

Ballard to West Seattle Link Extension Project Sound Transit

Location: Seattle, Washington

Date: 2017 - present

Structure: TBM running tunnels, SEM Stations and cross-cuts

Length: Ballard Ext. Tunnel – 3.3 mi (5.3 km)

Cross-Section: TBM Twin Bores I.D. 19 ft (5.8 m)
TBM Medium Bore I.D. 34 ft (10.4 m)
TBM Large Bore I.D. 53 ft (16.2 m)
SEM Station Cavern I.D. 60 ft (18.3 m)
Wide by 49 ft (14.9 m) Tall

Geology: Fill, beach and reworked glacial granular deposits, estuarine and lacustrine deposits, glacial tills and till-like deposits, cohesionless sands, gravels, silts and fine sands, cohesive clays and silts.

Cost: Est. \$8-billion

Client: HNTB Corporation

Owner: Sound Transit

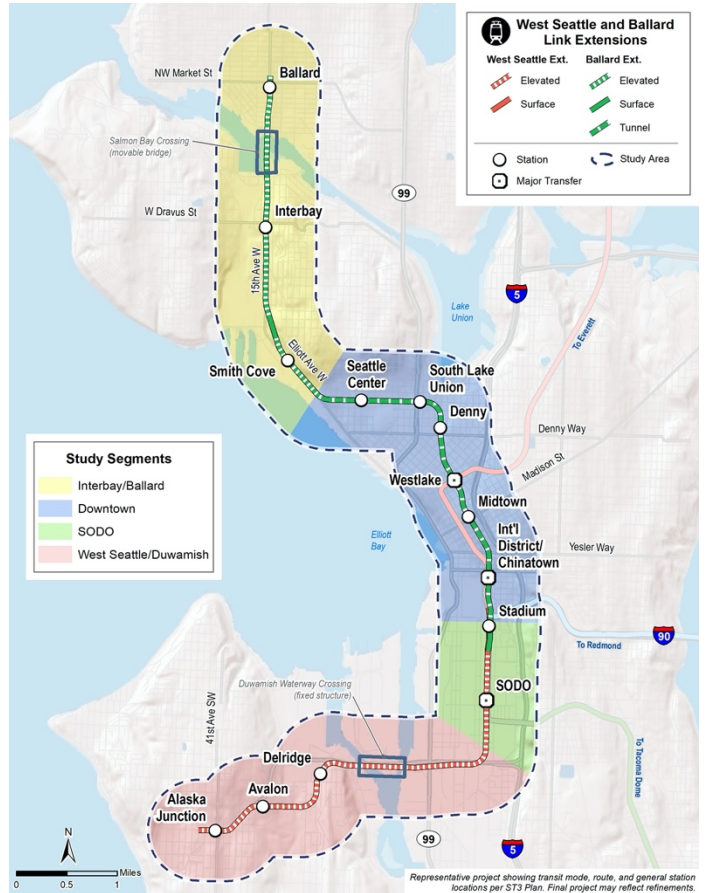


Figure 1. West Seattle and Ballard Link Extensions.

Engineering Support Services:

The West Seattle & Ballard Link Extensions project will provide high-capacity transit within the city of Seattle by connecting the vicinity of the Alaska Junction neighborhood in West Seattle and the vicinity of Market Street in the Ballard neighborhood to downtown Seattle. The project includes the West Seattle to downtown Seattle Light Rail, Ballard to Downtown Seattle Light Rail, and Downtown Seattle Light Rail Tunnel.

Gall Zeidler Consultants (GZ) is responsible for development of alternatives for specific areas of the Sound Transit 3 Plan (ST3) Representative alignment, including feasibility studies as well as development of Alternatives and identification of Preferred Alternative for the Final DEIS. The alternatives to be evaluated include the Salmon Bay Water Crossing (bored tunnel), Ballard Terminus Station, and a new downtown Seattle light rail tunnel and associated stations and portal locations. Further, evaluations of twin bore, medium bore, and large bore diameters were performed as part of the DEIS process. Additionally, GZ is providing preliminary engineering, cost estimating and scheduling analysis, as well as value engineering services for the proposed alternatives.

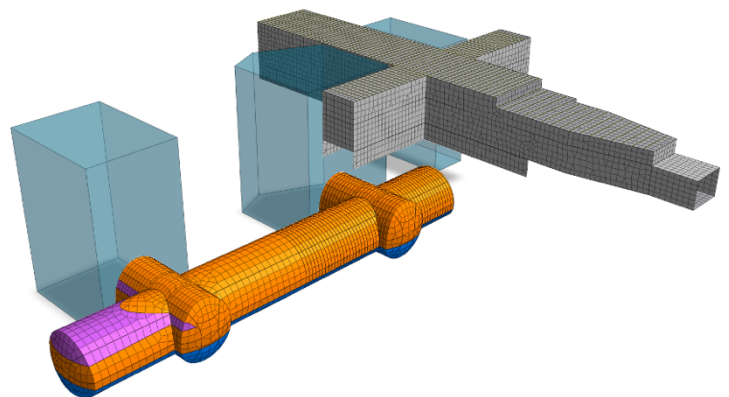


Figure 2. 3D Finite Element Model of Westlake Station Cavern and Cross-Cut excavation sequences with shafts and existing structures.