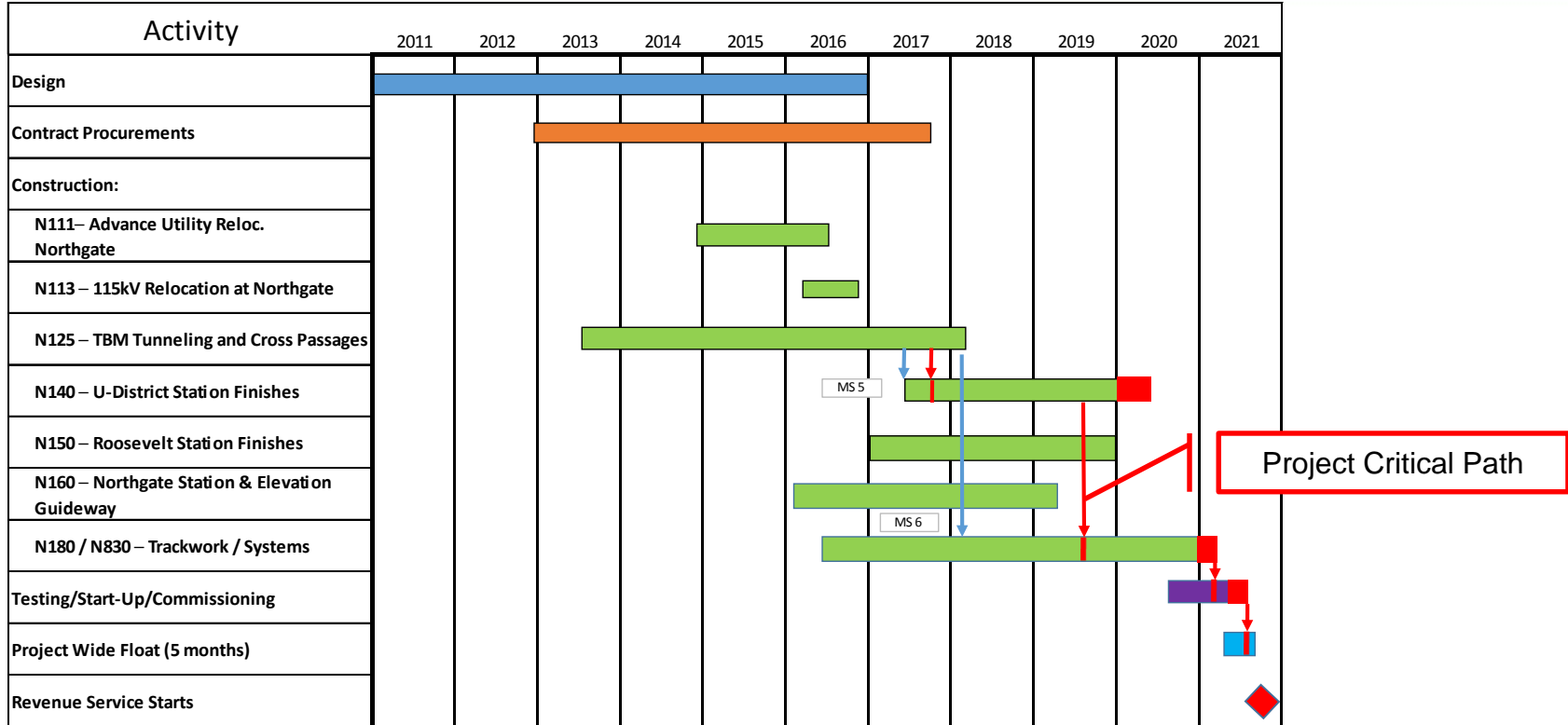
- Return TBM #1 to UDS
drive TBM #1 from UDS to UWS (Similar to Capitol Hill)
- Impacts
 - *No schedule difference*
 - *Meet UW requirements to complete tunneling under campus in 10 months.*



Schedule Snapshot



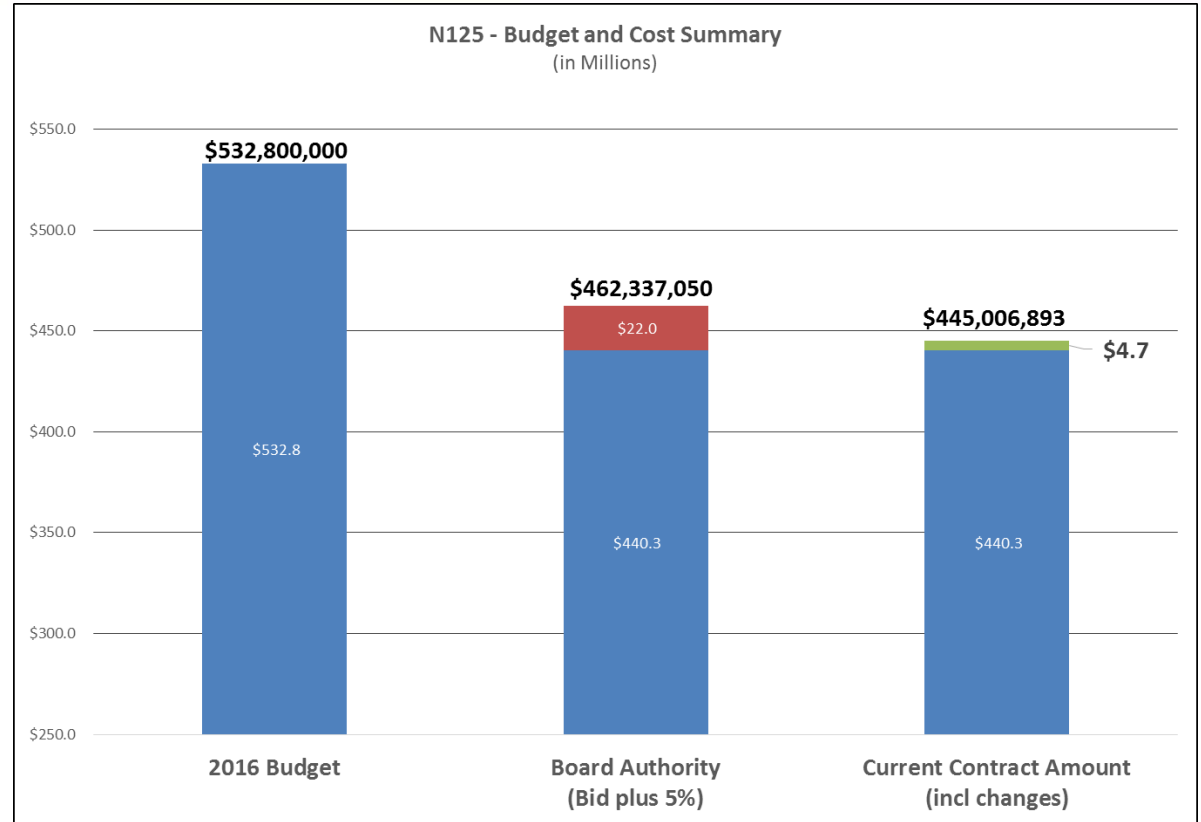
Schedule Snapshot – Potential Impact



- 3 > 8 Month impact without mitigation and use of float
- With N125 concurrent working and overlap with follow-on contractor, project float retained

N125 Budget and Cost Summary

- Northgate Link Extension Approved Baseline Budget of \$1.89 Billion
- Project remains on-time and within budget



Approved Budget	\$ 532,800,000
Board Authority (Motion 2013-50, 7/25/13)	\$ 462,337,050
Current Contract Amount	\$ 445,006,893

The image features a close-up of a white and blue Sound Transit train with stylized wave graphics. A dark horizontal band is overlaid across the middle, containing the Sound Transit logo (a stylized 'S' and 'T' in a square) and the text 'SOUNDTRANSIT' in a bold, sans-serif font. Below this, the slogan 'RIDE THE WAVE' is written in a smaller, all-caps, sans-serif font. The background shows the train's windows and the blue and white wave patterns.

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