

# 6 ALTERNATIVES EVALUATION

This chapter evaluates how the Build Alternatives for the West Seattle Link Extension would meet the project’s purpose and need and summarizes the benefits and impacts of each alternative and option. It also summarizes potential significant impacts that might not be fully mitigated. Future conditions under the No Build Alternative are also described. The West Seattle Link Extension Project (project) is one of several light rail extensions to Sound Transit’s Link light rail system that are in the planning, design, or construction phases. Collectively, the system benefits would be greater than those of the individual projects; several system-wide benefits are described in Section 6.1, Meeting the Purpose and Need for the West Seattle Link Extension.

## 6.1 Meeting the Purpose and Need for West Seattle Link Extension

The purpose of the project is to expand the Sound Transit Link light rail system from SODO to West Seattle, to make appropriate community investments to improve mobility, and to increase capacity and connectivity for regional connections (see Chapter 1, Purpose and Need for West Seattle Link Extension, for additional information). All Build Alternatives would meet this purpose by improving transit mobility and access to regional activity centers and advancing implementation of local and regional land use and transportation plans. The following sections summarize how the project would meet the six need statements presented in Section 1.2.2, Need for the West Seattle Link Extension Project. The No Build Alternative would not meet the purpose and need for the project.

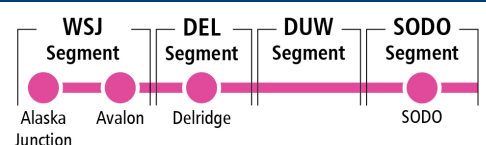
### 6.1.1 Need #1: Increasing Roadway Congestion will Further Degrade Transit Performance and Reliability

The King County Metro (Metro) RapidRide C Line bus route between Westlake Station and the West Seattle Junction (Fauntleroy Way Southwest and Southwest Alaska Street) currently takes an average of 22 minutes during the p.m. peak period. Increasing congestion on surface streets in the study area would increase peak transit travel times to 30 minutes on average in 2042 with the No Build Alternative. With the project, this would improve by 14 minutes, or 47 percent. Furthermore, transit travel time reliability will greatly improve from unreliable under existing conditions to reliable service on the exclusive light rail right-of-way.

### 6.1.2 Need #2: Regional Transit Capacity Constraints

The project would increase transit capacity and frequency. By 2032, without the project, transit capacity in the project corridor is expected to degrade to standing-room-only level conditions in the peak hours on the bus network.

Upon opening in 2032, when riders would be required to transfer at the SODO Station to continue on Link light rail, weekday ridership is projected at 5,400 trips. In 2042, with completion of other Sound Transit 3 system expansion projects, ridership at the project stations would exceed 20,000 daily boardings and contribute to a system-wide increase in transit ridership in the Sound Transit service area of between 25,000 and 27,000 daily trips.



The operating assumptions in the Sound Transit 3 Plan included routing light rail extensions to Ballard, Federal Way, and Tacoma through a new downtown tunnel, while extensions to West Seattle, Redmond, Lynnwood, and Everett would use the existing Downtown Seattle Transit Tunnel. Implementing the Sound Transit 3 system expansion plan and distributing passengers into two downtown tunnels will provide additional capacity for the regional light rail system. Opportunities for passengers to transfer between lines running north, south, east, and west will be essential for increasing transit access and capacity. The project provides an important transfer point for passengers at SODO and a connection to the west. In addition, the project would provide direct access to the Operations and Maintenance Facility Central for the line running between Everett and West Seattle when it is complete, as the existing access to the Operations and Maintenance Facility Central would no longer be accessible from this line. This direct access will support maintenance and operation for the future separation of light rail lines needed to support system expansion.

### 6.1.3 Need #3: Regional and Local Plans Call for High-Capacity Transit

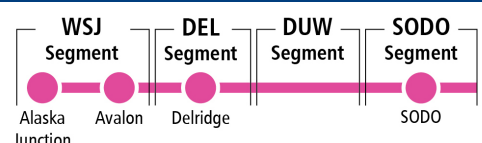
The Build Alternatives would help realize plans for high-capacity transit in the project corridor that regional and local agencies have had for almost 30 years. Puget Sound Regional Council, City of Seattle, and Sound Transit plans all include high-capacity transit in the project corridor, and the Sound Transit 3 Plan includes funding for this project.

### 6.1.4 Need #4: Long-term Regional Mobility and Multi-modal Connectivity for the Region’s People and Communities Including Transit-Dependent People, Low-Income People, and Communities of Color

All of the Build Alternatives would provide convenient, frequent transit service for 20 hours a day with reliable access to many regional destinations. They would provide greater transit connectivity for transit-dependent populations throughout the Sound Transit system than is available today or would be available under the No Build Alternative.

West Seattle is an important access point to the city of Seattle from more affordable areas south of the project corridor such as High Point, Highland Park, and the unincorporated King County neighborhood of White Center. As an additional burden to low-income populations, transportation costs continue to rise. By improving the overall system capacity (see Need #2) and reach, the Build Alternatives would benefit transit-dependent populations and allow regional residents who live in more affordable areas to access employment opportunities in the region’s education, employment, and activity centers. The project would provide access to more growth centers on the Link system and make that access more frequent and reliable. The project would reduce the transportation cost burden on disadvantaged populations that commute to these growth centers for work or school or that need to access public services available in the study area.

In addition, West Seattle is a peninsula, geographically isolated from the rest of the city of Seattle. The 2.5-year West Seattle Bridge closure between March 2020 and September 2022 due to safety concerns has highlighted the need for transportation redundancy to get to and from West Seattle. The repaired West Seattle Bridge is not a permanent solution and is anticipated to be replaced by 2060. An alternative route and/or method of transportation on and off the peninsula would likely be necessary to provide access from West Seattle and points south to regional education, employment, and activity centers.



### 6.1.5 Need #5: Increased Density at High-Capacity Transit Stations and Increased Multi-modal Access

All of the Build Alternatives would help realize regional and local plans for high-capacity transit in the project corridor as described in Section 1.2.2.3, Regional and Local Plans Call for High-Capacity Transit. Regional and local plans, including the Seattle Comprehensive Plan (City of Seattle 2018), the Metro Connects plan (Metro 2021), and VISION 2050 (Puget Sound Regional Council 2020) also call for increased residential and/or employment density at and around high-capacity-transit stations, and increased options for multi-modal access (see Section 1.2.2.5, Increased Density at High-Capacity-Transit Stations and Increased Multi-modal Access).

All Build Alternatives would connect the same regional and City-designated urban centers and would improve multi-modal access with integration with other transit modes and improvements to non-motorized access.

### 6.1.6 Need #6: State and Regional Environmental and Sustainability Goals

The Build Alternatives would reduce vehicle miles traveled by approximately 17,000 miles per weekday by 2042, which would reduce vehicle emissions generated in the study area and help achieve Washington state's greenhouse gas emissions goals. Section 6.2, Comparison of Alternatives, describes how environmental and other impacts vary among the different Build Alternatives and identifies key trade-offs.

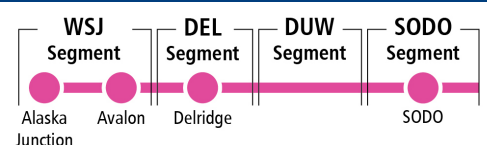
## 6.2 Comparison of Alternatives

All Build Alternatives would meet the purpose and need of the project. This section focuses on trade-offs among the alternatives in meeting the purpose and need. It describes the key benefits and impacts associated with each alternative and how they compare with each other. Tables summarize each Build Alternative's projected ridership and key differentiating impacts. Section 6.2.2.5, Capital Costs Summary, describes the estimated project costs of each Build Alternative.

### 6.2.1 No Build Alternative

Under the No Build Alternative, the project would not be built and there would be no new high-capacity transit in the project corridor. Congestion on surface streets would continue to affect transit travel time and reliability, and access to regional and City-designated growth centers would not improve.

This increase in vehicle miles traveled would also result in higher operational greenhouse gas emissions in comparison to the Build Alternatives. However, there would not be the project's temporary disruptions to traffic, construction noise, or greenhouse gas emissions from construction equipment nor its permanent impacts (such as displacements, visual changes, and to ecosystems and historic resources).



## 6.2.2 Build Alternatives

### 6.2.2.1 SODO Segment

As shown in Table 6-1, all of the SODO Segment alternatives would have the same projected ridership.

Key differences in impacts among the SODO Segment alternatives are shown in Table 6-1. Preferred Option SODO-1c, Alternative SODO-1a, and Option SODO-1b would include a new South Lander Street overpass, which would reduce the delays for vehicles in this area but would also have more traffic impacts during construction.

Option SODO-1b and Alternative SODO-2 would both require relocating the United States Postal Service Carrier Annex and Distribution Center/Terminal Post Office (Carrier Annex/Terminal Post Office). Relocating the facility could be challenging due to its size, functions, and the service area that it would need to be within. Impacts of relocating the United States Postal Service facility are yet undefined, and should an alternative that triggers relocation of the facility move forward, additional environmental review will be conducted to evaluate and disclose impacts of relocating the facility. Preferred Option SODO-1c and Alternative SODO-1a would avoid permanent impacts (i.e., operation and maintenance) to the United States Postal Service facility and would not require relocation of the facility.

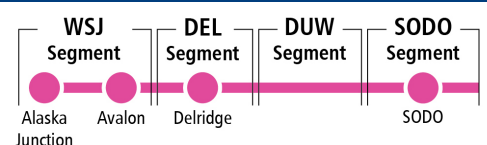
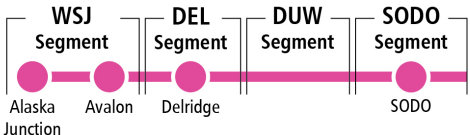


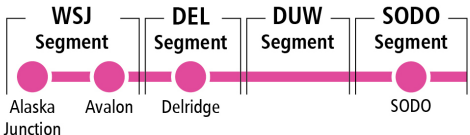
Table 6-1. Projected Ridership and Key Impact Differences – SODO Segment

Resource Impact Measure	Preferred At-Grade Lander Access Station Option (SODO-1c)	At-Grade Alternative (SODO-1a)	At-Grade South Station Option (SODO-1b)	Mixed Profile Alternative (SODO-2)
Ridership (daily boardings) <sup>a</sup>	14,600	14,600	14,600	14,600
Transportation Impacts	<p><b>Operational (long-term) benefit from eliminating existing at-grade conflicts at South Lander Street, reducing delays for all vehicles and reducing conflicts between modes.</b></p> <p><b>Permanent closure of SODO Busway, buses relocated to 4th Avenue South.</b></p> <p><b>Full closures of South Lander Street (for 3 years) during construction.</b></p>	<p>Operational (long-term) benefit from eliminating existing at-grade conflicts at South Lander Street, reducing delays for all vehicles and improving safety for all modes.</p> <p>Permanent closure of SODO Busway, buses relocated to 4th Avenue South.</p> <p>Full closures of South Lander Street (for 3 years) during construction.</p>	<p>Operational (long-term) benefit from eliminating existing at-grade conflicts at South Lander Street, reducing delays for all vehicles and improving safety for all modes.</p> <p>Permanent closure of SODO Busway, buses relocated to 4th Avenue South.</p> <p>Full closures of South Lander Street (for 3 years) during construction.</p>	<p>Existing at-grade crossing at South Lander Street would remain.</p> <p>SODO Busway reopens, following 5-year construction closure.</p> <p>Full closure of South Lander Street temporarily on nights/weekends for guideway construction over the roadway.</p>
Potential Displacements	<p><b>Residential: 0</b></p> <p><b>Business: 33</b></p> <p><b>Employees: 240</b></p>	<p>Residential: 0</p> <p>Business: 34</p> <p>Employees: 240</p>	<p>Residential: 0</p> <p>Business: 35</p> <p>Employees: 260</p>	<p>Residential: 0</p> <p>Business: 31</p> <p>Employees: 280</p>



Resource Impact Measure	Preferred At-Grade Lander Access Station Option (SODO-1c)	At-Grade Alternative (SODO-1a)	At-Grade South Station Option (SODO-1b)	Mixed Profile Alternative (SODO-2)
Public Service Impacts	<p><b>Operational (long-term) impacts to the Carrier Annex/Terminal Post Office would be avoided and would not require relocation of the facility.</b></p> <p><b>Would provide a new driveway from the southern access point of the United States Postal Service facility under the new South Lander Street Overpass to 4th Avenue South.</b></p> <p><b>During construction of the South Lander Street overpass, access to/from the United States Postal Service facility would be closed at their southern access point for short durations over nights/ weekends.</b></p> <p><b>Pedestrian access to the United States Postal Service facility garage from South Lander Street would be closed during construction of the South Lander Street Overpass.</b></p>	<p>Operational (long-term) impacts to the Carrier Annex/Terminal Post Office would be avoided and would not require relocation of the facility.</p> <p>Would provide a new driveway from the southern access point of the United States Postal Service facility under the new South Lander Street Overpass to 4th Avenue South.</p> <p>During construction of the South Lander Street overpass, access to/from the United States Postal Service facility would be closed at their southern access point for short durations over nights/ weekends.</p> <p>Pedestrian access to the United States Postal Service facility garage from South Lander Street would be closed during construction of the South Lander Street Overpass.</p>	<p>Operational (long-term) impacts include relocating the Carrier Annex/Terminal Post Office. Impacts of relocating the United States Postal Service facility are yet undefined, and should this alternative trigger relocation of the facility move forward, additional environmental review will be conducted to evaluate and disclose impacts of relocating the facility.</p>	<p>Operational (long-term) impacts include relocating the Carrier Annex/Terminal Post Office. Impacts of relocating the United States Postal Service facility are yet undefined, and should this alternative trigger relocation of the facility move forward, additional environmental review will be conducted to evaluate and disclose impacts of relocating the facility.</p>

<sup>a</sup> Ridership numbers are for 2042 after the Ballard Link Extension is operational. The ridership is the total for the new and existing SODO stations.



### 6.2.2.2 Duwamish Segment

There would be no light rail station in the Duwamish Segment; therefore, no ridership is reported.

Key differences in impacts among the Duwamish Segment alternatives are shown in Table 6-2. Preferred Alternative DUW-1a and Option DUW-1b would affect the West Duwamish Greenbelt, a park and biodiversity area on Pigeon Point. The guideway along Pigeon Point would also remove trees in a great blue heron management area and result in visual impacts to residences in the Pigeon Point community. Alternative DUW-2 would avoid these impacts but could permanently impact the Port of Seattle’s planned habitat restoration site at Terminal 25 and would displace a Washington State Department of Social and Health Services secure community transition facility, which has specific siting requirements and would be difficult to relocate. Preferred Alternative DUW-1a and Alternative DUW-2 would acquire part of the Fire Station 14 property that includes parking, a transformer, and electric vehicle parking but is not expected to require relocation of the station and no long-term effects are expected.

Preferred Alternative DUW-1a and Option DUW-1b would adversely affect the same number of historic resources and would adversely affect two historic districts. Alternative DUW-2 would adversely affect more individual historic resources but would not adversely affect the two historic districts.

The Muckleshoot Indian Tribe is signatory to both the Treaty of Point Elliott and the Treaty of Medicine Creek and has treaty-protected fishing rights and Usual and Accustomed Areas in the Puget Sound region, including the project area and the Duwamish Waterway. Treaty-protected fishing rights and access to Usual and Accustomed Areas of the Muckleshoot Indian Tribe may be temporarily affected during in-water construction or permanently affected by placement of guideway columns in the water with Option DUW-1b and Alternative DUW-2.

The Suquamish Tribe of the Port Madison Reservation (Suquamish Tribe) is signatory to the Treaty of Point Elliott and has treaty-protected fishing rights and Usual and Accustomed Areas in the Puget Sound region, including the project area and the Duwamish Waterway. Treaty-protected fishing rights and access to Usual and Accustomed Areas of the Suquamish Tribe may be temporarily affected during in-water construction or permanently affected by placement of guideway columns in the water with Option DUW-1b and Alternative DUW-2.

Preferred Alternative DUW-1a would be constructed with either a cable stay or truss bridge, which would not have guideway columns in the Duwamish Waterway. Alternative DUW-2 could be constructed with bridge types that would avoid guideway columns in the water. Option DUW-1b would have guideway columns in the water with all bridge types.

All of the alternatives in this segment would displace businesses that are water-dependent, which could be difficult to relocate. Based on available business information, Alternative DUW-2 would have the most water-dependent business displacements and these displacements would risk detrimental impacts to the economic activities of the Port of Seattle and Northwest Seaport Alliance, two of the key economic drivers of the Puget Sound region. Option DUW-1b would permanently displace recreational moorage on the Duwamish Waterway (also known as the Duwamish River); replacement moorage is unlikely to be found nearby on the Duwamish Waterway or in Elliott Bay.

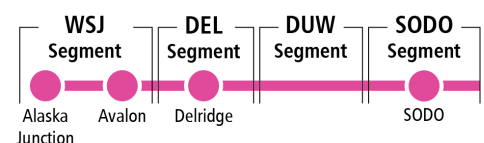
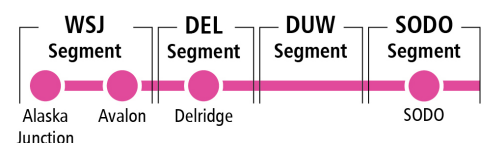


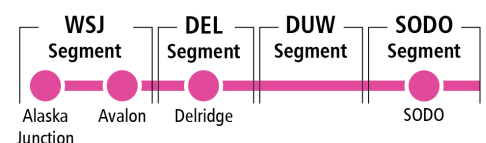
Table 6-2. Key Impact Differences – Duwamish Segment

Resource Impact Measure	Preferred South Crossing Alternative (DUW-1a) <sup>a</sup>	South Crossing South Edge Crossing Alignment Option (DUW-1b) <sup>a</sup>	North Crossing Alternative (DUW-2)
Transportation Impacts	<p><b>Partial closure on 4th Avenue South just north of South Spokane Street for 1.5 years during construction.</b></p> <p><b>Full closure on Delridge Way Southwest south of the West Seattle Bridge on nights/weekends during construction when connecting to Preferred Option DEL-6b and Alternatives DEL-5, DEL-6a, and DEL-7 in the Delridge Segment.</b></p> <p><b>Detour a portion of the Delridge Connector Trail from Delridge Way Southwest to the West Seattle Bridge Trail during construction.</b></p> <p><b>Closure of the staircase through the West Duwamish Greenbelt during construction.</b></p> <p><b>Closure of planned pedestrian path of the east side of West Marginal Way Southwest.</b></p> <p><b>Closure of Southwest Marginal Place connector trail.</b></p> <p><b>Temporary closures of the BNSF railroad tracks east of East Marginal Way South during construction.</b></p> <p><b>During construction, netting and scaffolding would reduce the planned vertical clearance for 3 months in the East Waterway and 2 months in the West Waterway.</b></p>	<p>Partial closure on Delridge Way Southwest south of the West Seattle Bridge for 9 months during construction.</p> <p>Detour a portion of Delridge Connector Trail from Delridge Way Southwest to the West Seattle Bridge Trail would be detoured during construction.</p> <p>Closure of the staircase through the West Duwamish Greenbelt during construction.</p> <p>Closure of planned pedestrian path of the east side of West Marginal Way Southwest.</p> <p>Closure of Southwest Marginal Place connector trail.</p> <p>Temporary closures of the BNSF railroad tracks east of East Marginal Way South during construction.</p> <p>During construction, netting and scaffolding would reduce planned vertical clearance for 3 months in the East Waterway and 5 months in the West Waterway.</p>	<p>Operational (long-term) reduction in the horizontal and vertical clearance of the United States Army Corps of Engineers-maintained navigation channel in the East Waterway, just north of the existing restriction from the fixed Spokane Street Bridge.</p> <p>Partial closure of Chelan Avenue Southwest west of West Marginal Way Southwest/Southwest Spokane Street/Chelan Avenue Southwest intersection for 3 months during construction.</p> <p>Guideway column construction in the Terminal 18 employee parking lot, could encroach into the gate area, but is not expected to affect queue capacity or circulation.</p> <p>During construction, netting and scaffolding would reduce vertical clearance for 6 months in the East Waterway and 1 month in the West Waterway.</p>
Potential Displacements <sup>a</sup>	<p><b>Residential: 20 to 28</b></p> <p><b>Business: 36 to 37</b></p> <p><b>Employees: 620</b></p>	<p>Residential: 22 to 25</p> <p>Business: 29 to 30</p> <p>Employees: 380 to 390</p>	<p>Residential: 0</p> <p>Business: 36</p> <p>Employees: 380</p>
Length of Potential Operational Visual Impacts (miles)	0.1	0.1	0





Resource Impact Measure	Preferred South Crossing Alternative (DUW-1a) <sup>a</sup>	South Crossing South Edge Crossing Alignment Option (DUW-1b) <sup>a</sup>	North Crossing Alternative (DUW-2)
Potential Operational Noise and Groundborne Noise or Vibration Impacts before Mitigation (all impacts can be mitigated)	<b>29 to 47 noise impacts</b> <b>1 to 2 vibration impacts</b>	35 noise impacts 0 vibration impacts	1 noise impact 0 vibration impacts
Historic Properties and Historic District with Adverse Effects	<b>Spokane Street Manufacturing Historic District</b> <b>Pacific Forge Company/Bethlehem Steel Nut and Bolt Factory Historic District</b> <b>6 individual resources adversely affected (4 demolished, including 1 in Spokane Street Manufacturing Historic District)</b>	Spokane Street Manufacturing Historic District Pacific Forge Company/Bethlehem Steel Nut and Bolt Factory Historic District 6 individual resources adversely affected (4 demolished, including 2 in Spokane Street Manufacturing Historic District)	9 individual resources adversely affected (6 demolished)
Ecosystem Impacts (operational/construction) <sup>b</sup>	<b>Biodiversity area (1.6 to 2.1/0.5 to 0.9 acres)</b> <b>Permanent removal of tree canopy (3.8 to 4.4 acres)</b> <b>Operational (long-term) impacts (tree removal) in great blue heron management area</b> <b>In-water (benthic surface) (0/0 to &lt;0.1 acre)</b> <b>Shoreline (400/100 feet)</b>	Biodiversity area (1.9/0.6 acres) Permanent removal of tree canopy (3.8 to 4.4 acres) Operational (long-term) impacts (tree removal) in great blue heron management area In-water (benthic surface) (<0.1 to 0.4/0.6 to 1.0 acre) Shoreline (500/1,000 feet)	No impacts to biodiversity areas Permanent removal of tree canopy (1.8 acres) No impacts to great blue heron management area Operational (long-term) impact to planned restoration site at Terminal 25 In-water (benthic surface) (0 to 0.5/0 to 0.9 acre) Shoreline (500/800 feet)
Public Service Impacts	<b>Operational (long-term) noise impact at Fire Station 14, but could be mitigated.</b> <b>Potential relocation of parking and training facilities at Fire Station 14 during construction.</b> <b>When connected with Alternative DEL-3 or Alternative DEL-4, relocation of Fire Station 36 during construction or potential permanent relocation.</b>	Operational (long-term) noise impact at Fire Station 14, but could be mitigated. When connected with Alternative DEL-3 or Alternative DEL-4, relocation of Fire Station 36 during construction or potential permanent relocation.	Operational (long-term) noise impact at Fire Station 14, but could be mitigated. Potential relocation of parking and training facilities at Fire Station 14 during construction. A Washington State Department of Social and Health Services secure community transition facility would be displaced. The facility has specific siting requirements and would be difficult to relocate.



Resource Impact Measure	Preferred South Crossing Alternative (DUW-1a) <sup>a</sup>	South Crossing South Edge Crossing Alignment Option (DUW-1b) <sup>a</sup>	North Crossing Alternative (DUW-2)
Park and Recreational Resources Impacts (acres operational/ acres construction)	<b>Harbor Marina Corporate Center at Terminal 102 (0/0.5 acre)</b> <b>West Duwamish Greenbelt (1.0 to 1.2/0.2 to 0.4 acre)</b> <b>22nd Avenue Southwest Street-end displaced (&lt;0.1/0 acre)</b>	Harbor Marina Corporate Center at Terminal 102 (<0.1/1.1 acre) West Duwamish Greenbelt (1.0/0.5 acre) 22nd Avenue Southwest Street-end displaced (<0.1/0 acre)	No park impacts

<sup>a</sup> Ranges reflect differences from connecting to different alternatives in adjacent segments.

<sup>b</sup> Sound Transit is reviewing the feasibility of bridge types to minimize in-water work. The ranges of impacts shown represent impacts from different bridge types considered. Guideway column locations would vary by bridge type.

### 6.2.2.3 Delridge Segment

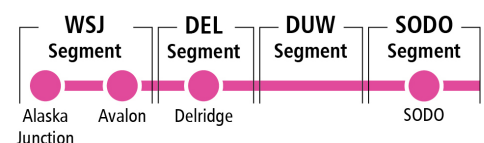
As shown in Table 6-3, Alternative DEL-7 would have a slightly lower projected ridership because it would only connect to Alternative WSJ-6 in the West Seattle Junction Segment (which would not have an Avalon Station), and would generate slightly fewer transfers because of bus network changes associated with the absence of an Avalon Station in the West Seattle Junction Segment.

Key differences in impacts among the Delridge Segment alternatives are shown in Table 6-3. Alternative DEL-1a, Option DEL-1b, Alternative DEL-2a, Option DEL-2b, Alternative DEL-3, and Alternative DEL-4 would displace four Washington State Department of Children, Youth, and Families offices. Alternative DEL-6a would displace the Transitional Resources (a behavioral health non-profit) main office, onsite supportive housing, and adjacent apartment building, while Preferred Option DEL-6b and Alternative DEL-7 would impact one single-family residence and Alternative DEL-5 would impact a duplex owned by this organization.

Preferred Option DEL-6b, Alternative DEL-6a, and Alternative DEL-7 would have fewer residential displacements but slightly more business displacements than the other alternatives. All alternatives would displace businesses in a small business center that houses a neighborhood coffee shop, sandwich shop, and deli mart in an area with limited neighborhood commercial uses. Preferred Option DEL-6b and Alternatives DEL-5, DEL-6a, and DEL-7 would displace the full business center, including a daycare. Alternative DEL-3 and Alternative DEL-4 would result in additional residential property acquisitions under the Minimum Operable Segment (M.O.S.) to accommodate additional bus layover facilities.

Alternative DEL-1a, Option DEL-1b, Alternative DEL-2a, and Option DEL-2b would have the most adverse effects to historic resources and the greatest change to community character. These alternatives, along with Alternative DEL-3 and Alternative DEL-4, would have the greatest visual impacts, but impacts would differ among alternatives. Preferred Option DEL-6b and Alternatives DEL-5, DEL-6a, and DEL-7 would have the least potential for visual impacts due to their height and location.

Preferred Option DEL-6b and Alternative DEL-7 would cross Longfellow Creek where it is an open channel; however, direct impacts to the creek would be avoided. Preferred Option DEL-6b and Alternative DEL-7 would impact wetlands and vegetated areas adjacent to Longfellow Creek.



Alternative DEL-2a and Alternative DEL-4 would have the greatest park impacts from entering a tunnel on the west end of the West Seattle Golf Course. These alternatives would require modifying the golf course and would permanently reduce the playable area. Preferred Option DEL-6b, Alternative DEL-5, Alternative DEL-6a, and Alternative DEL-7 would avoid impacts to parks.

Construction road closures on arterials within the Delridge Segment for Preferred Option DEL-6b and Alternatives DEL-6a and DEL-7 would be limited to nights and weekends. However, these alternatives would require closures on Delridge Way Southwest in the Duwamish Segment, unless connecting with Alternative DUW-2. Alternative DEL-7 would also have a short-term partial closure of the West Seattle Bridge just south of the Southwest Andover Street pedestrian bridge for 3 to 6 months. All other alternatives would require longer temporary construction closures on arterials in the Delridge Segment.

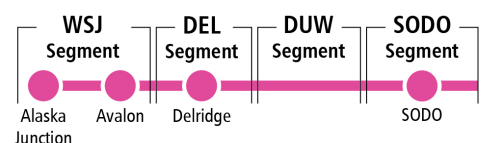
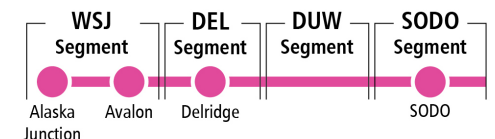
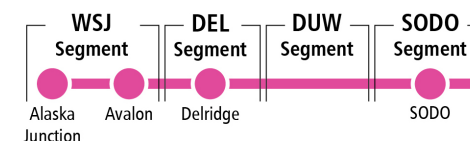


Table 6-3. Projected Ridership and Key Impact Differences – Delridge Segment

Resource Impact Measure	Preferred Andover Street Station Lower Height South Alignment Option (DEL-6b)	Dakota Street Station Alternative (DEL-1a) <sup>a</sup>	Dakota Street Station North Alignment Option (DEL-1b) <sup>a</sup>	Dakota Street Station Lower Height Alternative (DEL-2a) <sup>a</sup>	Dakota Street Station Lower Height North Alignment Option (DEL-2b) <sup>a</sup>	Delridge Way Station Alternative (DEL-3) <sup>a</sup>	Delridge Way Station Lower Height Alternative (DEL-4) <sup>a</sup>	Andover Street Station Alternative (DEL-5)	Andover Street Station Lower Height Alternative (DEL-6a)	Andover Street Lower Height No Avalon Station Tunnel Connection Alternative (DEL-7)
Ridership (daily boardings)	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,300
Transportation Impacts	<p><b>No long-term closure of arterials during construction.</b></p> <p><b>Full closure on Southwest Avalon Way on nights/weekends during construction.</b></p> <p><b>Permanent closure of a portion of 32nd Avenue Southwest near the alignment.</b></p>	<p>Full closure on Southwest Genesee Street for up to 3 years in 2 locations during construction.</p> <p>Full closure on Southwest Avalon Way on nights/weekends during construction.</p> <p>Partial closure on Delridge Way Southwest for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p>	<p>Full closure on Southwest Genesee Street for up to 3 years in 2 locations during construction.</p> <p>Partial closure on Delridge Way Southwest for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p> <p>Partial closure on Southwest Avalon Way for 9 months during construction.</p>	<p>Permanent closure of 25th Avenue Southwest at Delridge Station.</p> <p>Full closure on Southwest Genesee Street on nights/weekends during construction.</p> <p>Partial closure on Delridge Way Southwest for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p>	<p>Permanent closure of 25th Avenue Southwest at Delridge Station.</p> <p>Permanent closure of 30th Avenue Southwest at Southwest Genesee Street.</p> <p>Partial closure on Southwest Genesee Street for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p> <p>Partial closure on Delridge Way Southwest for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p>	<p>Permanent closure of 25th Avenue Southwest at Delridge Station.</p> <p>Permanent closure of 30th Avenue Southwest at Southwest Genesee Street.</p> <p>Partial closure on Southwest Genesee Street for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p> <p>Partial closure on Delridge Way Southwest for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p>	<p>Full closure on Southwest Genesee Street for up to 3 years in 2 locations during construction.</p> <p>Full closure on Southwest Avalon Way on nights/weekends during construction.</p> <p>Partial closure on Delridge Way Southwest for 3 years during construction.</p> <p>Full closure on nights/weekends during construction.</p>	<p>Partial closure on Southwest Genesee Street for 9 months during construction.</p> <p>Full closure on nights/weekends during construction.</p> <p>Partial closure on Delridge Way Southwest for 3 years during construction.</p> <p>Full closure on nights/weekends during construction.</p>	<p>Full closure on Southwest Avalon Way for 1 year during construction.</p> <p>Full closure on Southwest Avalon Way on nights/weekends during construction.</p>	<p>Permanent change: 32nd Avenue Southwest would no longer connect to Southwest Andover Street.</p> <p>Full closure on Southwest Avalon Way on nights/weekends during construction.</p> <p>Partial closure of the West Seattle Bridge just south of the Southwest Andover Street pedestrian bridge for 3 to 6 months during construction.</p>



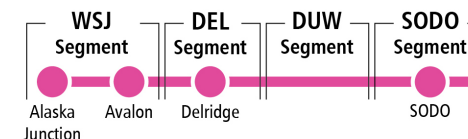
Resource Impact Measure	Preferred Andover Street Station Lower Height South Alignment Option (DEL-6b)	Dakota Street Station Alternative (DEL-1a) <sup>a</sup>	Dakota Street Station North Alignment Option (DEL-1b) <sup>a</sup>	Dakota Street Station Lower Height Alternative (DEL-2a) <sup>a</sup>	Dakota Street Station Lower Height North Alignment Option (DEL-2b) <sup>a</sup>	Delridge Way Station Alternative (DEL-3) <sup>a</sup>	Delridge Way Station Lower Height Alternative (DEL-4) <sup>a</sup>	Andover Street Station Alternative (DEL-5)	Andover Street Station Lower Height Alternative (DEL-6a)	Andover Street Station Lower Height No Avalon Station Tunnel Connection Alternative (DEL-7)
Potential Displacements	<b>Residential: 34</b> <b>Business: 19</b> <b>Employees: 130</b> <b>Would displace Transitional Resources single-family residence</b>	Residential: 171 to 172 Business: 14 to 17 Employees: 150 to 160 Would displace 4 Washington State Department of Children, Youth, and Families offices	Residential: 191 Business: 13 to 17 Employees: 140 to 150 Would displace 4 Washington State Department of Children, Youth, and Families offices	Residential: 93 Business: 14 to 18 Employees: 150 Would displace 4 Washington State Department of Children, Youth, and Families offices	Residential: 197 Business: 14 to 18 Employees: 150 Would displace 4 Washington State Department of Children, Youth, and Families offices	Residential: 151 (+4 with M.O.S.) Business: 14 to 18 Employees: 150 Would displace 4 Washington State Department of Children, Youth, and Families offices	Residential: 70 (+4 with M.O.S.) Business: 14 to 18 Employees: 150 Would displace 4 Washington State Department of Children, Youth, and Families offices	Residential: 114 Business: 17 Employees: 130 Would displace Transitional Resources main office, onsite supportive housing, and apartment building	Residential: 48 Business: 16 Employees: 110 Would displace Transitional Resources duplex	Residential: 14 Business: 19 Employees: 130 Would displace Transitional Resources single-family residence
Length of Potential Operational Visual Impacts (miles)	0.1	1.0	1.0	1.0	1.0	1.0	1.0	0.2	0.1	0.1
Potential Operational Noise and Groundborne Noise or Vibration Impacts before Mitigation (all impacts can be mitigated) <sup>b</sup>	<b>161 noise impacts</b> <b>1 vibration impact</b>	234 to 247 noise impacts 12 vibration impacts	218 noise impacts No vibration impacts	241 noise impacts No vibration impacts	178 noise impacts No vibration impacts	245 noise impacts 12 vibration impacts	246 noise impacts No vibration impacts	251 noise impacts 9 vibration impacts	68 noise impacts 3 vibration impacts	228 noise impacts 9 vibration impacts



Resource Impact Measure	Preferred Andover Street Station Lower Height South Alignment Option (DEL-6b)	Dakota Street Station Alternative (DEL-1a) <sup>a</sup>	Dakota Street Station North Alignment Option (DEL-1b) <sup>a</sup>	Dakota Street Station Lower Height Alternative (DEL-2a) <sup>a</sup>	Dakota Street Station Lower Height North Alignment Option (DEL-2b) <sup>a</sup>	Delridge Way Station Alternative (DEL-3) <sup>a</sup>	Delridge Way Station Lower Height Alternative (DEL-4) <sup>a</sup>	Andover Street Station Alternative (DEL-5)	Andover Street Station Lower Height Alternative (DEL-6a)	Andover Street Lower Height No Avalon Station Tunnel Connection Alternative (DEL-7)
Ecosystem Impacts (acres operational/acres construction)	<b>Wetlands (&lt;0.1/&lt;0.1 acre)</b> <b>Wetland buffers (0.2/0.4 acre)</b> <b>Biodiversity area (0.2/0.2 acre)</b> <b>Permanent removal of trees (3.9 acres)</b>	No impacts to wetlands Wetland buffers (0.5/0.4 acre) Biodiversity area (0/0.1 acre) Permanent removal of trees (4.1 acres)	No impacts to wetlands Wetland buffers (0.8/0.4 acre) Biodiversity area (0.1/<0.1 acre) Permanent removal of trees (4.3 acres)	No impacts to wetlands Wetland buffers (0.4/0.4 acre) Biodiversity area (0/<0.1 acre) Permanent removal of trees (3.9 acres)	Wetlands (0/<0.1 acre) Wetland buffers (0.6/0.4 acre) Biodiversity area (<0.1/<0.1 acre) Permanent removal of trees (4.1 acres)	No impacts to wetlands Wetland buffers (0.6/0.4 acre) Biodiversity area (0/<0.1 acre) Permanent removal of trees (3.5 acres)	No impacts to wetlands Wetland buffers (0.4/0.3 acre) Biodiversity area 0/<0.1 acre) Permanent removal of trees (4.3 acres)	No impacts to wetlands Wetland buffers (0/0.4 acre) Biodiversity area (<0.1/<0.1 acre) Permanent removal of trees (4.0 acres)	Wetlands (0/<0.1 acre) Wetland buffers (0/0.4 acre) Biodiversity area (0/<0.1 acre) Permanent removal of trees (3.6 acres)	Wetlands (<0.1/<0.1 acre) Wetland buffers (0.2/0.4 acre) Biodiversity area (0.2/0.2 acre) Permanent removal of trees (3.7 acres)
Historic Properties with Adverse Effects	<b>1 resource adversely affected (0 demolished)</b>	6 resources adversely affected (5 demolished)	7 resources adversely affected (6 demolished)	6 resources adversely affected (5 demolished)	6 resources adversely affected (5 demolished)	4 resources adversely affected (3 demolished)	4 resources adversely affected (3 demolished)	2 resources adversely affected (2 demolished)	No adverse effects	1 resource adversely affected (0 demolished)
Park and Recreational Resources Impacts (acres operational/acres construction)	<b>No park impacts</b>	West Seattle Golf Course (0/1.0 acre) Longfellow Creek Natural Area (0/0.1 acre)	West Seattle Golf Course (0/0.2 acre) Longfellow Creek Natural Area (0.1/0.1 acre) Delridge Playfield (0/<0.1 acre)	West Seattle Golf Course (0.7/1.2 acre)	West Seattle Golf Course (0/0.2 acre) Longfellow Creek Natural Area (0/<0.1 acre)	West Seattle Golf Course (0/1.2 acre) Delridge Playfield (<0.1/0.1 acre)	West Seattle Golf Course (0.8/0.8 acre) Delridge Playfield (0/0.1 acre)	No park impacts	No park impacts	No park impacts

<sup>a</sup> Ranges reflect differences from connecting to different alternatives in adjacent segments.

<sup>b</sup> The numbers presented are the number of units, counted by individual residences, including individual units of multi-family structures, and number of structures for other uses, like schools, churches, and parks.



### 6.2.2.4 West Seattle Junction Segment

As shown in Table 6-4, all of the West Seattle Junction Segment alternatives would have the same projected ridership except for Alternative WSJ-2, which would have higher numbers of walk, bike, and drop-off/pick-up trips at the Alaska Junction Station, and Alternative WSJ-6, which would have slightly less ridership because it would not have an Avalon Station.

Key differences in impacts among the West Seattle Junction Segment alternatives are shown in Table 6-4. Alternative WSJ-1 and Alternative WSJ-2 would avoid major weekday closures on Fauntleroy Way Southwest that would occur with the other West Seattle Junction Segment alternatives. Fauntleroy Way Southwest at this location is the primary entrance to the West Seattle Bridge and is a freight route. Although Alternative WSJ-6 would avoid this closure, it only connects with Alternative DEL-7 in the Delridge Segment, which would have a partial closure of the West Seattle Bridge just south of the Southwest Andover Street pedestrian bridge for 3 to 6 months. Alternative WSJ-2 would close a portion of Southwest Alaska Street for up to 3 years. This portion of Southwest Alaska Street is one of the few connections between Fauntleroy Way Southwest and 35th Avenue Southwest in this area.

Alternative WSJ-6 would have the fewest business and employee displacements because it would not have an Avalon Station. Alternative WSJ-1 would have the greatest business and employee displacements from acquiring multiple mixed-use buildings. Preferred Option WSJ-5b and Alternative WSJ-6 would have the fewest residential displacements. Alternative WSJ-1 and Alternative WSJ-2 would have the most residential displacements because they would displace four or five apartment or condominium complexes, respectively. Preferred Option WSJ-5b, Alternative WSJ-3a, Alternative WSJ-4, and Alternative WSJ-5a would avoid impacts to parks. Alternative WSJ-1 and Alternative WSJ-2 would remove Fauntleroy Place. Option WSJ-3b would remove Junction Plaza Park for a station entrance. Alternative WSJ-4 would have the greatest number of adverse effects to historic resources.

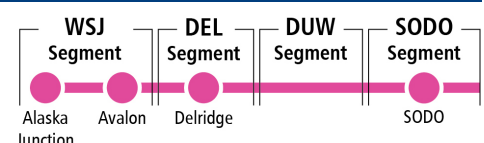
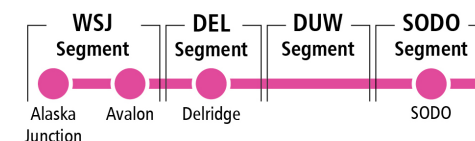


Table 6-4. Projected Ridership and Key Impact Differences – West Seattle Junction Segment

Resource Impact Measure	Preferred Medium Tunnel 41st Avenue Station West Entrance Station Option (WSJ-5b)	Elevated 41st/42nd Avenue Station Alternative (WSJ-1)	Elevated Fauntleroy Way Station Alternative (WSJ-2) <sup>a</sup>	Tunnel 41st Avenue Station Alternative (WSJ-3a) <sup>a</sup>	Tunnel 42nd Avenue Station Option (WSJ-3b)	Short Tunnel 41st Avenue Station Alternative (WSJ-4)	Medium Tunnel 41st Avenue Station Alternative (WSJ-5a)	No Avalon Station Tunnel Alternative (WSJ-6)
Ridership (daily boardings)	7,600	7,600	8,000	7,600	7,600	7,600	7,600	7,500
Transportation Impacts	<p><b>Permanent closure of Southwest Genesee Street at 35th Avenue Southwest.</b></p> <p><b>Full closure on 35th Avenue Southwest near the West Seattle Bridge for 1 year during construction.</b></p> <p><b>Partial closure on Fauntleroy Way Southwest for 1.5 years during construction.</b></p>	<p>Full closure on Fauntleroy Way Southwest on nights/ weekends during construction.</p> <p>Full closure on 35th Avenue Southwest near the West Seattle Bridge on nights/ weekends during construction.</p>	<p>Full closure on Fauntleroy Way Southwest on nights/ weekends during construction.</p> <p>Full closure on 35th Avenue Southwest near the West Seattle Bridge on nights/ weekends during construction.</p> <p>Full closure on Southwest Alaska Street for 3 years during construction.</p>	<p>Partial closure on Fauntleroy Way Southwest for 1.5 years during construction.</p> <p>Full closure on 35th Avenue Southwest near the West Seattle Bridge for 3 years during construction.</p>	<p>Partial closure on Fauntleroy Way Southwest for 1.5 years during construction.</p> <p>Full closure on 35th Avenue Southwest near the West Seattle Bridge for 3 years during construction.</p>	<p>Permanent closure of 37th Avenue Southwest north of Fauntleroy Way Southwest.</p> <p>Permanent closure of 38th Avenue Southwest north of Southwest Oregon Street.</p> <p>Partial closure on Fauntleroy Way Southwest for 9 months during construction. Full closure on nights/ weekends during construction.</p> <p>Full closure on 35th Avenue Southwest near the West Seattle Bridge on nights/ weekends during construction.</p>	<p>Permanent closure of Southwest Genesee Street at 35th Avenue Southwest.</p> <p>Full closure on 35th Avenue Southwest near the West Seattle Bridge for 1 year during construction.</p> <p>Partial closures on Fauntleroy Way Southwest for 1.5 years during construction.</p>	<p>No long-term closures of major arterials during construction.</p>
Potential Displacements	<p><b>Residential: 111</b></p> <p><b>Business: 44</b></p> <p><b>Employees: 240</b></p>	<p>Residential: 351 to 370</p> <p>Business: 57</p> <p>Employees: 290</p>	<p>Residential: 474 to 493</p> <p>Business: 15 to 18</p> <p>Employees: 90 to 100</p>	<p>Residential: 162 to 269</p> <p>Business: 15 to 18</p> <p>Employees: 100 to 110</p>	<p>Residential: 126 to 230</p> <p>Business: 42 to 45</p> <p>Employees: 230 to 240</p>	<p>Residential: 253</p> <p>Business: 17</p> <p>Employees: 110</p>	<p>Residential: 153</p> <p>Business: 15</p> <p>Employees: 100</p>	<p>Residential: 109</p> <p>Business: 6</p> <p>Employees: 70</p>

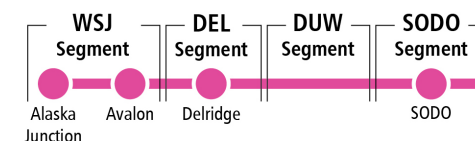




Resource Impact Measure	Preferred Medium Tunnel 41st Avenue Station West Entrance Station Option (WSJ-5b)	Elevated 41st/42nd Avenue Station Alternative (WSJ-1)	Elevated Fauntleroy Way Station Alternative (WSJ-2) <sup>a</sup>	Tunnel 41st Avenue Station Alternative (WSJ-3a) <sup>a</sup>	Tunnel 42nd Avenue Station Option (WSJ-3b)	Short Tunnel 41st Avenue Station Alternative (WSJ-4)	Medium Tunnel 41st Avenue Station Alternative (WSJ-5a)	No Avalon Station Tunnel Alternative (WSJ-6)
Length of Potential Operational Visual Impacts (miles)	0	0.1	0.2	0	0	0	0	0
Potential Operational Noise and Groundborne Noise or Vibration Impacts before Mitigation (all impacts can be mitigated) <sup>b</sup>	<b>5 noise impacts</b> <b>158 groundborne impacts</b>	414 noise impacts 7 vibration impacts	312 to 356 noise impacts No vibration or groundborne noise impacts	No noise impacts 24 to 199 groundborne noise impacts	No noise impacts 269 to 430 groundborne noise impacts	140 noise impacts 153 groundborne noise impacts	5 noise impacts 79 groundborne noise impacts	0 noise impacts 144 groundborne noise impacts
Historic Properties with Adverse Effects	<b>No adverse effects</b>	4 resources adversely affected (4 demolished)	45 resources adversely affected (4 demolished)	3 resources adversely affected (2 demolished)	3 resources adversely affected (2 demolished)	7 resources adversely affected (6 demolished)	No adverse effects	No adverse effects
Park and Recreational Resources Impacts (acres operational/acres construction)	<b>No park impacts</b>	Fauntleroy Place displaced (0.1/0 acre)	Fauntleroy Place displaced (0.1/0 acre)	No park impacts	Junction Plaza Park displaced (0.2/0 acre)	No park impacts	No park impacts	No park impacts

<sup>a</sup> Ranges reflect differences from connecting to different alternatives in adjacent segments.

<sup>b</sup> The numbers presented are the number of units, counted by individual residences, including individual units of multi-family structures, and number of structures for other uses, like schools, churches, and parks.



### 6.2.2.5 Capital Costs Summary

The project cost estimates support the Sound Transit Board’s evaluation of the relative cost of the alternatives defined and evaluated in this Final Environmental Impact Statement. The current level of project design includes uncertainties regarding the project scope, engineering data, mitigation requirements, schedule, and project delivery methods. Therefore, the cost estimates at this stage are conceptual and rounded to the nearest \$50 million. These estimates focus on the project elements that are defined consistently across alternatives, capture the essential physical features of alternatives, and help distinguish alternatives from one another. The project costs include estimates for construction and right-of-way costs.

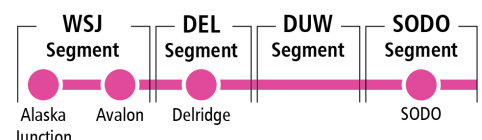
In addition, Sound Transit included estimated costs for design, permitting, agency administration, program management, construction change orders, and unallocated contingency as a percentage of the above estimates. The estimated project costs do not include the cost of the additional light rail vehicles or operation and maintenance facility needed to operate the West Seattle Link Extension.

Table 6-5 shows the costs by Build Alternative in each West Seattle Link Extension segment.

**Table 6-5. West Seattle Link Extension Estimated Capital Costs**

Segment	Alternative	Cost (2024 Dollars)
SODO	<b>Preferred SODO-1c</b>	<b>\$750 to 800 million</b>
	SODO-1a	\$750 to 800 million
	SODO-1b	\$950 million to 1.05 billion
	SODO-2	\$950 million to 1.05 billion
Duwamish	<b>Preferred DUW-1a</b>	<b>\$1.90 to 2.15 billion</b>
	DUW-1b	\$1.90 to 2.10 billion
	DUW-2	\$2.15 to 2.35 billion
Delridge	<b>Preferred DEL-6b</b>	<b>\$700 to 750 million</b>
	DEL-1a	\$850 million to 1.05 billion
	DEL-1b	\$950 million to 1.00 billion
	DEL-2a	\$600 to 650 million
	DEL-2b	\$700 to 750 million
	DEL-3	\$800 to 850 million
	DEL-4	\$600 to 650 million
	DEL-5	\$750 to 800 million
	DEL-6a	\$550 to 600 million
DEL-7	\$700 to 800 million	
West Seattle Junction	<b>Preferred WSJ-5b</b>	<b>\$1.75 to 1.90 billion</b>
	WSJ-1	\$1.70 to 1.85 billion
	WSJ-2	\$1.05 to 1.15 billion
	WSJ-3a	\$2.10 to 2.35 billion
	WSJ-3b	\$2.20 to 2.40 billion
	WSJ-4	\$1.65 to 1.80 billion
	WSJ-5a	\$1.60 to 1.80 billion
WSJ-6	\$1.40 to 1.50 billion	

Note: The cost range provided is a risk-based value and may be adjusted as the project progresses.



### 6.2.2.5.1 SODO Segment

The estimated costs of the alternatives in the SODO Segment are shown in Table 6-5. The lowest-cost alternatives in the SODO Segment would be Preferred Option SODO-1c and Alternative SODO-1a. Option SODO-1b would have a higher cost than Preferred Option SODO-1c and Alternative SODO-1a because of additional property acquisition and moving the existing station closer to South Lander Street. Alternative SODO-2 would also have a higher cost than Preferred Option SODO-1c and Alternative SODO-1a for the same reasons as Option SODO-1b but also because of the elevated guideway and station.

### 6.2.2.5.2 Duwamish Segment

The estimated costs of the alternatives in the Duwamish Segment are shown in Table 6-5. The lowest-cost alternative in the Duwamish Segment would be Option Alternative DUW-1b. Preferred Alternative DUW-1a has been modified to avoid in-water column foundations in the West Waterway, resulting in a higher overall cost. Alternative DUW-2 would require additional long-span elevated guideway, more utility relocations, and additional property acquisition, resulting in the highest overall cost among Duwamish Segment alternatives.

### 6.2.2.5.3 Delridge Segment

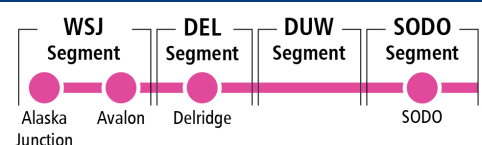
The estimated costs of the alternatives in the Delridge Segment are shown in Table 6-5. Alternative DEL-6a would have the lowest costs in the Delridge Segment. It would have lower guideways and would have more guideway within public right-of-way, which would reduce costs. Preferred Option DEL-6b has even lower guideway but would result in higher overall cost, because the alignment would have more guideway on private properties and would include a separation between passengers accessing the station, buses, and Nucor trucks, allowing for improved transit integration and passenger experience.

Alternatives DEL-2a and DEL-4 also would have lower guideways, which would reduce costs compared with other alternatives in this segment. Compared with Alternative DEL-2a, Option DEL-2b would require additional property acquisition on the north side of Southwest Genesee Street to avoid the West Seattle Golf Course and would have additional straddle bents across the roadway, which would increase the cost. Alternatives DEL-3 and DEL-4 would have the same station in terms of height on Delridge Way Southwest but the connection to the Avalon Station for Alternative DEL-3 would have higher guideway, resulting in higher cost. Alternative DEL-1a and Option DEL-1b would have the greatest cost due to the height of the elevated guideway and property acquisition.

### 6.2.2.5.4 West Seattle Junction Segment

The estimated costs of the alternatives in the West Seattle Junction Segment are shown in Table 6-5. Alternative WSJ-2 would be the lowest-cost alternative in the West Seattle Junction Segment because it would be elevated and the shortest length. Alternative WSJ-1, also elevated, would cost more than Alternative WSJ-2 because it would be longer, taller, and require more property acquisition. Alternative WSJ-5a would cost less than Preferred Option WSJ-5b due to lower property acquisition costs for the Alaska Junction Station.

Alternative WSJ-3a and Option WSJ-3b would be the most expensive tunnels because they would have the longest tunnel length and because both stations (Avalon Station and Alaska Junction Station) would be in a tunnel. Alternative WSJ-4 would have the shortest tunnel but higher cost for property acquisition around the elevated Avalon Station.



Alternative WSJ-6 would have the longest tunnel, but lowest cost between tunnel alternatives within this segment. This alternative would not have an Avalon Station, resulting in lower construction and property acquisition costs. It also would have lower property acquisition costs for the Alaska Junction Station when compared with Preferred Option WSJ-5b, Alternative WSJ-3a, and Alternative WSJ-5a.

### 6.3 Benefits and Disadvantages of Delaying Implementation

As required by the State Environmental Policy Act (SEPA), this section discusses the benefits and disadvantages of delaying the proposed project instead of approving it now.

Delaying the project would postpone impacts associated with project construction but would also postpone realizing a major component of the region's long-range plans for managing growth and transportation and the opportunity to link neighborhoods with Puget Sound regional employment centers. Delay would limit economic development from the movement of people and goods and allow projects to develop that might preclude or increase the cost of the project.

A substantial delay in implementing the project would inhibit the region's ability to accommodate growth, as articulated in local and regional plans. This would lead to a number of other consequences, including changed development patterns, steadily increasing corridor roadway congestion, and deteriorating transit performance and reliability, with related air quality issues and higher energy usage.

### 6.4 Commitment of Resources

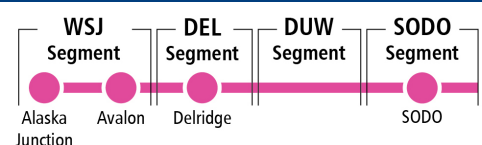
If built, the project would have irreversible and irretrievable commitments of property and natural resources. Private properties with residential and commercial uses would be converted to transportation use. The conversion of lands would change the character of some areas along the project corridor. The project would affect wetlands, wildlife habitat, and aquatic habitat to varying degrees, depending on the alternative selected. Mitigation measures would be implemented, but some of those resources would be irretrievably altered. Construction of the proposed project would also require the commitment of resources such as fuel and construction materials (such as aggregate for concrete, wood for forms and frames, and steel for rebar and rails).

### 6.5 Significant and Unavoidable Adverse Impacts

With the avoidance, minimization, and mitigation measures described in Chapter 3, Transportation Environment and Consequences, and Chapter 4, Affected Environment and Environmental Consequences, significant adverse impacts would be avoided or minimized for most alternatives.

Permanent impacts that could be significant and unavoidable for particular West Seattle Link Extension alternatives include the following:

- Displacement of water-dependent businesses on the Duwamish Waterway and ripple effects on other maritime-related businesses (Preferred Alternative DUW-1a, Option DUW-1b, and Alternative DUW-2). Water-dependent uses have unique characteristics or uses that could be difficult to relocate and may require constructing new facilities. Some water-dependent facilities may not be able to be relocated.



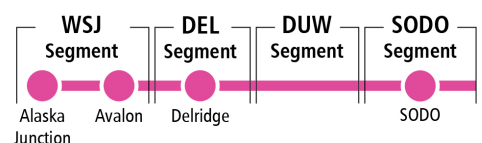
- Visual impacts from elevated guideway in the Delridge Segment (Alternative DEL-1a, Option DEL-1b, Alternative DEL-2a, Option DEL-2b, Alternative DEL-3, and Alternative DEL-4).

Some temporary impacts during construction would not be avoidable and could be significant and adverse in some locations. These impacts would include temporary but long-term lane, trail and/or roadway closures, and noise and vibration. Detour routes could reduce the impact of roadway closures, although delays, congestion, and inconvenience would still occur. Road closures would also require temporary Metro bus diversions. There could be adverse impacts on businesses in the project corridor, especially for businesses adjacent to the alternatives that depend on drive-by traffic. All Duwamish Segment alternatives would require short-term closures of the navigation channel and netting and scaffolding would temporarily reduce vertical clearance over both waterways.

## 6.6 Areas of Controversy and Issues to be Resolved

Areas of controversy and issues to resolve include the following:

- **Funding:** Based on current cost estimates and revenue projections, the preferred alternatives for the West Seattle Link Extension are anticipated to exceed the assumptions in the re-aligned financial plan. Sound Transit, the City of Seattle, and King County acknowledge there may be shared responsibility to address the additional cost difference between the final project to be built and the re-aligned financial plan through either additional funding or cost-savings opportunities. As described in Motion 2023-52, the City of Seattle and King County provided letters to Sound Transit on March 23, 2023, indicating their intent to work with Sound Transit to further analyze costs and funding sources over the next year and develop a funding agreement in advance of the Board action to select a project to be built.
- **Displacement of Public Facilities:** In the SODO Segment, Option SODO-1b and Alternative SODO-2 would displace the SODO United States Postal Service Carrier Annex/Terminal Post Office. Preferred Option SODO-1c and Alternative SODO-1a would avoid permanent impacts (i.e., operation and maintenance) to the United States Postal Service facility and would not require relocation of the facility. If selected as the alternative to be built, station elements for Preferred Option SODO-1c may be shifted as station design advances to enhance station access. However, Preferred Option SODO-1c would be designed to avoid acquisition of the United States Postal Service facility. The existing driveway at the United States Postal Service Carrier Annex/Terminal Post Office’s southern access point would be connected under the new South Lander Street overpass to 4th Avenue South, which then provides access to South Lander Street. If the United States Postal Service facility is displaced, Sound Transit would be responsible for environmental review, design, and construction of a replacement facility. The replacement facility would be designed to meet the United States Postal Service’s siting criteria and facility requirements. Impacts of relocating the United States Postal Service facility are yet undefined, and should an alternative that triggers relocation of a United States Postal Service facility move forward, additional environmental review will be conducted to evaluate and disclose the impacts of relocating the facility. Postal operations would be relocated to the replacement facility prior to the project impacting the existing facility.



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