

## **Appendix L4.2 Land Use**

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## Appendix L4.2 Land Use

### L4.2.1 Land Conversion to Transportation Use

Tables 4.2.-1 through 4.2-4 in Section 4.2, Land Use, of the Final Environmental Impact Statement (EIS) summarize the estimated acres of land that would be converted by the West Seattle Link Extension Project (the project) to a transportation-related use by alternative. Changes in the land use conversion amounts associated with station and alignment options are shown as an increase or decrease relative to each Build Alternative. The totals represent the amount of property that would be permanently converted outside of existing transportation rights-of-way. Figures L4.2-1 and L4.2-2 show existing land uses and zoning around the Build Alternatives.

### L4.2.2 Land Use Plans, Goals, and Policies

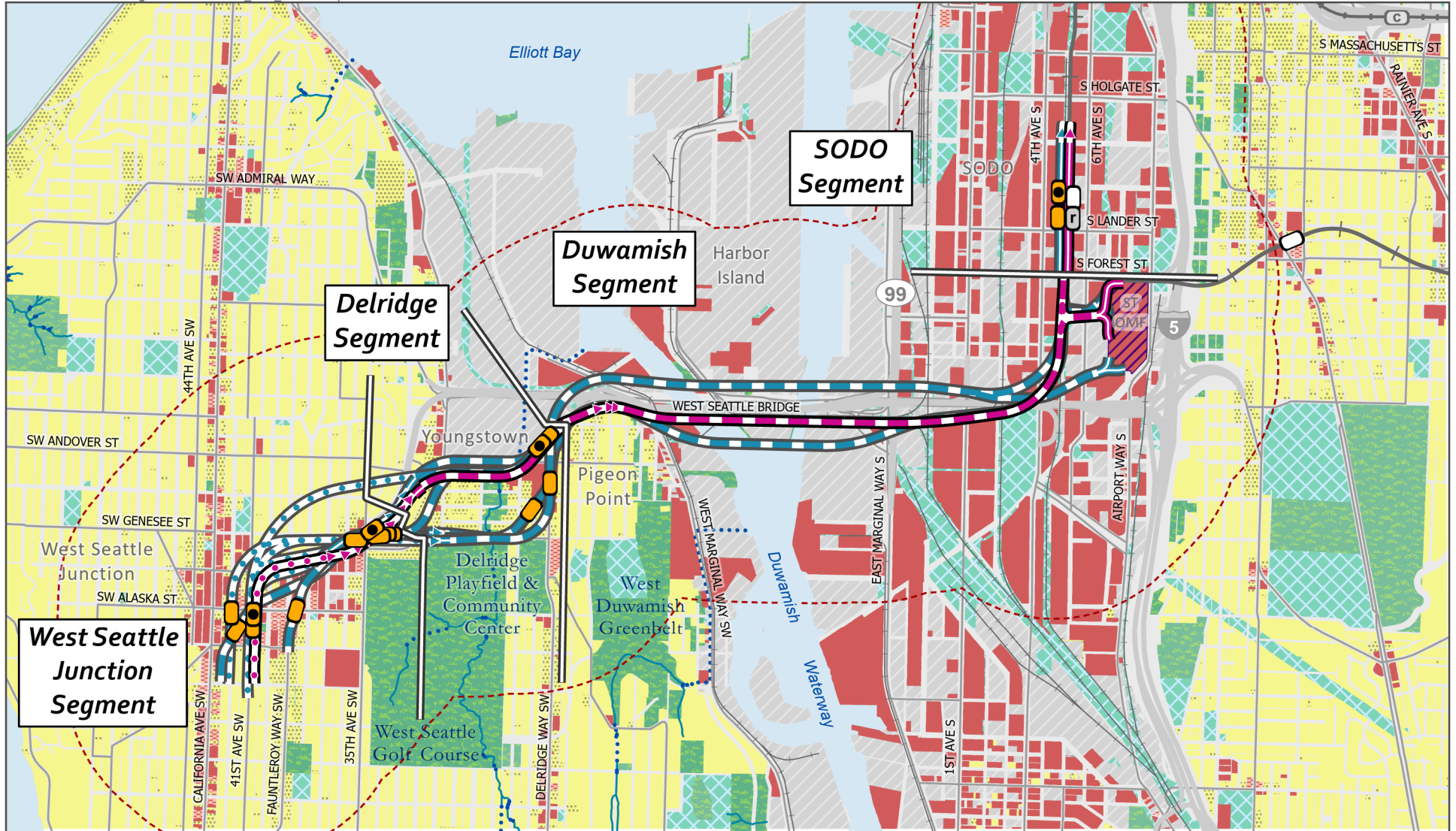
Sound Transit is the Regional Transit Authority for the central Puget Sound region (Revised Code of Washington Chapters 81.104 and 81.112). The project is part of the Sound Transit 3 plan that voters approved in 2016. Sound Transit 3 aims to complete major mass transit extensions over a 25-year period in the Puget Sound region.

Sound Transit has reviewed applicable regional, state, and local plans for goals and/or policies pertinent to the project. The following sections summarize applicable plans and the consistency of the project with each of them. Tables L4.2-1 through L4.2-4 in Section L4.2.4.12, Project Consistency with Specific Regional and Local Goals and Policies, provide information on specific goals and policies and the project's consistency with each of them. The Build Alternatives are consistent with plans and policies that cover the study area. In addition to the goals and policies identified, the project would also comply with applicable federal, state, and local permits and approvals.

### L4.2.3 Regional and State Land Use Plans

Regional and state planning documents establish the framework for local land use and transportation programs and plans. The subsections below provide an overview of each document as follows:

- Washington State Growth Management Act (1990, as amended)
- Puget Sound Regional Council's VISION 2050 (2020) and *Regional Transportation Plan – 2022-2050* (2022)
- *Port of Seattle 2018–2022 Long Range Plan* (Port of Seattle 2017a)
- Sound Transit's *Regional Transit Long-Range Plan* (2014a); *Transit-Oriented Development (TOD) Program: Strategic Plan Update* (2014b) and *Adopting an Equitable Transit Oriented Development Policy* (2018); *Sound Transit 3 Regional Transit System Plan for Central Puget Sound* (2016); *Real Property Excess, Surplus, and Disposition Policy* (2013)
- *King County Comprehensive Plan*. Updated December 6, 2022 (King County 2022)



Source: King County (2022, 2023), City of Seattle (2023).

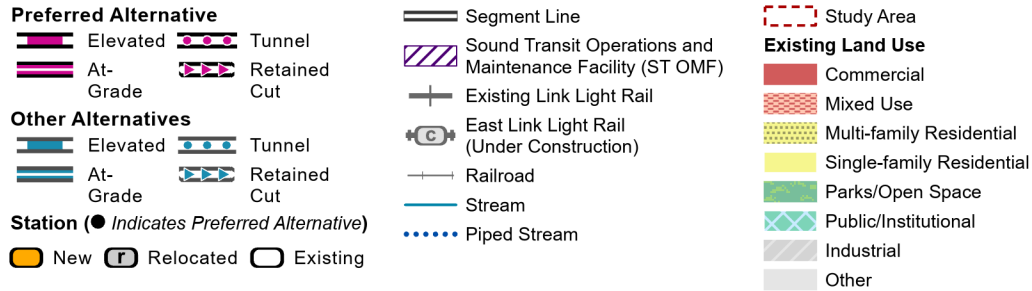
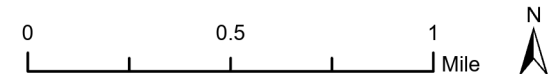
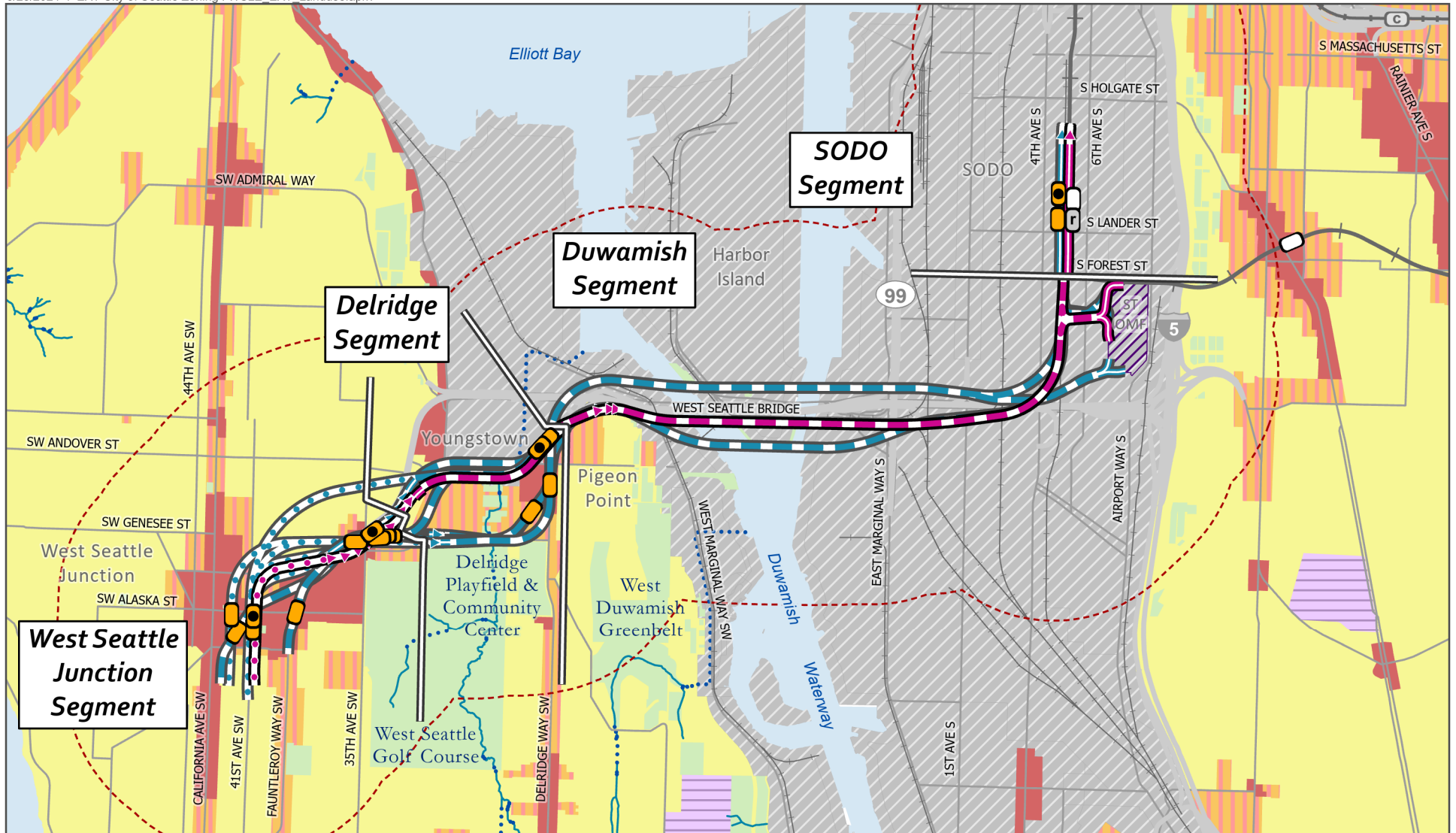


FIGURE L4.2-1  
Existing Land Use

West Seattle Link Extension





Source: City of Seattle, King County (2023).

#### Preferred Alternative

- Elevated
- At-Grade
- Tunnel
- Retained Cut

#### Other Alternatives

- Elevated
- At-Grade
- Tunnel
- Retained Cut

#### Station (● Indicates Preferred Alternative)

- New
- Relocated
- Existing

- Segment Line
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Existing Link Light Rail
- East Link Light Rail (Under Construction)
- Railroad
- Stream
- Piped Stream
- Park

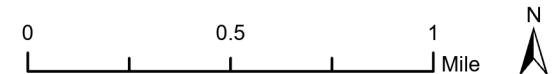
#### Study Area

#### City of Seattle Zoning

- Commercial/Mixed Use
- Major Institutions
- Manufacturing/Industrial
- Multi-Family
- Single Family

FIGURE L4.2-2  
City of Seattle Zoning

West Seattle Link Extension





### **L4.2.3.1 Washington State Growth Management Act**

#### ***Plan Summary***

The Growth Management Act, codified at Revised Code of Washington Chapter 36.70A, was adopted in 1990 to provide a framework for managing growth and coordinating land use development with construction of transportation facilities and other infrastructure.

Consistency with the Growth Management Act is required for local, county, and regional plans. The overarching goal of the Growth Management Act is to focus development in urban areas that have adequate public facilities and services, while encouraging an efficient, multi-modal transportation system based on regional priorities and coordinated with comprehensive plans.

Local governments are required to develop and adopt growth management policies, plans, and regulations that are consistent with the Growth Management Act. Comprehensive plans require elements that address land use, housing, capital facilities, utilities, rural lands (counties only), and transportation. Coordination and consistency between the transportation and land use elements is a requirement and key component of the Growth Management Act. The Growth Management Act also requires cities and counties to establish a process in their comprehensive plans to make provisions for siting essential public facilities, such as state and regional transportation or transit facilities. The City of Seattle plans for land development by focusing growth within designated growth centers and making roadway and transit improvements to help meet increasing transportation demands.

#### ***Project Consistency***

The West Seattle Link Extension Project would connect major residential, employment, and retail centers throughout Seattle and comply with applicable City adopted comprehensive plans and regulations. The project would further the goals of the Growth Management Act by creating a consistent, safe, and effective alternative to single-occupant vehicle transportation within the city (and region); encourage growth within the urban areas surrounding new stations; and reduce sprawl and congestion. The project would be considered an essential public facility, and as such, under the Growth Management Act, the City of Seattle would have a “duty to accommodate” the light rail project’s final alignment and station locations in any existing or future land use plans.

### **L4.2.3.2 Puget Sound Regional Council VISION 2050**

#### ***Plan Summary***

Puget Sound Regional Council adopted VISION 2050 in 2020 to serve as the regional long-range growth strategy for the four-county area served by Puget Sound Regional Council (King County, Snohomish County, Kitsap County, and Pierce County). VISION 2050 supersedes Puget Sound Regional Council’s VISION 2040 and the *Growing Transit Communities Strategy*. VISION 2050 is integrated with and supported by the Growth Management Act, and it contains regional planning policies that supply local framework for county and city comprehensive plans to help the region grow in a more sustainable and socially equitable manner. Multi-county planning policies and actions fall within nine elements: Regional Collaboration, Regional Growth Strategy, Environment, Climate Change, Development Patterns, Housing, Economy, Transportation, and Public Services.

VISION 2050 offers regional framework and direction for making local decisions to guide distributions of population and employment growth as well as environmental health. The regional growth strategy focuses most of the region’s housing and employment growth into cities and regional growth centers, creating walkable, compact, and transit-oriented communities. Areas within the city of Seattle are identified as regional growth centers.

**Project Consistency**

VISION 2050 identifies Seattle as a “Metropolitan City,” which is a focal point of growth and development, specifically centered around transit stations. Development of the project would provide high-capacity transit in the metropolitan city of Seattle consistent with VISION 2050’s plan. VISION 2050 prioritizes sustainable transportation projects and services that produce greater efficiency, reduce trips and greenhouse gas emissions, and provide more transportation choices. It has a goal for 65 percent of the region’s population and 75 percent of the region’s employment to occur in regional growth centers and within walking distance of transit. VISION 2050 also calls for reducing greenhouse gas by investing in multi-modal transportation improvements, including light rail, to create a transit network as identified in the Regional Transportation Plan, which includes the project. Relevant policies and project consistencies are summarized in Table L4.2-1.

**L4.2.3.3 Puget Sound Regional Council Regional Transportation Plan****Plan Summary**

Puget Sound Regional Council adopted *The Regional Transportation Plan – 2022-2050* in 2022. *The Regional Transportation Plan – 2022-2050* is the current long-range plan for transportation in the central Puget Sound region through 2050, and it is the transportation element of VISION 2050. The plan comprehensively describes how the region will meet transportation needs and implement VISION 2050 to meet anticipated growth in the central Puget Sound region. The plan focuses on specific projects to improve roadways and create walkable and bikeable neighborhoods well connected by transit to job centers.

**Project Consistency**

Puget Sound Regional Council’s Regional Transportation Plan identifies the project as part of the region’s future integrated transit network and highlights its role in supporting equitable access to opportunity, reliable regional connections, and catalyzing economic and TOD within the region.

**L4.2.3.4 Port of Seattle 2018–2022 Long Range Plan****Plan Summary**

*The Port of Seattle’s Long-Range Plan* (Port of Seattle 2017a) provides strategies and objectives to effectively and transparently improve the Port’s ability to support the local economy through job creation, while addressing environmental opportunities and social responsibility of all its stakeholders. The plan focuses on two strategies, the Century Agenda and the High-Performance Organization. The Century Agenda focuses on external growth by efficiently moving increasing amounts of cargo and people, further developing community engagement, and excelling in environmental stewardship. The High-Performance Organization strategy focuses on operations excellence, organizational alignment, and people-centric organization. Several of the plan’s objectives emphasize the need to reduce carbon emissions and air pollutants, prevent sprawl in less developed areas, and increase connectivity through major urban centers.

**Project Consistency**

The project would not require acquisition of any area on Terminal 5, which is consistent with the Port’s Long Range Plan. Some operational capacity would be affected by Alternative DUW-2 at the Port of Seattle Terminal 25, which is not compatible with the plan. The north and west

buildings for the Harbor Marina Corporate Center at Terminal 102, owned by Port of Seattle, would be displaced by Preferred Alternative DUW-1a and Option DUW-1b. Construction of Alternative DUW-2 across Harbor Island could impact freight traffic accessing Port of Seattle and Northwest Seaport Alliance terminals, including Terminal 18. Freight trains using the lead tracks of Terminals 5 and 18, along the south side of Klickitat Avenue Southwest could also be impacted during construction. Sound Transit will work with the Port of Seattle to limit construction impacts. More detail about the existing freight use and potential impacts is included in Chapter 3, Transportation Environment and Consequences.

During construction, freight mobility to and from Harbor Island (Duwamish Segment) would be temporarily impacted. Where possible, Sound Transit would maintain access to and from these properties during construction. Alternatives in the Duwamish Segment would acquire parcels owned by the Port of Seattle. See Section 4.1, Acquisitions, Displacements, and Relocations, in the Final EIS for additional information.

### **L4.2.3.5 Sound Transit Regional Transit Long-Range Plan**

#### ***Plan Summary***

As the Regional Transit Authority, Sound Transit is responsible for regional high-capacity transit system planning within the context of the Regional Transportation Plan. Puget Sound region voters approved financing for Sound Transit 2 in 2008 and for Sound Transit 3 in 2016, showing continuing popular support for regional transit investments. The *Regional Transit Long-Range Plan* serves as the basis for Sound Transit 3, the current phase of high-capacity transit investments (see Section L4.2.3.8, Sound Transit Real Property Excess, Surplus, and Disposition Policy). The plan was adopted in 2014 and includes goals, policies, and strategies for the long-term development of a high-capacity transit system within the central Puget Sound region. The plan identifies performance-related measures to assess and select projects and services to be included in any new system plan, including Sound Transit 3. All new system plans should provide a public transportation system that helps ensure long-term mobility, connectivity, and convenience; preserves communities and open space; contributes to the region's economic vitality; preserves the environment; and increases use of regional transit networks.

#### ***Project Consistency***

The project is explicitly identified in Sound Transit's *Regional Transit Long-Range Plan* as a future project.

### **L4.2.3.6 Sound Transit Transit-Oriented Development Policy and Program Strategic Plan**

#### ***Plan Summary***

First adopted in 2012, Sound Transit's TOD policy provides the groundwork for the agency's TOD Program and establishes a framework for implementing TOD strategies within the regional transit system. The *Transit-Oriented Development (TOD) Program: Strategic Plan Update*, adopted in 2010 and updated in 2014, defines Sound Transit's vision for TOD around its corridors, stations, park-and-ride lots, and transit centers (2014b). It describes the importance of integrating land use and transit in an environmentally responsible way and furthers the emphasis on the role of TOD in long-range and project planning. The plan is intended to be used by the Sound Transit Board of Directors, staff, local jurisdictions, and partner agencies to provide guidance on how to facilitate public and private development projects that create dense, pedestrian-oriented communities, which encourage people to use transit and foster a healthy, livable environment.

Recent state legislation (Revised Code of Washington Chapter 81.112.350) and the approval of Sound Transit 3 (and the West Seattle Link Extension Project) triggered new requirements for Sound Transit to implement an equitable TOD strategy that creates stable, livable, and affordable transit communities adjacent to light rail stations. In response, Sound Transit adopted Resolution No. R2018-10: Adopting an Equitable Transit Oriented Development Policy in 2018. The policy conforms to regional growth plans by providing a strategy to implement equitable TOD within transit projects; emphasizing partnerships and collaboration with local jurisdictions and regional stakeholders; committing the agency to an equitable engagement process that informs disposition strategies; and prioritizing housing surplus property disposition to non-profit and governmental housing over for-profit and retail corporations.

### ***Project Consistency***

The project would act as a catalyst in station areas that have planned for and would allow increased densities. Following construction, remnant land could become available for redevelopment or joint development. TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program as laid out in the Sound Transit TOD Program Strategic Plan and Sound Transit's TOD policy.

## **L4.2.3.7 Sound Transit 3 Regional Transit System Plan for Central Puget Sound**

### ***Plan Summary***

The Sound Transit 3 Regional Transit System Plan, adopted in 2016, builds on the success of Sound Move and Sound Transit 2 by adding over 60 miles of new light rail, including the West Seattle

Link Extension, serving 37 new stations and 4 expanded stations. This addition to the Sound Transit light rail system will increase the region's total light rail network to 116 miles of laid track serving over 80 stations in 16 cities. The plans include a program to improve bus speed and reliability in specific corridors, improve bus-rail junctions, and expand Sounder commuter rail. The Sound Transit 3 Plan supports Puget Sound Regional Council's VISION 2050 and Regional Transportation Plan by investing in and creating the next phase of high-capacity-transit improvements for the central Puget Sound region.

The Sound Transit 3 Plan outlines the planning, construction, operation, and funding schedule for Sound Transit 3 while also incorporating a series of policies and programs to ensure the system supports TOD; improves the system through innovation and technology; is sustainable; and is accessible by walking, biking, transferring from other transit services, and safe drop-off and pick-up. The plan includes studies to continue planning beyond Sound Transit 3 to expand the regional transit system to meet the needs of Sound Transit's Long-Range Plan. The project is a key component within this voter-approved plan.

### ***Project Consistency***

The proposed project is a regional high-capacity-transit system project and is included in Sound Transit 3. The project would build upon the existing light rail system and increase ridership by providing connections between identified growth centers, and by supporting TOD and joint development opportunities around station areas.

### L4.2.3.8 Sound Transit Real Property Excess, Surplus, and Disposition Policy

#### **Plan Summary**

The *Real Property Excess, Surplus, and Disposition Policy* was adopted by Sound Transit's Board of Directors as Resolution R2013-30 in 2013. The policy states that Sound Transit will consider several priorities in determining surplus real property disposition, including encouraging TOD, joint development, and public and private projects at and around Sound Transit facilities through early involvement in project planning and design. The policy also calls for careful consideration of and support for real property disposition that would:

- Increase transit ridership; support economic development efforts
- Support state, regional, and local growth plans, policies, and strategies
- Foster relationships with local jurisdictions, regional agencies, private developers, local residents, businesses, community groups, and other stakeholders
- Encourage convenient, safe multi-modal access to the transit system, with an emphasis on non-motorized access
- Encourage creation of housing options including market-rate and affordable units

The policy serves as one of the cornerstones of the *Transit-Oriented Development (TOD) Program: Strategic Plan Update* (Sound Transit 2014b), and both policies are to be used in coordination to create TOD projects.

#### **Project Consistency**

The project would drive development in the station areas where the City of Seattle has planned for and allows increased density. Following construction, and where allowed, remnant land could become available for redevelopment or joint development. The Real Property Excess, Surplus, and Disposition Policy serves as a tool to determine how to dispose of surplus acquisitions to foster TOD communities and support other Sound Transit policies related to TOD.

### L4.2.3.9 King County Comprehensive Plan

#### **Plan Summary**

The *King County Comprehensive Plan* was adopted in 2016 and updated in 2017, 2018, 2019, 2020, and 2022. The plan provides updated approaches to the following principles, first adopted in the 2012 Comprehensive Plan:

- Creating sustainable neighborhoods.
- Preserving and maintaining open space and natural resource lands.
- Directing development toward existing communities.
- Providing a variety of transportation choices.
- Addressing health, equity, and social and environmental justice.
- Achieving environmental sustainability.

The plan sets the policy framework that guides the creation of an integrated, sustainable, and safe transportation system by providing transportation choices that use less energy, produce fewer pollutants, and reduce greenhouse gases in the region. The plan also establishes increased convenience, accessibility, safety, and comfort of taking transit as a County priority. With these strategies and policies, the plan provides a foundation for Sound Transit and King County Metro Transit (Metro) to work collaboratively to create a seamless regional and



local transportation system. The updated plan for 2022 includes an increased focus on climate change and accessibility to affordable housing within a 0.5-mile walkshed of high-capacity-transit options. King County is currently working on the 2024 Comprehensive Plan Update.

### ***Project Consistency***

The project would provide the most densely-populated areas of King County with an efficient, convenient, accessible, sustainable, and safe transportation option. The project would provide increased connectivity to other transit options at station areas and increase pedestrian-friendly environments. By also employing Sound Transit's equitable TOD policies (see Section L4.2.3.7, Sound Transit 3 Regional Transit System Plan for Central Puget Sound), the project would increase affordable housing options near light rail stations.

## **L4.2.4 Local Land Use Plans**

Local land use plans guide future growth and shape communities at the city planning level. The following subsections provide an overview of each document:

- *Seattle 2035 Comprehensive Plan: Managing Growth to Become an Equitable and Sustainable City 2015–2035* (Comprehensive Plan) (City of Seattle 2020a)
- *Neighborhood Plans* (City of Seattle 2020b)
- *Transit Master Plan: Move Seattle 10-Year Strategic Vision for Transportation* (City of Seattle 2016a)
- *Pedestrian Master Plan* (City of Seattle 2017a)
- *Bicycle Master Plan* (City of Seattle 2017b)
- *Freight Master Plan* (City of Seattle 2016b)
- *Industrial and Maritime Strategy* (City of Seattle 2021)
- *Urban Forest Management Plan* (City of Seattle 2020c)
- Shoreline Master Program (Seattle Municipal Code Chapter 23.60A)
- *North Delridge Action Plan* (City of Seattle 2018)
- *Seaport Alliance Strategic Business Plan* (Port of Seattle and Port of Tacoma 2015)
- *Port of Seattle 2018–2022 Long Range Plan* (Port of Seattle 2017a)

### **L4.2.4.1 City of Seattle Comprehensive Plan**

#### ***Plan Summary***

The City of Seattle's Comprehensive Plan (City of Seattle 2020a), which was published in 2020 and adopted in 2021, provides guidance on managing growth to support an equitable and sustainable city by the year 2035. Transportation is a key element in the comprehensive plan, as it calls for a robust transportation system that contributes to a safer city by working to eliminate serious injuries and fatalities on city streets; creates an interconnected city with reliable, easy-to-use travel options; creates streets and sidewalks that generate economic and social activity; and provides high-quality and affordable transportation options. Several of the transportation-related goals target increased development of transit infrastructure that connects

urban centers and villages, reduces dependence on personal automobiles, and contributes to a citywide transit system that includes access to high-capacity transit stations. The plan highlights the importance of the existing light rail system in providing equitable and sustainable movement through the city and encourages system expansion and focusing growth in areas within a 10-minute walk of existing and future light rail stations.

### ***Project Consistency***

Table L4.2-2 in Section L4.2.4.12 summarizes the relevant Comprehensive Plan land use policies and plans and discusses how the project would be consistent with them. The project would provide high-capacity transit between urban centers and villages, which would be consistent with the City of Seattle Comprehensive Plan. This includes being consistent with the plan's Container Port Element because it fulfills a Growth Management Act mandate for the City's land use and transportation planning to accommodate the freight access needs of the Port of Seattle as a "Transportation Facility of Statewide Significance."

## **L4.2.4.2 City of Seattle Move Seattle 10-Year Strategic Vision for Transportation**

### ***Plan Summary***

The City of Seattle's *Move Seattle 10-Year Strategic Vision for Transportation* was adopted in 2014 and implemented by the voter-approved Levy to Move Seattle in 2015. The plan lays out the City's transportation goals through three key elements: organizing daily work around core values, integrating modal plans to deliver transformational projects, and prioritizing projects to work to identify funding. The plan calls for a safe, interconnected, vibrant, affordable, and innovative city that integrates the master plans for freight, transit, walking, and bicycling into a near-term strategy for improving streets and sidewalks. Part of this vision includes providing 72 percent of Seattle residents with 10-minute all-day transit service within a 10-minute walk of their homes, improve ridership growth on existing and planned transit (Sound Transit 3), and improve the speed with which residents can connect between neighborhoods.

### ***Project Consistency***

The *Move Seattle* plan references the incorporation of future light rail transit corridors within the project corridor. It lays the groundwork for TOD (where zoning allows) near new light rail station areas. The project would expand high-capacity transit accessibility to some of Seattle's densest neighborhoods and increase transit ridership growth for the entire transit system.

## **L4.2.4.3 City of Seattle Transit Master Plan**

### ***Plan Summary***

The City of Seattle's *Transit Master Plan* (2016a) was adopted in 2012 and amended in 2016 to reflect *Move Seattle*. It is a 20-year blueprint establishing a transit system that meets Seattle's growing transit needs through 2030. The Transit Master Plan identifies the city's most important transit corridors, both current and future, and the transit modes that will be most effective in those corridors. The plan provides guidance on integrating transit capital facilities and services with walking and biking infrastructure, enhancing bus transit performance through roadway investments, and coordinating with Metro and Sound Transit to create a more integrated transit network. The Transit Master Plan establishes the planning, funding, and building of high-capacity transit projects (Sound Transit 3) as a priority strategy for Seattle Department of Transportation and the City of Seattle's leadership.

**Project Consistency**

The West Seattle Link Extension project is explicitly included in the Transit Master Plan as a top-priority project through 2030. It identifies the project and its associated stations as the City's highest-priority Sound Transit 3 project.

**L4.2.4.4 City of Seattle Pedestrian Master Plan****Plan Summary**

Seattle's *Pedestrian Master Plan* (2017a) was adopted in 2017 and updated in 2018, 2019, 2020, 2022, and 2023. The 20-year plan describes a vision for Seattle to be the most walkable and accessible city within the United States while focusing on the safety and well-being of residents and vibrancy of neighborhoods. The *Pedestrian Master Plan* establishes a framework that prioritizes policies, programs, and funding opportunities to advance pedestrian safety and accessibility. The plan defines a Priority Investment Network to direct attention and resources to key pedestrian routes throughout the city. Streets within walksheds to all light rail stations, including the West Seattle Link Extension project and other Sound Transit 3 projects, are listed as a critical component of the Priority Investment Network. As such, the plan directs Sound Transit to assess pedestrian needs for new stations and provide funding for station access improvements to new and existing stations, consistent with the Sound Transit 3 Regional Transit System Plan (Sound Transit 2016). The most recent update to the *Pedestrian Master Plan* (2023–2024) defines a suite of projects that will improve pedestrian and bicycle connectivity, accessibility, and safety when connecting to existing and future light rail.

**Project Consistency**

The project would encourage safe and accessible pedestrian communities, especially in station areas. The *Pedestrian Master Plan* emphasizes the importance of and encourages investment in light rail stations because of their positive influence on pedestrian mobility. The streets within the Priority Investment Network are within walksheds to the project stations, and therefore the project is supportive of the Seattle *Pedestrian Master Plan*.

**L4.2.4.5 City of Seattle Bicycle Master Plan****Plan Summary**

The *Bicycle Master Plan* (City of Seattle 2017b) was adopted in 2014 and updated in 2015, 2017, 2019, and 2021. It encourages the City to invest more in bicycling in a manner that purposefully benefits the city's livability, affordability, public health, economic competitiveness, and natural environment. The *Bicycle Master Plan* outlines an infrastructure plan to connect 100 miles of protected bicycle lanes and 250 miles of neighborhood greenways, while also identifying activities designed to support and encourage riding. The plan also provides a list of specific infrastructure projects Seattle Department of Transportation is planning to build each year to serve as an accountability and reporting tool and guide future budget requests. A key component of project evaluation is the project's ability to offer connections to major transit. As a result, several identified projects within the *Bicycle Master Plan* improve connectivity to existing or near-term light rail systems included in Sound Transit 2 and Sound Transit 3. The most recent update to the *Bicycle Master Plan* includes initiatives to increase pedestrian and bicycle infrastructure and a focus on reconnecting West Seattle following closure of the West Seattle high-rise Bridge in 2020. The plan includes a list of planned projects to increase safety and access for people bicycling in and out of West Seattle.

**Project Consistency**

The project would offer bicyclists additional connections to major transit networks throughout several neighborhoods in Seattle. Stations would be designed with bike storage lockers or racks, and light rail cars would have spaces to secure bicycles during transit. The project would continue to work with Seattle Department of Transportation to ensure bicyclist safety and security at station locations.

**L4.2.4.6 City of Seattle Freight Master Plan****Plan Summary**

Adopted in 2016, the *Freight Master Plan* (City of Seattle 2016b) was developed to help determine freight's role in the economies of the city and the region, examine challenges of moving freight, and develop solutions to address these challenges. The focus of the *Freight Master Plan* is largely urban truck freight movement to support an increasing demand for goods and services within the Seattle region. In addition to integrating the *Freight Master Plan* with existing City and County plans, the *Freight Master Plan* outlines the role freight movement plays in social equity, economic productivity, sustainability, and livable neighborhoods. As such, the *Freight Master Plan* considers how to update and modernize the freight network based on where trucks are traveling and connections to other transportation modes.

**Project Consistency**

The project would increase transit ridership and decrease the number of commuters who rely on automobiles to travel through or around the city of Seattle. As a result, automotive congestion would decrease along the city's freight routes, leading to increased mobility and greater network connectivity for freight within Seattle. The project includes traffic mitigation measures that could improve freight corridors and increase mobility.

**L4.2.4.7 City of Seattle Industrial and Maritime Strategy****Plan Summary**

In 2019, the City of Seattle assembled an Industrial and Maritime Strategy Council to develop an Industrial and Maritime Strategy that is future-oriented and centers opportunities for working people. The council finalized the *Industrial and Maritime Strategy Council Recommendations* report in June 2021. The council included recommended strategies to prioritize industrial and maritime investment in Seattle, including investment strategies, land use strategies, and action strategies. The City of Seattle approved these land use and zoning updates in June 2023. The Industrial and Maritime Strategy includes strategies to prioritize industrial and maritime investment in the city.

**Project Consistency**

The *Industrial and Maritime Strategy* focuses on five key efforts: workforce development, environmental justice, transportation, public safety, and land use. Transportation priorities include improving the movement of people and goods. Land use efforts include prioritizing stronger protections for industrially zoned land. The project would result in the conversion of some industrial land to transportation uses, which is incompatible with this strategy. The project would help improve the movement of people and goods by reducing vehicle miles traveled, increasing transportation capacity, and increasing access to both industrial and non-industrial land uses.

#### **L4.2.4.8 City of Seattle Urban Forest Management Plan**

##### ***Plan Summary***

The City of Seattle adopted its *2007 Urban Forest Management Plan* in 2007 and updated it under the name *Urban Forest Stewardship Plan* in 2013 (City of Seattle 2007, 2013). The plan was updated again in 2020 under the name *2020 Urban Forest Management Plan* (City of Seattle 2020c). The plan provides recommendations for encouraging tree preservation and planting across the city over a 30-year period. The plan includes an overarching goal of increasing the city's tree canopy cover to 30 percent by 2037. The plan identifies existing conditions and goals for tree canopy cover by nine land use types, known in the plans as management units. For example, manufacturing/industrial land uses have a goal of 10 percent tree canopy cover, while natural areas have a goal of 80 percent tree canopy cover. The plan outlines an action agenda with recommended strategies for implementation, including community education about the benefits of the urban forest and proper tree care practices; ongoing research and assessments to better understand urban forest characteristics; interdepartmental and interagency coordination; tree preservation, restoration, and enhancement activities on City property; and private property regulations to ensure minimum standards of care for the urban forest. The plan provides results of the City's comprehensive tree canopy cover assessment conducted in 2016. In 2016, the citywide canopy coverage was 28 percent, which was close to the 30 percent canopy coverage target the City set in the original *2007 Urban Forest Management Plan*.

##### ***Project Consistency***

The project would result in tree removal for construction of the project. The project would minimize tree removal along the corridor, where practical. Sound Transit would coordinate with the City of Seattle on tree removal, while ensuring light rail safety, and on tree replacement requirements.

#### **L4.2.4.9 Shoreline Master Program**

##### ***Plan Summary***

The Seattle Shoreline Master Program (Seattle Municipal Code Chapter 23.60A) includes goals and policies supporting the Seattle Comprehensive Plan Shoreline Areas element. It includes shoreline regulations and maps of shoreline districts with locations of shoreline environments and provides the Restoration and Enhancement Plan required by Washington Administrative Code Section 173-26-201(2)(f). The program has policies to regulate development of, uses for, and modifications of the shoreline of the city. The program allows light rail development and provides standards for rail transit facilities (Seattle Municipal Code Section 23.60A.209). Light rail bridges and tunnels are classified as water-dependent uses, allowing for intermittent and temporary construction uses within the Shoreline District, and reducing the purview of shoreline substantial development permits from the entire project to only the portions of the light rail system within the shoreline area. The code instructs the Seattle Planning Director to impose conditions to ensure consistency with design guidelines, waive or modify development standards, or impose reasonable conditions on any waiver or modification of development standards to ensure consistency with the program.



**Project Consistency**

The project would cross shoreline areas. The Shoreline Master Program allows light rail development within the Shoreline District, with certain standards and conditions (Seattle Municipal Code Section 23.60A.209). The project would comply with the standards and coordinate with the City on any applicable conditions.

**L4.2.4.10 North Delridge Action Plan****Plan Summary**

The *North Delridge Action Plan* (City of Seattle 2018b) supports the vision of the *Delridge Neighborhood Plan* (City of Seattle 2019), identifies priorities and specific steps to achieve the neighborhood vision. It includes goals, policies, and strategies to guide projects to effectively support community development and manage growth, as well as guide future development that would occur in the neighborhood. The plan's vision is to support diverse and engaged communities, develop dynamic neighborhood destinations, improve access to healthy food, create active transportation choices, nurture a healthy Longfellow Creek watershed, and leverage parks and cultural facilities to support a healthy community. Priorities were developed through community workshops and involve supporting mixed-use neighborhoods and potential rezoning, as well as growth of transit, parks and cultural facilities, and food security initiatives. The plan recognizes the development of future light rail projects, and as a result it aims to coordinate with Sound Transit regarding specific station area planning and to improve access to transit stations for all travel modes.

**Project Consistency**

The project would serve the Delridge community and provide direct and frequent access to other areas in the project corridor as well as other regional destinations. The project would support mixed-use development in designated growth areas, focusing most growth in station areas where zoning and land use codes allow greater densities. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections, and would provide linkages to other travel modes including rail, bus, biking, and walking. The project would avoid and minimize impacts to Longfellow Creek to the extent practicable.

**L4.2.4.11 Northwest Seaport Alliance 10-Year Strategic Business Plan****Plan Summary**

The Northwest Seaport Alliance is an operating partnership of the Ports of Tacoma and Seattle. The Seaport Alliance Strategic Business Plan (Port of Seattle and Port of Tacoma 2015) outlines opportunities to develop strategic terminals, like Terminal 5 near the West Seattle Bridge, to handle ultra-large container ships and increased cargo volumes. The plan includes goals to provide service delivery excellence, create jobs and improve financial performance.

**Project Consistency**

The project would expand mobility for the corridor and region's residents, providing increased access for employees to commercial and industrial areas such as the port terminals. The project would not require acquisition of any area on Terminal 5. Some operational capacity would be affected by Alternative DUW-2, which would displace businesses that would risk detrimental impacts to the economic activities of the Port of Seattle and Northwest Seaport Alliance; this would not be compatible with the Seaport Alliance Strategic Business Plan. Alternative DUW-2 would also temporarily affect the truck parking lot at Terminal 25. Construction of Alternative

DUW-2 across Harbor Island could impact freight traffic accessing Port of Seattle and Northwest Seaport Alliance terminals, including Terminal 18. Sound Transit will work with the Port of Seattle and Northwest Seaport Alliance to limit construction impacts. Fewer Port-related impacts would occur with Preferred Alternative DUW-1a and Option DUW-1b, which makes these alternatives more consistent with the plan. Businesses within the Harbor Marina Corporate Center at Terminal 102, owned by Port of Seattle, would be displaced by Preferred Alternative DUW-1a and Option DUW-1b. Harbor Island Marina Dock E would be impacted by intermittent interruptions during project construction. More detail about the existing freight use and potential impacts is included in Chapter 3.

#### **L4.2.4.12 Project Consistency with Specific Regional and Local Goals and Policies**

Tables L4.2-1 through L4.2-4 summarize project consistency with applicable goals and policies in the various policy documents. The project would comply with applicable permits and approvals from federal, state, and local agencies prior to construction.

Table L4.2-1. Project Consistency with Puget Sound Regional Council VISION 2050

Topic	Policy and Goals	Discussion
<b>Regional Growth Strategy</b>	<b>Policy MPP-RGS-8:</b> Attract 65% of the region's residential growth and 75% of the region's employment growth to the regional growth centers and high-capacity transit station areas to realize the multiple public benefits of compact growth around high-capacity transit investments. As jurisdictions plan for growth targets, focus development near high-capacity transit to achieve the regional goal.	The project would increase connectivity between metro growth centers and urban growth centers in Seattle as well as provide easy access to light rail and transit stations. The project would support mixed-use development in designated growth areas and would help focus most growth in station areas where zoning and land use codes allow greater densities.
<b>Environment</b>	<p><b>Goal:</b> The region cares for the natural environment by protecting and restoring natural systems, conserving habitat, improving water quality, and reducing air pollutants. The health of all residents and the economy is connected to the health of the environment. Planning at all levels considers the impacts of land use, development, and transportation on the ecosystem.</p> <p><b>Policy MPP-En-3:</b> Maintain and, where possible, improve air and water quality, soils, and natural systems to ensure the health and well-being of people, animals, and plants. Reduce the impacts of transportation on air and water quality, and climate change.</p> <p><b>Policy MPP-En-7:</b> Reduce and mitigate noise and light pollution caused by transportation, industries, public facilities, and other sources.</p> <p><b>Policy MPP-En-21:</b> Continue efforts to reduce pollutants from transportation activities, including the use of cleaner fuels and vehicles and increasing alternatives to driving alone, as well as design and land use.</p> <p><b>Policy MPP-En-22:</b> Meet all federal and state air quality standards and reduce emissions of air toxics and greenhouse gases.</p>	<p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, Regional Context and Travel, the project is expected to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p> <p>The project would include stormwater detention and treatment to address impacts related to stormwater runoff. Sound Transit's Environmental Sustainability and Management System requires that low-impact operational stormwater management techniques be investigated and considered during the project design. Low-impact development stormwater management techniques would be evaluated during the design process.</p> <p>As described in Section 4.7, Noise and Vibration, in Chapter 4, Affected Environment and Environmental Consequences, of the Final EIS, Sound Transit would provide noise mitigation where the project would exceed FTA noise criteria for operations. Sound Transit would adhere to the City of Seattle's noise ordinance for construction noise.</p>



Topic	Policy and Goals	Discussion
<b>Climate Change</b>	<p><b>Goal:</b> The region substantially reduces emissions of greenhouse gases that contribute to climate change in accordance with the goals of Puget Sound Clean Air Agency (50% below 1990 levels by 2030 and 80% below 1990 levels by 2050) and prepares for climate change impacts.</p> <p><b>Policy MPP-CC-1:</b> Advance the adoption and implementation of actions that substantially reduce greenhouse gas emissions in support of state, regional, and local emissions reduction goals, including targets adopted by Puget Sound Clean Air Agency.</p> <p><b>Policy MPP-CC-3:</b> Reduce greenhouse gases by expanding the use of conservation and alternative energy sources, electrifying the transportation system, and reducing vehicle miles traveled by increasing alternatives to driving alone.</p> <p><b>Policy MP-CC-12:</b> Prioritize transportation investments that support achievement of regional greenhouse gas emissions reduction goals, such as by reducing vehicle miles traveled.</p>	<p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3 in Chapter 3, the project is expected to reduce daily vehicle miles traveled by approximately 17,000 by 2042, thereby helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment, and impacts would be mitigated consistent with local, state, and federal requirements.</p>
<b>Development Patterns</b>	<p><b>Goal:</b> The region creates healthy, walkable, compact, and equitable transit-oriented communities that maintain unique character and local culture, while conserving rural areas and creating and preserving open space and natural areas.</p>	<p>The project would increase connectivity between metro growth centers and urban growth centers as well as provide easy pedestrian access to light rail and transit stations. The project would support TOD in station areas. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program.</p> <p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor. The project would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p>

Topic	Policy and Goals	Discussion
<b>Development Patterns: Building Urban Communities</b>	<p><b>Policy MPP-DP-1:</b> Develop high-quality, compact urban communities throughout the region's urban growth area that impart a sense of place, preserve local character, provide for mixed uses and choices in housing types, and encourage walking, bicycling, and transit use.</p> <p><b>Policy MPP-DP-2:</b> Reduce disparities in access to opportunity for the region's residents through inclusive community planning and targeted public and private investments that meet the needs of current and future residents and businesses.</p> <p><b>Policy MPP-DP-3:</b> Enhance existing neighborhoods to provide a high degree of connectivity in the street network to accommodate walking, bicycling, and transit use and sufficient public spaces.</p> <p><b>Policy MPP-DP-12:</b> Design transportation projects and other infrastructure to achieve community development objectives and improve communities.</p> <p><b>Policy MPP-DP-13:</b> Allow natural boundaries to help determine the routes and placement of infrastructure connections and improvements.</p>	<p>The project would be located within King County's urban growth area. The project would increase connectivity between metro growth centers and urban growth centers as well as provide easy pedestrian access to light rail and transit stations. The project would connect employment opportunities in Downtown Seattle to existing light rail lines and light rail extensions currently under construction in King, Pierce, and Snohomish counties, where more affordable housing is available. Improving mobility in the project corridor will help improve access to employment and educational opportunities for low-income people and people of color around the region. The project corridor also contains many regional activity centers and regional attractions. The project would improve access to these regional destinations for all populations.</p> <p>The project would support mixed-use development in designated growth areas and would help focus most growth in station areas where zoning and land use codes allow greater densities. The project would support TOD in station areas. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program.</p> <p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor. It would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>The project would efficiently move large numbers of people and encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. It would generally follow existing transportation corridors, thereby limiting the amount of land that would be converted to a transportation use. Responses from community outreach are incorporated into the planning and design of the project.</p>

Topic	Policy and Goals	Discussion
<b>Development Patterns: Promoting Healthy Communities</b>	<p><b>Policy MPP-DP-15:</b> Design communities to provide safe and welcoming environments for walking and bicycling.</p> <p><b>Policy MPP-DP-17:</b> Promote cooperation and coordination among transportation providers, local government, and developers to ensure that joint- and mixed-use developments are designed to promote and improve physical, mental, and social health and reduce the impacts of climate change on the natural and built environments.</p>	<p>The project would increase connectivity between metro growth centers and urban growth centers as well as provide easy pedestrian access to light rail and transit stations. The project would support mixed-use development in designated growth areas and would help focus most growth in station areas where zoning and land use codes allow greater densities.</p> <p>The project would support TOD in station areas. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program.</p> <p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor. The project would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p> <p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. As detailed in Section 3.3, the project is anticipated to reduce daily vehicle miles traveled by approximately 17,000 by 2042, thereby helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment, and impacts would be mitigated consistent with local, state, and federal requirements.</p>
<b>Development Patterns: Centers: Supporting Connection to Opportunity</b>	<p><b>Policy MPP-DP-22:</b> Plan for densities that maximize benefits of transit investments in high-capacity transit station areas that are expected to attract significant new population or employment growth.</p> <p><b>Policy MPP-DP-23:</b> Evaluate planning in regional growth centers and high-capacity transit station areas for their potential physical, economic, and cultural displacement of marginalized residents and businesses. Use a range of strategies to mitigate displacement impacts.</p> <p><b>Policy MPP-DP-25:</b> Support the development of centers within all jurisdictions, including high-capacity transit station areas and countywide and local centers.</p>	<p>The project would support mixed-use development in designated growth areas and would help focus most growth in station areas where zoning and land use codes allow greater densities.</p> <p>The project would support TOD in station areas. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program.</p> <p>The project would connect metro growth centers and urban growth centers and implement a system that is technically and financially feasible to build, operate, and maintain. It would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Connecting to the existing light rail would provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project would provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>

Topic	Policy and Goals	Discussion
<b>Development Patterns: Collaborating to Preserve and Enhance Important Uses</b>	<b>Policy MPP-DP-50:</b> Protect industrial zoning and manufacturing/industrial centers from encroachment by incompatible uses and development on adjacent land.	The project would provide greater accessibility to the Duwamish Manufacturing/Industrial Center. Some industrial land would be converted to a transportation use. It would generally follow existing transportation corridors, thereby limiting the amount of land that would be converted to a transportation use.
<b>Housing</b>	<p><b>Goal:</b> The region preserves, improves, and expands its housing stock to provide a range of affordable, accessible, healthy, and safe housing choices to every resident. The region continues to promote fair and equal access to housing for all people.</p> <p><b>Policy MPP-H-7:</b> Expand the supply and range of housing at densities to maximize the benefits of transit investments, including affordable units, in growth centers and station areas throughout the region.</p> <p><b>Policy MPP-H-8:</b> Promote the development and preservation of long-term affordable housing options in walking distance to transit by implementing zoning, regulations, and incentives.</p>	The project would support continued growth within the regional growth center and would support TOD in station areas where zoning allows for greater density. Following construction, remnant land could become available for redevelopment or joint development. Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equitability in development that occurs in station areas and minimize displacement potential.
<b>Economy</b>	<p><b>Policy MPP-EC-6:</b> Ensure the efficient flow of people, goods, services, and information in and through the region with infrastructure investments, particularly in and connecting designated centers, to meet the distinctive needs of the regional economy.</p> <p><b>Policy MPP-EC-21:</b> Concentrate a significant amount of economic growth in designated centers and connect them to each other in order to strengthen the region's economy and communities and to promote economic opportunity.</p>	<p>The project is a voter-approved investment in high-capacity transit that would connect the region's metropolitan cities and designated growth areas. The regional growth strategy calls for metropolitan cities to accommodate for a large portion of the regional population and job growth. The project would efficiently move large numbers of people and increase connectivity within the corridor and region. The project would provide reliable, safe, and efficient transit to Seattle's downtown urban and economic core, as well as the Duwamish Manufacturing/Industrial Center.</p> <p>It would support TOD in station areas where zoning allows for greater density. Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equitability in development that occurs in station areas and minimize displacement potential. Existing reduced-fare transit pass options would continue to exist and would apply to the project, when operational.</p>

Topic	Policy and Goals	Discussion
<b>Transportation</b>	<p><b>Goal:</b> The region has a sustainable, equitable, affordable, safe, and efficient multi-modal transportation system, with specific emphasis on an integrated regional transit network that supports the Regional Growth Strategy and promotes vitality of the economy, environment, and health.</p>	<p>The project would connect regional centers and implement a system that is technically and financially feasible to build, operate, and maintain. It would expand mobility for the project corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Connecting to the existing light rail would provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project would provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. The project is being designed to minimize effects to the natural environment, and impacts would be mitigated consistent with local, state, and federal requirements.</p> <p>The project would support TOD in station areas where zoning allows for greater density. Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equity in development that occurs in station areas and minimize displacement potential. Existing reduced-fare transit pass options would continue to exist and would apply to the project, once operational.</p>

Topic	Policy and Goals	Discussion
<b>Transportation- The Regional Transportation Plan</b>	<b>Policy MPP-T-5:</b> Develop a transportation system that minimizes negative impacts to, and promotes, human health.	<p>The project would also encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. Sound Transit would develop design criteria that provide a consistent architectural theme for all elevated elements and for features such as stations, using durable materials, while reflecting the individual characters of station areas. These criteria would be developed with input from the City of Seattle. Visual and aesthetic resources are discussed in Section 4.5, Visual and Aesthetics Resources. of the Final EIS.</p> <p>Sound Transit would establish a Life and Safety Committee to oversee public safety and ensure it is maintained during planning, construction, and operation of the project. No new at-grade crossings of roadways are proposed as part of the project. Build Alternatives in the SODO Segment would eliminate one or two existing at-grade crossings of the existing 1 Line light rail line (formerly called the “Central Link” line).</p> <p>The project station design would use the principles of CPTED and include numerous features, such as abundant light, open access, and visibility, to address security issues. CPTED design measures would also control passenger movements with specific traffic flow patterns and include closed-circuit television cameras, emergency telephones, controlled exits, and sealed fare boxes.</p>
<b>Transportation- The Regional Transportation Plan</b>	<p><b>Policy MPP-T-7:</b> Fund, complete, and operate the highly efficient, multi-modal system in the Regional Transportation Plan to support the Regional Growth Strategy. Coordinate WSDOT, regional, and local transportation agencies, in collaboration with the state legislature, to build the multi-modal system.</p> <p><b>Policy MPP-T-8:</b> Strategically expand capacity and increase efficiency of the transportation system to move goods, services, and people consistent with the Regional Growth Strategy. Focus on investments that produce the greatest net benefits to people and minimize the environmental impacts of transportation.</p>	<p>The project is a voter-approved investment in high-capacity transit that would connect regional centers and implement a system that is technically and financially feasible to build, operate, and maintain. The project would provide reliable, safe, and efficient transit to Seattle’s downtown urban and economic core, as well as the Duwamish Manufacturing/Industrial Center.</p> <p>Regional Transportation Plan identifies the project as part of the region’s future integrated transit network and highlights its role in supporting equitable access to opportunity, reliable regional connections, and catalyzing economic and TOD within the region.</p>

Topic	Policy and Goals	Discussion
<b>Transportation- The Regional Transportation Plan</b>	<p><b>Policy MPP-T-9:</b> Implement transportation programs and projects that provide access to opportunities while preventing or mitigating negative impacts to people of color, people with low incomes, and people with special transportation needs.</p> <p><b>Policy MPP-T-10:</b> Ensure mobility choices for people with special transportation needs, including persons with disabilities, seniors, youth, and people with low incomes.</p> <p><b>Policy MPP-T-11:</b> Design, construct, and operate a safe and convenient transportation system for all users while accommodating the movement of freight and goods, using best practices and context-sensitive design strategies.</p>	<p>The project would create key transfer points at the SODO and Delridge stations, thereby increasing connectivity to communities to the south of the project corridor, such as White Center, Westwood Village, High Point, and Burien. These communities have ethnically and economically diverse populations. The project would expand mobility for the project corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Connecting to the existing light rail would provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project would provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>Sound Transit would establish a Life and Safety Committee to oversee public safety and ensure it is maintained during planning, construction, and operation of the project.</p> <p>The project would increase transit ridership and decrease the number of commuters who rely on automobiles to travel through or around the city of Seattle. As a result, automotive congestion would decrease along the city's freight routes, leading to increased mobility and greater network connectivity for freight within Seattle. The project includes traffic mitigation measures that could improve freight corridors and increase mobility.</p>
<b>Transportation – The Regional Transportation Plan</b>	<p><b>Policy MPP-T-12:</b> Emphasize transportation investments that provide and encourage alternatives to single-occupancy vehicle travel and increase travel options, especially to and within centers and along corridors connecting centers.</p> <p><b>Policy MPP-T-13:</b> Increase the proportion of trips made by transportation modes that are alternatives to driving alone, especially to and within centers and along corridors connecting centers, by ensuring availability of reliable and competitive transit options.</p> <p><b>Policy MPP-T-14:</b> Integrate transportation systems to make it easier for people to move from one mode or technology or another.</p>	<p>The project would increase transit ridership and decrease the number of commuters who rely on automobiles to travel through or around the city of Seattle. As a result, automotive congestion would decrease along the city's freight routes, thereby leading to increased mobility and greater network connectivity for freight within Seattle. The project includes traffic mitigation measures that could improve freight corridors and increase mobility. It would serve as an alternative to the single-occupant vehicle and also provide linkages to other travel modes (bus, rail, walking, and biking). This would support a more efficient transportation system with fewer cars. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail.</p>

Topic	Policy and Goals	Discussion
<b>Transportation- The Regional Transportation Plan</b>	<p><b>Policy MPP-T-15:</b> Prioritize investments in transportation facilities and services in the urban growth area that support compact, pedestrian- and transit-oriented densities and development.</p> <p><b>Policy MPP-T-19:</b> Design transportation programs and projects to support local and regional growth centers and high-capacity transit station areas.</p> <p><b>Policy MPP-T-20:</b> Promote the preservation of existing rights-of-way for future high-capacity transit.</p> <p><b>Policy MPP-T-21:</b> Design transportation facilities to fit within the context of the built or natural environments in which they are located.</p>	<p>The project would efficiently move large numbers of people and encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. It would generally follow existing transportation corridors, thereby limiting the amount of land that would be converted to a transportation use.</p> <p>The project would also provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way. Sound Transit is coordinating with Metro, Seattle Department of Transportation, and several other governmental agencies to ensure the project is integrated with existing and future transit opportunities.</p> <p>It would support TOD and mixed-use development in station areas where zoning allows for greater density. Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equitability in development that occurs in station areas and minimize displacement potential. Existing reduced-fare transit pass options would continue to exist and would apply to the project, when operational.</p>
<b>Transportation – Supporting the Economy</b>	<p><b>Policy MPP-T-23:</b> Make transportation investments that improve economic and living conditions so that industries and skilled workers continue to be retained and attracted to the region.</p>	<p>The project would provide reliable, safe, and efficient transit to Seattle's downtown urban and economic core, as well as the Duwamish Manufacturing/Industrial Center. The project would improve regional mobility by increasing connectivity to Downtown Seattle and the regional light rail system to meet the projected transit demand. It would generally follow existing transportation corridors, thereby limiting the amount of land that would be converted to a transportation use.</p> <p>The project would facilitate faster and more reliable transit service to various destinations and services, such as jobs, education, shopping, and medical care. The project would create key transfer points at the SODO and Delridge stations, thereby increasing connectivity to communities to the south of the project corridor, such as White Center, Westwood Village, High Point, and Burien. These communities have an ethnically and economically diverse population.</p>



Topic	Policy and Goals	Discussion
<b>Transportation – Protecting the Environment</b>	<p><b>Policy MPP-T-29:</b> Support the transition to a cleaner transportation system through investments in zero emission vehicles, low-carbon fuels, and other clean energy options.</p> <p><b>Policy MPP-T-31:</b> Advance the resilience of the transportation system by incorporating redundancies, preparing for disasters and other impacts, and coordinated planning for system recovery.</p> <p><b>Policy MPP-T-32:</b> Reduce stormwater pollution from transportation facilities and improve fish passage, through retrofits and updated design standards. Where feasible, integrate with other improvements to achieve multiple benefits and cost efficiencies.</p>	<p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than with the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, the project is expected to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment, and impacts would be mitigated consistent with local, state, and federal requirements.</p> <p>The project would include stormwater detention and treatment to address impacts related to stormwater runoff. Sound Transit's Environmental Sustainability and Management System requires that low-impact operational stormwater management techniques be investigated and considered during the project design. Low-impact development stormwater management techniques would be evaluated during the design process.</p>
<b>Public Services</b>	<p><b>Goal:</b> The region supports development with adequate public facilities and services in a timely, coordinated, efficient, and cost-effective manner that supports local and regional growth planning objectives.</p>	<p>The project is a voter-approved investment in high-capacity transit that would connect regional centers and implement a system that is technically and financially feasible to build, operate, and maintain.</p> <p>It would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. The project would increase connectivity between metro growth centers and urban growth centers as well as provide easy access to light rail and transit stations. Connecting to the existing light rail would provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project would provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>

Topic	Policy and Goals	Discussion
Public Services	<b>Policy MPP-PS-1:</b> Protect and enhance the environment and public health and safety when providing services and facilities.	<p>Sound Transit's Fire/Life Safety Committee would review safety requirements and develop solutions regarding access to the light rail system, emergency routes, water and fire hydrant needs, training, costs, and other design features; specific emergency procedures and necessary equipment would be determined during final design. The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. The project is being designed to minimize effects to the natural environment, and impacts would be mitigated consistent with local, state, and federal requirements.</p> <p>Design of stations would include context-sensitive design. Sound Transit would implement CPTED design principles aiming to reduce criminal activities at stations. Other measures to minimize crime could include use of security equipment, anti-crime programs, and security personnel. Sound Transit would also develop design criteria that provide a consistent architectural theme for all elevated elements and for features such as stations, using durable materials, while reflecting the individual characters of station areas. These criteria would be developed with input from the City of Seattle. Visual and aesthetic resources are discussed in Section 4.5 in Chapter 4 of the Final EIS.</p>
Public Services	<p><b>Policy MPP-PS-2:</b> Promote affordability and equitable access of public services to all communities, especially the historically underserved. Prioritize investments to address disparities.</p> <p><b>Policy MPP-PS-29:</b> Site or expand regional capital facilities in a manner that (1) reduces adverse social, environmental, and economic impacts on the host community, especially on historically marginalized communities, (2) equitably balances the location of new facilities away from disproportionately burdened communities, and (3) addresses regional planning objectives.</p>	<p>The project would support continued growth within the designated growth centers and would support TOD in station areas where zoning allows for greater density. It would support TOD in station areas where zoning allows for greater density. Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equity in development that occurs in station areas and minimize displacement potential. Existing reduced-fare transit pass options would continue to exist and would apply to the project, once operational.</p> <p>The project would create key transfer points at the SODO and Delridge stations, increasing connectivity to communities to the south of the project corridor, such as White Center, Westwood Village, High Point, and Burien. These communities have an ethnically and economically diverse population. It would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Connecting to the existing light rail would provide access to additional destinations such as Sea-Tac Airport and Tacoma.</p>

Source: Puget Sound Regional Council 2020.

CPTED = Crime Prevention Through Environmental Design; FTA = Federal Transit Administration; Sea-Tac Airport = Seattle-Tacoma International Airport; TOD = transit-oriented development

Table L4.2-2. Project Consistency with City of Seattle Comprehensive Plan

Topic	Policy and Goals	Discussion
<b>Growth Strategy</b>	<p><b>Goal GS G1:</b> Keep Seattle as a city of unique, vibrant, and livable urban neighborhoods, with concentrations of development where all residents can have access to employment, transit, and retail services that can meet their daily needs.</p> <p><b>Policy GS 1.2:</b> Encourage investments and activities in urban centers and urban villages that will enable those areas to flourish as compact mixed-use neighborhoods designed to accommodate the majority of the city's new jobs and housing.</p> <p><b>Policy GS 1.5:</b> Encourage infill development in underused sites, particularly in urban centers and villages.</p> <p><b>Policy GS 1.6:</b> Plan for development in urban centers and urban villages in ways that will provide all Seattle households, particularly marginalized populations, with better access to services, transit, and educational and employment opportunities.</p> <p><b>Policy GS 1.7:</b> Promote levels of density, mixed uses, and transit improvements in urban centers and villages that will support walking, biking, and use of public transportation.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor, connecting urban villages and urban centers.</p> <p>The project would serve as a catalyst for TOD in the areas surrounding stations, where zoning allows greater densities. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program.</p> <p>The project would create key transfer points at the SODO and Delridge stations, increasing connectivity to communities to the south of the project corridor, such as White Center, Westwood Village, High Point and Burien. These communities have an ethnically and economically diverse population. The project would facilitate faster and more reliable transit service to various destinations and services, such as jobs, education, shopping, and medical care.</p>
<b>Growth Strategy</b>	<p><b>Policy GS 2.1:</b> Plan for a variety of uses and the highest densities of both housing and employment in Seattle's urban centers, consistent with their role in the regional growth strategy.</p> <p><b>Policy GS 2.3:</b> Accommodate a substantial portion of the city's growth in hub and residential urban villages.</p> <p><b>Policy GS 2.4:</b> Work toward a distribution of growth that eliminates racial and social disparities by growing great neighborhoods throughout the city, with equitable access for all and with community stability that reduces the potential for displacement.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor, connecting urban villages and urban centers.</p> <p>The project would serve as a catalyst for TOD in the areas surrounding stations, where zoning allows greater densities. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program. Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies promote racial and social equitability for development that occurs in station areas and minimize displacement potential.</p> <p>The project would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>

Topic	Policy and Goals	Discussion
Growth Strategy	<p><b>Policy GS 3.2:</b> Design public facilities to emphasize physical and visual connections to Seattle's natural surroundings, with special attention to public vistas of shorelines, the Olympic Mountains, and the Cascade Range.</p> <p><b>Policy GS 3.10:</b> Design public infrastructure and private building developments to help visitors understand the existing block and street patterns and to reinforce the walkability of neighborhoods.</p> <p><b>Policy GS 3.16:</b> Encourage designs for buildings and public spaces that maximize use of natural light and provide protection from inclement weather.</p>	<p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p> <p>Sound Transit would develop design criteria that provide a consistent architectural theme for all elevated elements and for features such as stations, using durable materials, while reflecting the individual character of each station area. These criteria would be developed with input from the communities near stations and the City of Seattle.</p> <p>Station platforms and entrances would have overhead canopies, and elevated platforms would offer weather protection for customers.</p>
Growth Strategy	<p><b>Policy GS 3.26:</b> Design public spaces that consider the nearby physical context and the needs of the community.</p> <p><b>Policy GS 3.27:</b> Use the principles of crime prevention through environmental design for public spaces, where appropriate.</p>	<p>Sound Transit would develop design criteria that provide a consistent architectural theme for all elevated elements and for features such as stations, using durable materials, while reflecting the individual character of each station area. These criteria would be developed with input from the communities near stations and the City of Seattle.</p> <p>The project station design would use CPTED principles and include numerous features such as abundant light, open access, and visibility to address security issues. CPTED design measures would also control passenger movements with specific traffic flow patterns and include closed-circuit television cameras, emergency telephones, controlled exits, and sealed fare boxes.</p>

Topic	Policy and Goals	Discussion
Land Use	<p><b>Goal LU G1:</b> Achieve a development pattern consistent with the urban village strategy, concentrating most new housing and employment in urban centers and villages, while also allowing some infill development compatible with the established context in areas outside centers and villages.</p> <p><b>Policy LU 1.6:</b> Consider and seek to reduce the potential health impacts of air pollution on residential populations and other sensitive uses near corridors with high volumes of vehicle traffic, the King County Airport, major rail yards, freight routes, and point sources of pollution.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor, connecting urban villages and urban centers.</p> <p>Sound Transit's TOD policy supports and encourages the creation of market-rate and affordable housing options in station areas. It provides the groundwork for the TOD Program and establishes a framework for implementing TOD strategies with the regional transit system. Following construction, remnant land could become available for redevelopment or joint development.</p> <p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p>
Land Use	<p><b>Goal LU G3:</b> Allow public facilities and small institutions to locate where they are generally compatible with the function, character, and scale of an area, even if some deviation from certain regulations is necessary.</p> <p><b>Policy LU 3.2:</b> Allow public facilities and small institutions to depart from development standards, if necessary to meet their particular functional requirements, while maintaining general design compatibility with the surrounding area's scale and character. Require public facilities and small institutions to adhere to zoned height limits, Citywide Planning Land Use Seattle 2035 except for spires on religious institutions. Consider providing greater flexibility for schools in recognition of their important role in the community.</p> <p><b>Policy LU 3.5:</b> Allow nonconforming public facilities and small institutions to expand or make structural changes, provided these alterations comply with the zone's development standards and do not increase the structure's nonconformity.</p>	<p>The project would generally be compatible with the function, character, and scale of station areas. Within the Delridge Segment, there could be a new station in a single-family residential zone. The top of this station would be higher than what is allowed in this zone. As provided in Seattle Municipal Code Section 23.80.004.C(5), the Seattle Department of Construction &amp; Inspections' Director has the authority to waive or modify applicable development standards to allow the siting, proper functioning, and lessen environmental impacts of such facilities. The code also includes the Director's authority to accommodate future development that will comply with development standards in a manner that is better than if the waiver or modification were not granted.</p>

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<b>Land Use – Off-Street Parking</b>	<b>Policy LU 6.15:</b> Discourage the development of major standalone park-and-ride facilities within Seattle. Additions to park-and-ride capacity could be considered at the terminus of a major regional transit system, where opportunities exist for shared parking, or where alternatives to automobile use are particularly inadequate or cannot be provided in a cost-effective manner.	The project does not include any parking facilities, including park-and-rides. The project would increase connectivity with transit systems that include park-and-ride facilities.
<b>Land Use</b>	<b>Policy LU 9.2:</b> Encourage the development of compact, concentrated commercial/mixed-use areas, in urban centers and urban villages, where pedestrians can easily access transit and a variety of businesses.	Neighborhoods served by light rail stations would benefit from increased transit access to Downtown Seattle and other areas in the Puget Sound region accessible by light rail. The project would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. It would encourage equitable and sustainable urban growth in station areas through support of TOD and multi-modal integration.
<b>Land Use</b>	<p><b>Goal LU G10:</b> Provide sufficient land with the necessary characteristics to allow industrial activity to thrive in Seattle and protect the preferred industrial function of these areas from activities that could disrupt or displace them.</p> <p><b>Policy LU 10.2:</b> Preserve industrial land for industrial uses, especially where industrial land is near rail- or water-transportation facilities, in order to allow marine- and rail-related industries that rely on that transportation infrastructure to continue to function in the city.</p>	<p>The project would provide greater connectivity to the Duwamish Manufacturing/Industrial Center. It would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use.</p> <p>In some segments, the project would convert Manufacturing/Industrial Center land to a transportation use.</p>
<b>Land Use</b>	<b>Goal LU G11:</b> Promote Downtown Seattle as an urban center with the densest mix of residential and commercial development in the region, with a vital and attractive environment that supports employment and residential activities and is inviting to visitors.	The project would improve regional mobility by increasing connectivity to Downtown Seattle and the regional light rail system. It would encourage equitable and sustainable urban growth in station areas through support of TOD and multi-modal integration.

Topic	Policy and Goals	Discussion
<b>Land Use</b>	<p><b>Policy LU 17.1:</b> Use best available science to identify and protect environmentally critical areas.</p> <p><b>Policy LU 17.10:</b> Limit disturbance and maintain and enhance vegetative cover on steep slopes to control erosion and water runoff in order to reduce the risk of siltation and other environmental impacts to streams, lakes, Puget Sound, and the City's stormwater facilities.</p> <p><b>Policy LU 17.16:</b> Protect Seattle's unique remaining wetland resources and use mitigation sequencing to address construction and postconstruction impacts in wetlands and their buffers by strictly regulating development.</p> <p><b>Policy LU 17.18:</b> Protect existing vegetation in wetlands and their buffers, unless augmenting or replanting can be shown to better protect the wetland's functions and values.</p> <p><b>Policy LU 17.22:</b> Limit development within the riparian corridor to protect the natural functions and values of these areas from the potential negative effects of urban development. Retain vegetation in its natural condition. If the vegetation within the riparian corridor is degraded, allow new native plantings that enhance the functions and values of the riparian corridor.</p>	<p>The project will be designed to minimize vegetation removal where possible and implement best management practices to control erosion. The project would be designed to reduce risks of injury and loss of life during earthquake or seismic activity.</p> <p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use.</p> <p>The project would impact some wetlands within the project corridor. To the extent that impacts cannot be avoided, Sound Transit would provide compensatory mitigation to achieve no net loss of ecosystem function and acreage. The project would also include stormwater detention and treatment to address impacts related to stormwater runoff. Sound Transit's Environmental Sustainability and Management System requires that low-impact operational stormwater management techniques be investigated and considered during the project design. Low-impact development stormwater management techniques would be evaluated during the design process. Sound Transit would consider Green Stormwater Infrastructure, which would help filter pollutants, lessen urban heat islands, and sequester carbon while providing local neighborhoods with aesthetic and natural resource benefits.</p>



Topic	Policy and Goals	Discussion
Transportation	<p><b>Goal TG1:</b> Ensure that transportation decisions, strategies, and investments support the City's overall growth strategy and are coordinated with this Plan's land use goals.</p> <p><b>Policy T 1.1:</b> Provide safe and reliable transportation facilities and services to promote and accommodate the growth this Plan anticipates in urban centers, urban villages, and manufacturing/industrial centers.</p> <p><b>Policy T 1.2:</b> Improve transportation connections to urban centers and villages from all Seattle neighborhoods, particularly by providing a variety of affordable travel options (pedestrian, transit, and bicycle facilities) and by being attentive to the needs of vulnerable and marginalized communities.</p> <p><b>Policy T 1.3:</b> Design transportation infrastructure in urban centers and villages to support compact, accessible, and walkable neighborhoods for all ages and abilities.</p> <p><b>Policy T 1.4:</b> Design transportation facilities to be compatible with planned land uses and consider the planned scale and character of the surrounding neighborhood.</p> <p><b>Policy T1.7:</b> Recognize the connection between transportation choices and climate change and work to reduce vehicular emissions.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor, connecting urban villages and urban centers. It would encourage equitable and sustainable urban growth in station areas through support of TOD and multi-modal integration. It would also encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p> <p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p> <p>Sound Transit would develop design criteria that provide a consistent architectural theme for all elevated elements and for features such as stations, using durable materials, while reflecting the individual character of each station area. These criteria would be developed with input from the communities near stations and the City of Seattle.</p>
Transportation	<p><b>Goal TG 2:</b> Allocate space on Seattle's streets to safely and efficiently connect and move people and goods to their destinations while creating inviting spaces within the rights-of-way.</p> <p><b>Policy T 2.1:</b> Devote space in the street right-of-way to accommodate multiple functions of mobility, access for commerce and people, activation, landscaping, and storage of vehicles.</p> <p><b>Policy T 2.2:</b> Ensure that the street network accommodates multiple travel modes, including transit, freight movement, pedestrians, people with disabilities, bicycles, general purpose traffic, and shared-transportation options.</p>	<p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p> <p>Stations would be designed to include art installations from local artists designed to enhance the public spaces they occupy.</p> <p>The project would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Also, the project would provide increased connectivity for the local populations, which include low-income and people of color. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>



Topic	Policy and Goals	Discussion
Transportation	<p><b>Goal TG 3:</b> Meet people's mobility needs by providing equitable access to, and encouraging use of, multiple transportation options.</p> <p><b>Policy T 3.1:</b> Develop and maintain high-quality, affordable, and connected bicycle, pedestrian, and transit facilities.</p> <p><b>Policy T 3.2:</b> Improve transportation options to and within the urban centers and urban villages, where most of Seattle's job and population growth will occur.</p> <p><b>Policy T 3.4:</b> Develop a citywide transit system that includes a variety of transit modes to meet passenger capacity needs with frequent, reliable, accessible, and safe service to a wide variety of destinations throughout the day and week.</p> <p><b>Policy T 3.9:</b> Expand light rail capacity and bus reliability in corridors where travel capacity is constrained, such as crossing the Lake Washington Ship Canal or the Duwamish River, or through the Center City.</p> <p><b>Policy T 3.10:</b> Provide high-quality pedestrian, bicycle, and bus transit access to high-capacity transit stations, in order to support transit ridership and reduce single-occupant vehicle trips.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. It would also connect urban villages and urban centers, where most of the job and population growth will occur.</p> <p>The project would improve regional mobility by increasing connectivity to Downtown Seattle and the regional light rail system to meet the projected transit demand. Effective transit can help avoid or reduce the expense of automobile ownership and provide critical access to economic opportunity for disadvantaged populations. It would improve access to regional destinations for all populations.</p> <p>Existing reduced-fare transit pass options would continue to exist and would apply to the project, once operational.</p> <p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use. The project would cross the Duwamish Waterway (also known as Duwamish River).</p>
Transportation	<p><b>Goal TG 4:</b> Promote healthy communities by providing a transportation system that protects and improves Seattle's environmental quality.</p> <p><b>Policy T 4.3:</b> Reduce drive-alone vehicle trips, vehicle dependence, and vehicle miles traveled in order to help meet the City's greenhouse gas reduction targets and reduce and mitigate air, water, and noise pollution.</p> <p><b>Policy T 4.4:</b> Manage the transportation system to support modes that reduce the use of fossil fuels and promote the use of alternative fuels.</p>	<p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As described in Section 3.3, the project is expected to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p> <p>As described in Section 4.7, Sound Transit would provide noise mitigation where the project would exceed FTA noise criteria for operations. Sound Transit would adhere to the City's noise ordinance for construction noise.</p>

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<b>Transportation</b>	<p><b>Policy T 5.5:</b> Evaluate the feasibility of grade separation in locations where train-induced street closings result in significant delays and safety issues for other traffic and improve the safety and operational conditions at rail crossings of city streets.</p> <p><b>Policy T 5.8:</b> Increase efficient and affordable access to jobs, education, and workforce training in order to promote economic opportunity.</p> <p><b>Policy T 5.9:</b> Improve access to urban villages and other neighborhood business districts for customers and delivery of goods.</p>	<p>The project would not require any new at-grade roadway crossings. Build Alternatives in the SODO Segment would eliminate one or two existing at-grade crossings of the existing 1 Line light rail line.</p> <p>It would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor, connecting urban villages and urban centers. It would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. Effective transit can help avoid or reduce the expense of automobile ownership and provide critical access to economic opportunity for disadvantaged populations.</p> <p>The project would create key transfer points at the SODO and Delridge stations, thus increasing connectivity to communities to the south of the project corridor, such as White Center, Westwood Village, High Point, and Burien. These communities have an ethnically and economically diverse population. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>
<b>Transportation</b>	<p><b>Goal TG 6:</b> Provide and maintain a safe transportation system that protects all travelers, particularly the most vulnerable users.</p> <p><b>Policy T 6.1:</b> Reduce collisions for all modes of transportation and work toward a transportation system that produces zero fatalities and serious injuries by 2030 to attain the City's Vision Zero objectives.</p> <p><b>Policy T 6.4:</b> Minimize right-of-way conflicts to safely accommodate all travelers.</p> <p><b>Policy T 6.5:</b> Improve safety for all modes of transportation on streets heavily used by trucks.</p> <p><b>Policy T 6.8:</b> Make safety a priority in all transportation plans and projects, including project prioritization criteria.</p>	<p>Sound Transit's Fire/Life Safety Committee would review safety requirements and develop solutions regarding access to the light rail system, emergency routes, water and fire hydrant needs, training, costs, and other design features; specific emergency procedures and necessary equipment would be determined during final design. No new at-grade crossings of roadways are proposed as part of the project. Build Alternatives in the SODO Segment would eliminate one or two existing at-grade crossings of the existing 1 Line light rail line.</p> <p>Project station design would use the principles of CPTED and include numerous features, such as abundant light, open access, and visibility, to address security issues. CPTED design measures would also control passenger movements with specific traffic flow patterns and include closed-circuit television cameras, emergency telephones, controlled exits, and sealed fare boxes.</p>

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Transportation	<p><b>Policy T 7.1:</b> Coordinate with regional, state, and federal agencies; other local governments; and transit providers when planning and operating transportation facilities and services that reach beyond the city's borders.</p> <p><b>Policy T 7.6:</b> Work with regional transit agency partners to expand and optimize cross-jurisdictional regional light rail and bus transit service investments that function as a single, coordinated system to encourage more trips to, from, and within Seattle on transit.</p> <p><b>Policy T 7.7:</b> Work with regional transit agencies to encourage them to provide service that is consistent with this Plan's growth goals and strategy.</p>	<p>Sound Transit is coordinating with Metro, Seattle Department of Transportation, and several other governmental agencies to ensure the project is integrated with existing and future transit opportunities. The project would provide connections from within the city to other light rail projects, including connections under construction to Northgate, Bellevue, Redmond, Lynnwood, and Federal Way. Extension; commuter rail (Sonder); and bus routes that extend beyond the city and into the Puget Sound region.</p> <p>The project would serve as a catalyst for mixed-use development around station areas, where local zoning allows for it. This redevelopment would support concentrated growth in designated areas and reduce urban sprawl, consistent with Seattle's growth plan and strategy.</p>

Topic	Policy and Goals	Discussion
Transportation	<p><b>Policy T 8.2:</b> Operate the transportation system in a way that balances the following priorities: safety, mobility, accessibility, social equity, placemaking, infrastructure preservation, and resident satisfaction.</p> <p><b>Policy T 8.3:</b> Employ state-of-the-art intelligent transportation systems to increase efficiency of movement and reduce travel delays for all modes.</p> <p><b>Policy T 8.7:</b> Mitigate construction impacts from City and private projects on the use of the street right-of-way and on the operation of the transportation system, especially for vulnerable populations.</p> <p><b>Policy T 8.8:</b> Look for innovative ways to create training, youth employment, and living wage opportunities for marginalized populations in the construction and major maintenance of transportation facilities.</p>	<p>The project would expand mobility for the corridor and the region's residents, which include transit-dependent and low-income populations and people of color. It would provide fast, reliable light rail connections to dense residential and job centers throughout the Puget Sound region, while the new Downtown Seattle light rail tunnel would provide capacity for the entire regional system to operate efficiently. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use. The project would be tunneled or elevated in much of the corridor. Sound Transit would develop design criteria that provide a consistent architectural theme for all elevated elements and for features such as stations, using durable materials, while reflecting the individual character of each station area. These criteria would be developed with input from the communities near stations and the City of Seattle.</p> <p>Sound Transit's Fire/Life Safety Committee would review safety requirements and develop solutions regarding access to the light rail system, emergency routes, water and fire hydrant needs, training, costs, and other design features; specific emergency procedures and necessary equipment would be determined during final design. No new at-grade crossings of roadways are proposed as part of the project. Build Alternatives in the SODO Segment would eliminate one or two existing at-grade crossings of the existing 1 Line light rail line.</p> <p>Project station design would use the principles of CPTED and include numerous features, such as abundant light, open access, and visibility, to address security issues. CPTED measures would also control passenger movements with specific traffic flow patterns and include closed-circuit television cameras, emergency telephones, controlled exits, and sealed fare boxes.</p> <p>The project would provide a fast, efficient, and reliable transit system for people including low-income and special-needs populations and people of color. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>

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Transportation	<b>Policy T 9.3:</b> Pursue strategies to reduce drive-alone trips in order to increase the ability of the city's transportation network to carry people and goods.	Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, the project is anticipated to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals.
Transportation	<b>Goal TG 10:</b> Ensure that transportation funding is sufficient to operate, maintain, and improve the transportation system that supports the City's transportation, land use, economic, environmental, equity, and other goals. <b>Policy T 10.4:</b> Partner with other City departments, as well as regional transportation and public works agencies, to coordinate investments, maximize project integration, reduce improvement costs, and limit construction impacts on neighborhoods.	The project is part of the Sound Transit 3 plan of regional transit system investments, funding for which was approved by voters in the region in 2016. Sound Transit will work with the City and other agencies to maximize project benefits and limit construction impacts.
Environment	<b>Policy EN 1.9:</b> Work with other levels of government and with the private sector to support and encourage the cleanup of contaminated soil and other environmental remediation associated with the re-use or expansion of industrial sites.	To the extent practicable, Sound Transit would limit construction activities that would encounter contaminated soil and groundwater.
Environment	<b>Policy EN 2.6:</b> Promote quality wildlife habitats in Seattle's waterways by protecting and improving migratory fish passageways, spawning grounds, wetlands, estuaries, and river mouths.	Sound Transit would minimize long-term and construction impacts by avoiding contaminated sites or portions of sites when possible. Sound Transit would perform environmental due diligence for properties along the corridor before acquisition or construction to avoid or minimize impacts from contaminated sites. Section 4.12, Hazardous Materials, provides more information.  The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.

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<b>Environment</b>	<p><b>Goal EN G3:</b> Reduce Seattle's greenhouse gas emissions by 58 percent from 2008 levels by 2030 and become carbon neutral by 2050.</p> <p><b>Policy EN 3.1:</b> Expand transit, walking, bicycling, and shared-transportation infrastructure and services to provide safe, affordable and effective options for getting around that produce low or zero emissions, particularly for lower-income households and communities of color.</p> <p><b>Policy EN 3.2:</b> Implement the urban village strategy with the goal of meeting the growing demand for conveniently located homes and businesses in pedestrian-friendly neighborhoods where residents can walk to a variety of recreation and service offerings, in order to increase the number of trips that do not require automobile use and increase access to opportunity for lower-income households and communities of color.</p> <p><b>Policy EN 4.1:</b> Consider projected climate impacts when developing plans or designing and siting infrastructure, in order to maximize the function and longevity of infrastructure investments, while also limiting impacts on marginalized populations and fostering resilient social and natural systems.</p>	<p>The project would provide a fast, efficient, and reliable transit system for people including low-income and special-needs populations and people of color. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>The project would help reduce greenhouse gases and improve air quality by providing an alternative to automobile travel that would reduce vehicle miles traveled. The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, the project design considers climate impacts, and is anticipated to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p> <p>The project would support the urban village strategy by providing connections to urban centers and urban villages with a fast, efficient, and reliable transit system. It would promote mixed-use development to allow growth at greater density, where existing land use policies and regulations allow. The increased density would be a more efficient use of land and promote efficient provision of services and facilities. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD policy and program.</p>



Topic	Policy and Goals	Discussion
<b>Environment</b>	<p><b>Goal EN G5:</b> Seek to ensure that environmental benefits are equitably distributed and environmental burdens are minimized and equitably shared by all Seattleites.</p> <p><b>Policy EN 5.3:</b> Prioritize strategies with co-benefits that support other equity goals such as promoting living wage jobs or enhancing social connectedness.</p>	<p>The project would provide a fast, efficient, and reliable transit system for people including low-income and special-needs populations and people of color. Neighborhoods served by light rail stations would benefit from increased transit access to Downtown Seattle and other areas in the Puget Sound region accessible by light rail. The project would provide increased access to locations around the city for pedestrians, bicyclists, and those with mobility challenges. It would provide transfer points for communities south of the Delridge Station, including White Center, Westwood Village, and High Point. These communities have an ethnically and economically diverse population. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equitability in development that occurs in station areas and minimize displacement potential. Existing reduced-fare transit pass options would continue to exist and would apply to the project, once operational.</p>
<b>Parks and Open Space</b>	<p><b>Policy P 4.3:</b> Recognize that visitors to major regional attractions can impact the neighborhoods surrounding those facilities, and look for ways to limit those impacts, including through enhanced walking, biking, and transit connections.</p>	<p>The project would provide a reliable, efficient, and fast light rail transit service to communities in the project corridor. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. The project would provide connections to attractions such as Seattle Center and would expand transit options and connections to West Seattle.</p>

Topic	Policy and Goals	Discussion
<b>Community Well-Being</b>	<b>Policy CW 6.1:</b> Enhance opportunities for people with low incomes, disabilities, limited English, cultural barriers, time constraints, transportation limitations, and other barriers to gain access to services they need.	<p>The project would provide a fast, efficient, and reliable transit system for people including low-income and special-needs populations and people of color. Neighborhoods served by light rail stations would benefit from increased transit access to Downtown Seattle and other areas in the Puget Sound region accessible by light rail. The project would provide increased access to locations around the city for pedestrians, bicyclists, and those with mobility challenges. It would provide transfer points for communities south of the Delridge Station, including White Center, Westwood Village, and High Point. These communities have an ethnically and economically diverse population. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>Sound Transit's TOD and Real Property Excess, Surplus, and Disposition policies would promote racial and social equitability in development that occurs in station areas and minimize displacement potential. Existing reduced-fare transit pass options would continue to exist and would apply to the project, once operational.</p>
<b>Shoreline Areas</b>	<b>Goal SA G4:</b> Protect ecological function of those areas of shoreline that are biologically significant or that are geologically fragile.	Several alignment alternatives include elevated guideways and bridges that could impact shorelines. However, the project will be designed to minimize impacts as appropriate. Sound Transit would provide mitigation for unavoidable impacts on shorelines protected under federal, state, and local regulations.
<b>Shoreline Areas</b>	<p><b>Goal SA G8:</b> Provide a transportation network that supports and enhances use of and access to the shorelines.</p> <p><b>Policy SA P15:</b> Provide public transportation convenient to the shoreline.</p>	The project would connect riders to stations close to the West Seattle shorelines. From these stations, riders could connect to other transportation options (bike, bus, walk) to access the shoreline. These new connections would reduce the need for automotive transportation.

Topic	Policy and Goals	Discussion
Shoreline Areas	<p><b>Goal SA G12:</b> Preserve, protect, and restore areas necessary for the support of terrestrial and aquatic life or those identified as having geological or biological significance.</p> <p><b>Policy SA P19:</b> Use mitigation sequencing to meet no net loss of ecological functions. Mitigation sequencing refers to taking steps in this order: avoid, rectify, minimize, and/or compensate for the loss to ecological functions.</p> <p><b>Policy SA P22:</b> Develop methods to measure both the impacts of development in the Shoreline District and the effects of mitigation so that no net loss of ecological function occurs through development projects.</p> <p><b>Policy SA P24:</b> Conserve existing shoreline vegetation and encourage new shoreline plantings with native plants to protect habitat and other ecological functions, reduce the need for shoreline stabilization structures, and improve visual and aesthetic qualities of the shoreline.</p> <p><b>Policy SA P32:</b> Work with other government agencies and shoreline users to reduce the input of pollutants, to restore contaminated areas, to control disposal of dredge spoils, and to determine the appropriate mitigation for project impacts.</p>	<p>The project incorporates avoidance and minimization techniques, which would continue to be refined during final design. For unavoidable impacts, Sound Transit would implement compensatory mitigation in accordance with applicable federal, state, and local requirements and guidelines.</p>
Shoreline Areas	<p><b>Policy SA P48:</b> Avoid impacts to areas identified as archaeologically and historically significant, unless no reasonable alternative locations exist and impacts to the resource are mitigated.</p>	<p>The project would minimize impacts to archaeological and historic resources through the application of best management practices during construction and operation. Where impacts cannot be avoided or minimized, mitigation measures would be developed.</p>
Shoreline Areas	<p><b>Policy SA P61:</b> Minimize impacts on navigation, public views, and ecological functions.</p>	<p>The project incorporates avoidance and minimization techniques, which would continue to be refined during final design.</p> <p>Sound Transit would implement compensatory mitigation in accordance with applicable federal, state, and local requirements and guidelines for unavoidable impacts. The project includes coordination with the Coast Guard to address navigational requirements.</p>
Shoreline Areas	<p><b>Policy SA P88:</b> Preserve and enhance the resources of natural areas and fish migration routes, feeding areas, and spawning areas.</p>	<p>The project incorporates avoidance and minimization techniques, which would continue to be refined during final design.</p> <p>Sound Transit would implement compensatory mitigation in accordance with applicable federal, state, and local requirements and guidelines for unavoidable impacts.</p>

Source: City of Seattle 2018a

Table L4.2-3. Project Consistency with City of Seattle Neighborhood Plans

Topic	Policy and Goals	Discussion
<b>Delridge</b>	<b>Policy D-P7:</b> Seek to develop a pedestrian-oriented environment along Delridge Way that integrates adjacent storefront activities with transit, parking, bikeways, and walking areas. Seek to calm traffic on Delridge Way through the neighborhood anchors.	The project would support mixed-use development in designated growth areas and would focus most growth in station areas where zoning and land use codes allow greater densities. The increased density would promote more efficient use of land, allowing for efficient provision of services and facilities, as well as promoting walkable neighborhoods.  The project would serve as an alternative to the single-occupant vehicle and would also provide linkages to other travel modes, including rail, bus, and walking.
<b>Delridge</b>	<b>Goal D-G4:</b> A transportation system that provides convenient access for local travel within the neighborhood, and access to principal employment, shopping, and entertainment activities in the surrounding area.	The project would provide reliable, safe, and efficient transit options to several urban villages and centers in Seattle, including across the Delridge neighborhood and through the City Center. The project would support mixed-use development in designated areas that could attract commercial and business uses and provide increased employment opportunities.
<b>Duwamish Manufacturing/Industrial Center</b>	<b>Goal GD-G2:</b> Public infrastructure adequate to serve business operations in the Duwamish Manufacturing/Industrial Center is provided.  <b>Goal GD-G3:</b> Land in the Duwamish Manufacturing/Industrial Center is maintained for industrial uses including the manufacture, assembly, storage, repair, distribution, research about or development of tangible materials and advanced technologies; as well as transportation, utilities, and commercial fishing activities.  <b>Policy GD-P1:</b> Recognize the significant contribution of the industries and businesses in the Duwamish Manufacturing/Industrial Center in terms of the jobs they create, and the export and tax revenues they generate.	The project would provide a safe, fast, efficient, and reliable transportation system. It would support mixed-use development in designated areas that could attract commercial and business uses and provide increased employment opportunities. It would generally follow existing transportation corridors, limiting the amount of industrial land that would be converted to a transportation use.
<b>Duwamish Manufacturing/Industrial Center</b>	<b>Policy GD-P8:</b> Strive to protect the limited and nonrenewable regional resource of industrial, particularly waterfront industrial, land from encroachment by nonindustrial uses.	The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use.

Topic	Policy and Goals	Discussion
<b>Duwamish Manufacturing/Industrial Center</b>	<p><b>Goal GD-G9:</b> A high level of general mobility and access is attained within the Duwamish Manufacturing/Industrial Center.</p> <p><b>Goal GD-G10:</b> The transportation network in the Duwamish Manufacturing/Industrial Center makes appropriate connections and minimizes conflicts between different travel modes.</p> <p><b>Goal GD-G15:</b> Sufficient transportation infrastructure, particularly in the northern portion of the Duwamish Manufacturing/Industrial Center, minimizes the transportation impacts of special events on industrial users.</p> <p><b>Goal GD-G16:</b> The public transit system provides employee access to the Duwamish Manufacturing/Industrial Center while minimizing impacts on freight mobility.</p> <p><b>Policy GD-P27:</b> Pursue opportunities and develop partnerships to provide grade separations between rail and auto/truck traffic along key east–west routes for enhanced speed and reliability while maintaining safety for both travel modes.</p> <p><b>Policy GD-P34:</b> Recognize the importance of intermodal connections for the movement of freight between the state highway system, rail yards, barge terminals, port terminals, airports, and warehouse/distribution centers.</p> <p><b>Policy GD-P35:</b> Strive to minimize disruptions to freight mobility caused by construction (including construction of transportation facilities) in the Duwamish Manufacturing/Industrial Center.</p> <p><b>Policy GD-P40:</b> Encourage the efficient use of transit opportunities, including the SODO Busway, to expedite the movement of event patrons in and out of the Duwamish Manufacturing/Industrial Center.</p>	<p>The project would provide high-quality, rapid, reliable, and efficient light rail transit service to communities in the project corridor. It would support mixed-use development in designated areas that could attract commercial and business uses and provide increased employment opportunities. The project would increase the ability of employees, customers, and businesses to access Seattle. The project would provide connections to other urban centers and urban villages in the project corridor, other urban communities, and other regional destinations.</p> <p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use. The project would not require any new at-grade roadway crossings. Build Alternatives in the SODO Segment would eliminate one or two existing at-grade crossings of the existing 1 Line light rail line.</p> <p>It would reduce dependency on the automobile and provide a reliable mode of transit with linkages to other modes. The project would increase the ability of employees, customers, and businesses to access Seattle. It would provide connections to urban centers in the project corridor, to other communities, and to other regional destinations. The project would increase transit ridership and decrease the number of commuters who rely on automobiles to travel through or around the city of Seattle. As a result, automotive congestion would decrease along the city's freight routes, leading to increased mobility and greater network connectivity for freight within Seattle. All long-term impacts to intersection operations would be mitigated as agreed to with the City of Seattle.</p> <p>Sound Transit has coordinated with the City of Seattle and Metro on the siting of project facilities and will continue to coordinate.</p>

Topic	Policy and Goals	Discussion
<b>West Seattle Junction</b>	<p><b>Goal WSJ-G4:</b> A neighborhood that facilitates movement of people and goods with a particular emphasis on increasing safety, supporting the economic centers, and encouraging a full range of transportation choices.</p> <p><b>Policy WSJ-P12:</b> Strive to protect the residential neighborhoods surrounding the West Seattle Junction from traffic impacts.</p>	<p>The project would provide a fast, reliable, and efficient mode of transit linking West Seattle Junction to other urban centers and urban villages in the project corridor. The project would serve as an alternative to the automobile and would also provide linkages to other travel modes including rail, bus, biking, and walking. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p> <p>The project would generally follow existing transportation corridors, limiting the amount of land that would be converted to a transportation use. Chapter 3 includes an analysis of traffic through West Seattle Junction. All long-term impacts to intersection operations would be mitigated as agreed to with the City of Seattle.</p>

Source: City of Seattle 2018a.

**Table L4.2-4. Project Consistency with King County Comprehensive Plan**

Topic	Policy and Goals	Discussion
<b>Regional Growth Management – King County Guiding Principles</b>	<p><b>Policy RP- 203:</b> King County shall continue to support the reduction of sprawl by focusing growth and future development in the Urban Growth Area, consistent with adopted growth targets.</p> <p><b>Policy RP-204:</b> King County shall continue to promote an efficient multi-modal transportation system that provides residents with a range of transportation choices that respond to community needs and reduce impacts on the natural environment.</p>	<p>The project would be within the urban growth boundary of King County and would support TOD where zoning and land use codes allow greater densities, including urban centers.</p> <p>The project would serve as an alternative to the automobile and would also provide linkages to other travel modes including rail, bus, biking, and walking. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p>



Topic	Policy and Goals	Discussion
Urban Communities – Urban Communities	<p><b>Policy U-108:</b> King County should support the development of urban centers to meet the region's needs for housing, jobs, services, culture and recreation and to promote healthy communities; improving access to these services helps address social and economic needs of all residents, including disadvantaged communities. Strategies may include exploring opportunities for joint development or TOD, siting civic uses in mixed-use areas, and leveraging or utilizing existing County assets in urban centers.</p> <p><b>Policy U-109a:</b> King County should encourage development, facilities and policies that lead to compact communities that transit can serve efficiently and effectively. As funding permits, King County should partner with jurisdictions and the private sector to spur development of compact communities and infrastructure investments that enhance alternatives to single-occupant vehicles such as transit, safe walking paths and trails, bicycle facilities, car and van pools, and other modes.</p>	<p>The project would serve as an alternative to the automobile and would provide linkages to other travel modes including rail, bus, biking, and walking. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.</p> <p>The project would promote mixed-use development in designated urban growth areas and focus most growth in station areas, where zoning and land use codes allow for greater densities. The increased density would allow more efficient use of land, promote efficient provision of services and facilities, and encourage walkable neighborhoods.</p> <p>Sound Transit's TOD policy encourages the creation of market-rate and affordable housing options in station areas, where zoning and land use codes allow. Following construction, remnant land could become available for redevelopment or joint development. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program as laid out in the Sound Transit TOD Program Strategic Plan (Sound Transit 2014b) and Sound Transit's TOD policy (Sound Transit 2018).</p>

Topic	Policy and Goals	Discussion
<b>Housing and Human Services – Housing</b>	<p><b>Policy H-104:</b> King County shall work with the multiple partners outlined in this section to promote the preservation and expansion of affordable rental housing opportunities for households earning up to 80 percent of the King County median income. Preservation is a particularly acute need in areas that may experience redevelopment due to proximity to high-capacity transit and/or an area experiencing changing market conditions.</p> <p><b>Policy H-105:</b> King County shall work with the multiple partners outlined in this section to promote the preservation and expansion of affordable rental housing opportunities for households earning up to 120 percent of the King County median income. Preservation is a particularly acute need in areas that may experience redevelopment due to proximity to high-capacity transit and/or an area experiencing changing market conditions.</p> <p><b>Policy H-121:</b> King County shall support affordable and mixed-income housing development in transit-oriented locations that is compatible with surrounding uses by:</p> <ul style="list-style-type: none"> <li>a. Providing information and a process for accessing potential development sites in transit-oriented locations where King County has ownership or access to potential sites;</li> <li>b. Promoting land use patterns that cohesively connect affordable and mixed-income housing with active transportation choices; and</li> <li>c. Developing public financing techniques that will provide an advantage for projects that will create and/or preserve affordable and mixed-income housing within transit-oriented communities and neighborhoods that promote health, well-being and opportunity, or within a neighborhood plan for revitalization.</li> </ul> <p><b>Policy H-122:</b> King County shall support TOD at transit supportive density and scale that preserves and expands affordable and mixed-income housing opportunities at locations near frequent and high-capacity transit service. King County shall engage in this work through a variety of strategies, including the engagement of funding partners, transit partners, jurisdictions, private for-profit and non-profit development entities, and other TOD partners.</p> <p><b>Policy H-124:</b> King County shall work with partners to reduce and prevent displacement of very-low to moderate-income households from transit-oriented locations, to the extent possible, and shall strive to align affordable housing investments and transit investments in order to increase the quality of life of disinvested communities as measured by the Determinants of Equity.</p>	<p>The project would provide a high-quality rapid, efficient, and reliable transportation option for people, including low-income and special-needs populations and people of color. Sound Transit's TOD policy supports and encourages the creation of market-rate and affordable housing options in station areas. It provides the groundwork for the TOD Program and establishes a framework for implementing TOD strategies with the regional transit system. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p> <p>Following construction, remnant land could become available for redevelopment or joint development. Surplus property would be developed under an agreement with developers that includes conditions, which could include requiring a portion of housing units to be affordable.</p> <p>Sound Transit's TOD policy encourages the creation of market-rate and affordable housing options in the station areas. Any TOD on surplus land owned by Sound Transit in station areas would follow the implementation strategy for Sound Transit's TOD program as laid out in the Sound Transit TOD Program Strategic Plan and Sound Transit's TOD policy.</p>

Topic	Policy and Goals	Discussion
<b>Environment – Climate Change</b>	<p><b>Policy E-201:</b> King County should participate in and support appropriate local, regional and national efforts and organizations focused on reducing greenhouse gas emissions and preparing for climate change impacts.</p> <p><b>Policy E-214:</b> King County, through its Comprehensive Plan policies and development regulations, should promote healthy community designs that enable walking, bicycling, and public transit use, thereby reducing greenhouse gas emissions and regional air pollution.</p>	<p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, the project is anticipated to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p> <p>The project would help improve air quality by providing an alternative to automobiles through reduction in the number of vehicle miles traveled and by encouraging compact urban development at regional centers and where the local jurisdictions have identified growth through their regulations.</p>
<b>Shorelines – Shoreline Policy Goals</b>	<p><b>Policy S-201:</b> All proposed uses and development occurring within King County's shoreline jurisdiction must conform to the Shoreline Management Act and to King County's Shoreline Master Program.</p>	<p>The project alternatives are within the Shoreline Management Act jurisdiction for regulated waterbodies. The project would comply with the City of Seattle Shoreline regulations.</p>

Topic	Policy and Goals	Discussion
<b>Shorelines – Shoreline Element Policy Goals</b>	<p><b>Policy S-309:</b> The King County Shoreline Master Program should guide the County's transportation plans and projects within the shoreline jurisdiction.</p> <p><b>Policy S-313:</b> King County should ensure that public and private development proposals protect and restore the aesthetic quality of shorelines in the project design.</p> <p><b>Policy S-321:</b> If development is proposed adjacent to an historic resource, the proposed development should be designed and operated to be compatible with continued protection of the historic, cultural or archaeological resource.</p>	<p>The project would be within King County's aquatic shoreline area. It would comply with the City of Seattle Shoreline regulations. The project design has been refined to avoid permanent in-water impacts to the Duwamish Waterway. The project will continue to be refined to avoid direct impacts to shorelines where possible.</p> <p>Impacts to historic and archaeological resources would be avoided or minimized where possible. Where impacts would occur, Sound Transit would provide mitigation in consultation with the Washington Department of Archaeology and Historic Preservation, the City of Seattle, and affected Tribes, as appropriate.</p>
<b>Shorelines – Environment Protection Policies</b>	<p><b>Policy S-601:</b> King County shall ensure that new uses, development and redevelopment within the shoreline jurisdiction do not cause a net loss of shoreline ecological processes and functions.</p>	<p>The project will be designed to avoid and minimize impacts on environmentally sensitive resources and provide suitable mitigation when impacts are unavoidable, ensuring no net loss of ecosystem function or acreage.</p>
<b>Shorelines – Shoreline Use and Shoreline Modification</b>	<p><b>Policy S-704:</b> Shoreline Master Program development regulations shall ensure no net loss of shoreline ecological processes and functions.</p> <p><b>Policy S-741:</b> The location and planning of in-water structures shall give due consideration to the full range of public interests and shoreline ecological processes and functions, with special emphasis on protecting and restoring habitat for threatened or endangered species.</p> <p><b>Policy S-758:</b> Transportation and parking facilities located in the shoreline jurisdiction shall be planned, located and designed to have the least possible adverse impact on unique or fragile shoreline features, not result in a net loss of shoreline ecological processes and functions or adversely impact existing or planned water-dependent uses. Where other options are available and feasible, new transportation facilities or transportation facility expansions should not be constructed within the shoreline jurisdiction.</p>	<p>The project will be designed to avoid and minimize impacts on environmentally sensitive resources and provide suitable mitigation when impacts are unavoidable, ensuring no net loss of ecosystem function or acreage.</p>

Topic	Policy and Goals	Discussion
<b>Transportation – Creating an Integrated, Sustainable, and Safe Transportation System that Enhances Quality of Life</b>	<p><b>Policy T-101:</b> King County should provide a system of transportation services and facilities that offers travel options to all members of the community.</p> <p><b>Policy T-101a:</b> King County should seek to ensure that its system of transportation services and facilities serves the mobility needs of disadvantaged communities and people with limited transportation options, including people of color, low-income communities, people with limited English proficiency, immigrant and refugee populations, students, youth, seniors, and people with disabilities.</p> <p><b>Policy T-102:</b> As a transportation provider and participant in regional transportation planning, King County should support, plan, design, and implement an integrated, coordinated and balanced multi-modal transportation system that serves the growing travel needs of the county safely, effectively and efficiently and promotes a decrease in the share of trips made by single-occupant vehicles.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor, which include transit-dependent and low-income populations and people of color. It would reduce dependency on the automobile by providing a mode of transit with linkages to other travel modes. Connecting to the existing light rail will provide access to additional destinations such as Sea-Tac Airport and Tacoma. The project will provide connections to light rail projects currently being planned or under construction to Northgate, Bellevue, Redmond, Lynnwood, Everett, Tacoma, and Federal Way.</p>
<b>Transportation – Providing Services and Infrastructure that Support the County Land Use Vision</b>	<p><b>Policy T-201:</b> Multi-modal transportation options such as public transportation, bicycling and walking, are most effective in densely developed urban areas. As resources allow, King County's transportation investments in urban areas should emphasize public transportation and road services and facilities that support multiple modes and facilitate connections between them.</p> <p><b>Policy T-205:</b> King County should support, encourage, and implement high-capacity transit facilities and services that are consistent with, and supportive of, the Comprehensive Plan, Metro's Strategic Plan for Public Transportation, Metro's Long-Range Plan for Public Transportation and the King County Ferry District 2014 Strategic Plan, or successor plans.</p>	<p>The project would provide high-quality rapid, reliable, and efficient light rail transit service to communities in the project corridor. It would provide a high-capacity-transit alternative to the automobile and would also provide linkages to other travel modes (bus, rail, walking, biking). This would support a more efficient transportation system with fewer cars and more affordable transportation. It would move large numbers of people, increasing the capacity of existing facilities and promote more walkable neighborhoods.</p> <p>The project is consistent with and supportive of comprehensive plans and long-range plans for the jurisdictions in which the project would be located.</p>

Topic	Policy and Goals	Discussion
<b>Transportation – Ensuring Effective Management and Efficient Operations</b>	<p><b>Policy T-320:</b> Transportation improvements should be designed, built, and operated to minimize air, water and noise pollution, greenhouse gas emissions, and the disruption of natural surface water drainage in compliance with provisions and requirements of applicable federal, state and local environmental regulations. Natural and historic resource protection should also be considered. Particular care should be taken to minimize impacts where the location of such facilities could increase the pressure for development in critical areas or Rural Areas and Natural Resource Lands.</p> <p><b>Policy T-322:</b> Through its own actions and through regional partnerships, King County will promote strategies to reduce emissions from the transportation sector. The County will promote new vehicle technologies, the use of low-carbon fuels, and strategies to reduce greenhouse gas emissions, including land use changes, provision of transit, promotion of non-motorized travel, joint purchasing, pilot projects, and actions to reduce vehicle miles traveled.</p>	<p>The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, the project is anticipated to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.</p> <p>The project would help reduce greenhouse gases and improve air quality by providing an alternative to automobiles through reduction in the number of vehicle miles traveled and by encouraging compact urban development at regional centers and where the local jurisdictions have identified growth through their regulations.</p> <p>The project would include stormwater detention and treatment to address impacts related to stormwater runoff. Sound Transit's Environmental Sustainability and Management System requires that low-impact operational stormwater management techniques be investigated and considered during the project design. Low-impact-development stormwater management techniques would be evaluated during the design process.</p> <p>As described in Section 4.7, Sound Transit would provide noise mitigation where the project would exceed FTA noise criteria for operations. Sound Transit would adhere to the City's noise ordinance for construction noise.</p>



Topic	Policy and Goals	Discussion
<b>Transportation – Coordination and Public Outreach</b>	<b>Policy T-502:</b> King County should promote a multi-jurisdictional, multi-modal regional corridor approach to reducing congestion and improving efficiency on highways and arterial roads.	The project would provide high-capacity transit, providing residents with an option for mode of travel and connecting urban centers in the project corridor and region. The project would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections. Sound Transit is coordinating with Metro, Seattle Department of Transportation, and several other governmental agencies to ensure the project is integrated with existing and future transit opportunities. The project would provide connections from within the city to other light rail projects, including connections under construction to Northgate, Bellevue, Redmond, Lynnwood, and Federal Way.
<b>Services, Facilities and Utilities – Facilities and Services</b>	<p><b>Policy F-201:</b> All facilities and services should be provided in compliance with provisions and requirements of the Endangered Species Act, the Clean Water Act and the Growth Management Act.</p> <p><b>Policy F-226:</b> Proposed new or expansions to existing essential public facilities should be sited consistent with the King County Comprehensive Plan. Listed existing essential public facilities should be preserved and maintained until alternatives or replacements for such facilities can be provided.</p>	<p>Light rail is considered an essential public facility. Essential public facilities (e.g., airports, education facilities, and transportation facilities) are typically difficult to site. Local comprehensive plans must accommodate the siting of essential public facilities.</p> <p>Sound Transit has coordinated with the City of Seattle and King County on the siting of project facilities and will continue to do so. The project is consistent with and supportive of comprehensive plans and long-range plans for the jurisdictions in which the project would be located.</p> <p>The project would comply with applicable local, state, and federal environmental regulations including the Endangered Species Act, the Clean Water Act, and the Growth Management Act.</p>

Topic	Policy and Goals	Discussion
<b>Services, Facilities and Utilities – Energy and Telecommunications</b>	<b>Policy F-307:</b> King County should foster the development and increased use of clean, renewable and alternative fuel and energy technologies.	The project would be entirely powered through electricity sourced from Seattle City Light, which uses hydroelectric power for almost all its power. Regional vehicle miles traveled and average daily traffic for the project would be lower than the No Build Alternative when some people switch from driving to using light rail, thereby reducing regional vehicle emissions of criteria pollutants, mobile source air toxics, and greenhouse gases. As detailed in Section 3.3, the project is expected to reduce daily vehicle miles traveled by approximately 17,000 by 2042, helping to achieve Washington state's greenhouse gas emissions goals. The project is being designed to minimize effects to the natural environment and impacts will be mitigated consistent with local, state, and federal requirements.
<b>Economic Development – Infrastructure Development</b>	<b>Policy ED-401:</b> King County recognizes that adequate infrastructure is essential to support existing economic activity and to attract new industry and development. The County therefore supports and partners on programs and strategies to maintain existing infrastructure and construct new facilities (transportation, utilities, schools, information, communications, including an adequate supply of housing) necessary to accommodate current and future economic demand, in locations and at a size and scale that is consistent with other policies in the Comprehensive Plan.	The project would increase the ability of employees, customers, and businesses to access Seattle. The project would provide connections to urban centers in the project corridor, to other communities, and to other regional destinations. The project is consistent with and supportive of comprehensive plans and long-range plans for the jurisdictions in which the project would be located.

Source: King County 2020.

Table L4.2-5. Project Consistency with City of Seattle Industrial and Maritime Strategy

Topic	Policy and Goals	Discussion
Investment Strategies	<b>3. Transportation Priorities to Improve the Movement of People and Goods:</b> Improve the movement of people and goods and make transit and freight networks work for industrial and maritime users with better service and facilities; improved last mile connections for active transportation, transit, and freight, including large truck access to shoreline and railroad uses; and advocating for a tunnel alignment for Ballard and Interbay future light rail.	The project would serve as an alternative to the automobile and would also provide linkages to other travel modes including rail, bus, biking, and walking. It would encourage convenient and safe non-motorized access to stations, such as bicycle and pedestrian connections.
Land Use Strategies	<p><b>6. High Density Industrial Development:</b> Encourage modern industrial development that supports high density employment near transit stations and near existing industrial-commercial areas by creating density bonuses for employment uses (i.e., office, research and development, etc.) if coupled with industrial uses in the same project.</p> <p><b>7. Healthy Transitional Areas near Urban Villages:</b> Foster increased employment and entrepreneurship opportunities with a vibrant mix of affordable, small-scale places for light industry, makers, and creative arts, as well as industry supporting ancillary retail.</p>	The project would promote mixed-use development in designated urban growth areas and focus most growth in station areas, where zoning and land use codes allow for greater densities. The increased density would allow more efficient use of land, promote efficient provision of services and facilities, and encourage walkable neighborhoods.

## L4.2.5 References

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## **Appendix L4.3 Economics**

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## Appendix L4.3 Economics

### L4.3.1 Regulatory Requirements

In addition to the federal and state regulations, policies, and related resources that guide a major transit project environmental impact statement, the following regulatory and resource requirements were considered in the assessment of economic effects: Title 42 United States Code Section 4601, Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended; the Transit Cooperative Research Program Synthesis 128, Practices for Evaluating the Economic Impacts and Benefits of Transit (Transit Cooperative Research Program 2017); and the Economic Impact Case Study Tool for Transit (Transit Cooperative Research Program 2016).

### L4.3.2 Region and County

Table L4.3-1 summarizes population, households, and employment forecasts for the Puget Sound Regional Council region and its four member counties.

**Table L4.3-1. Population, Household, and Employment Forecasts by Region and County**

Area	2018	2050	Average Annual Growth Rate, 2018 to 2050
Puget Sound Region Population	4,134,473	5,885,483	1.11%
Puget Sound Region Household	1,605,263	2,419,603	1.29%
Puget Sound Region Jobs	2,277,775	3,417,783	1.28%
King County Population	2,189,962	3,038,738	1.03%
King County Household	884,582	1,287,395	1.18%
King County Jobs	1,492,074	2,155,720	1.16%
Kitsap County Population	267,104	366,688	1.00%
Kitsap County Household	101,858	150,061	1.22%
Kitsap County Jobs	102,994	167,785	1.54%
Pierce County Population	872,450	1,264,812	1.17%
Pierce County Households	323,902	500,322	1.37%
Pierce County Jobs	367,906	554,819	1.29%
Snohomish County Population	804,957	1,215,245	1.30%
Snohomish County Household	294,921	481,825	1.55%
Snohomish County Jobs	314,801	539,459	1.70%

Source: Puget Sound Regional Council 2023.

Note: The Land Use Vision – Implemented Targets (LUV-it) is the latest Puget Sound Regional Council land use forecast published in 2023. The LUV-it is consistent with the latest growth allocations and policies in VISION 2050 and current countywide growth targets.

### **L4.3.3 West Seattle Link Extension Study Area**

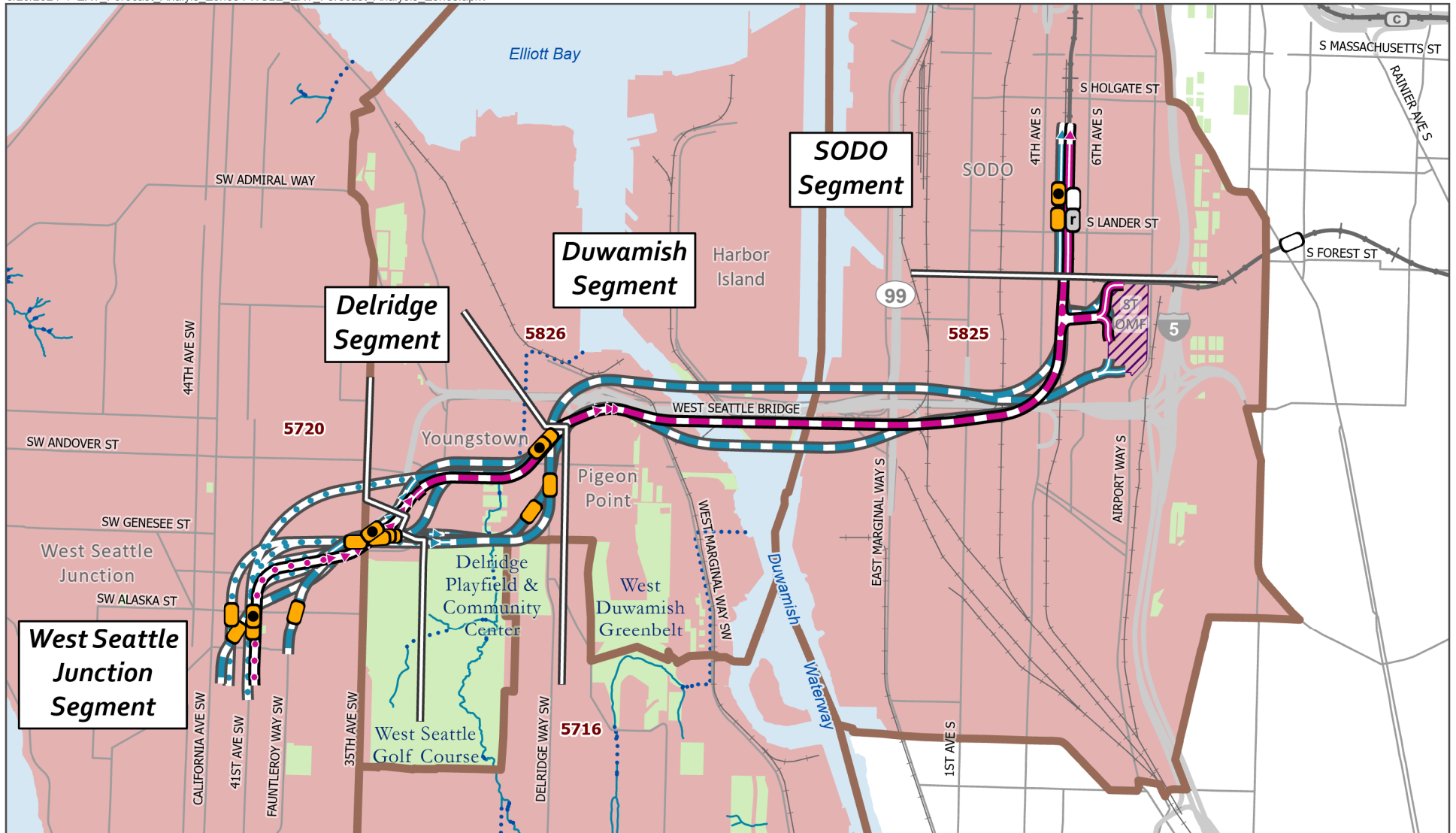
Demographic and economic trends in the project study area were assessed by using forecast analysis zone estimates (Figure L4.3-1).

Table L4.3.-2 summarizes population, households, and employment forecasts from Puget Sound Regional Council for the project study area by segment.

Table L4.3.-3 summarizes employment trends from Puget Sound Regional Council for the project study area by segment using forecast analysis zones.

Table L4.3.-4 summarizes employment projections by industry sector from Puget Sound Regional Council for the project study area by segment.

Table L4.3.-5 summarizes employment growth rates by industry sector from Puget Sound Regional Council for the project study area by segment.



Source: PSRC (2022), City of Seattle, King County (2023).

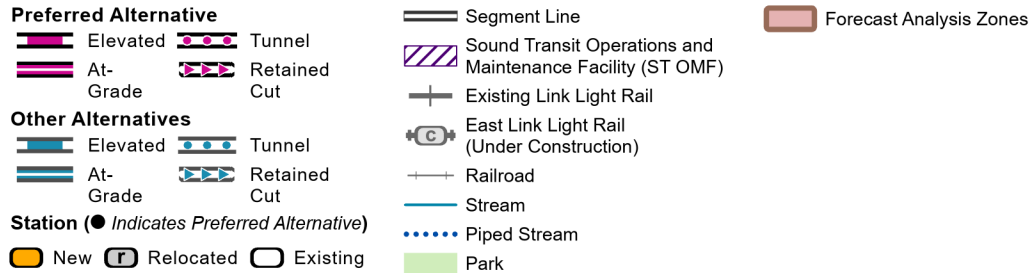
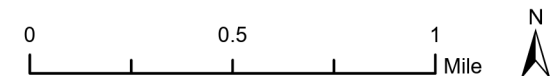


FIGURE L4.3-1  
Forecast Analysis Zones

West Seattle Link Extension



**Table L4.3-2. Population, Household, and Employment Forecast for the Study Area by Segment**

Segment and Forecast Analysis Zone	2018	2050	Average Annual Growth Rate, 2018 to 2050
SODO Segment (Forecast Analysis Zone 5825): Population	5,140	8,375	1.54%
SODO Segment (Forecast Analysis Zone 5825): Households	2,157	3,990	1.94%
SODO Segment (Forecast Analysis Zone 5825): Jobs	51,126	77,215	1.30%
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): Population	5,365	6,902	0.79%
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): Households	2,674	3,349	0.71%
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): Jobs	5,806	9,848	1.66%
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): Population	29,306	33,774	0.44%
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): Households	11,177	15,020	0.93%
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): Jobs	9,040	13,590	1.28%
West Seattle Junction Segment (Forecast Analysis Zone 5720): Population	41,712	50,781	0.62%
West Seattle Junction Segment (Forecast Analysis Zone 5720): Households	20,228	24,322	0.58%
West Seattle Junction Segment (Forecast Analysis Zone 5720): Jobs	14,975	17,264	0.45%

Source: Puget Sound Regional Council 2023.

**Table L4.3-3. Total Employment History Forecast Analysis Zones**

Area	2000	2005	2010	2015	2018
SODO Segment (Forecast Analysis Zone 5825)	45,333	40,426	40,220	46,482	51,126
Duwamish and Delridge Segments (Forecast Analysis Zone 5826)	7,429	6,443	5,601	5,199	5,806
Duwamish and Delridge Segments (Forecast Analysis Zone 5716)	7,169	6,911	7,837	8,695	9,040
West Seattle Junction Segment (Forecast Analysis Zone 5720)	8,981	9,655	9,571	11,195	14,975

Source: Puget Sound Regional Council 2023.

**Table L4.3-4. Employment Growth Projections by Sector for Study Area**

Segment and Forecast Analysis Zone	Construction and Resources	Manufacturing and Wholesale Trade and Utilities	Retail	Finance, Insurance, Real Estate, and Services	Government	Education
SODO Segment (Forecast Analysis Zone 5825): 2018 Number of Employees	4,673	11,085	7,914	20,409	5,899	1,146
SODO Segment (Forecast Analysis Zone 5825): 2050 Number of Employees	5,930	10,463	9,090	43,138	4,209	4,385
SODO Segment (Forecast Analysis Zone 5825): Change in Number of Employees	1,257	-622	1,176	22,729	-1,690	3,239
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): 2018 Number of Employees	617	2,512	261	2,114	111	191
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): 2050 Number of Employees	1,143	2,979	636	4,365	82	643
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): Change in Number of Employees	526	467	375	2,251	-29	452
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): 2018 Number of Employees	1,322	1,639	1,777	2,581	341	1,380
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): 2050 Number of Employees	1,370	1,732	2,893	5,448	250	1,897
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): Change in Number of Employees	48	93	1,116	2,867	-91	517
West Seattle Junction Segment (Forecast Analysis Zone 5720): 2018 Number of Employees	579	656	6,329	6,422	103	886
West Seattle Junction Segment (Forecast Analysis Zone 5720): 2050 Number of Employees	491	684	6,345	8,457	106	1,181
West Seattle Junction Segment (Forecast Analysis Zone 5720): Change in Number of Employees	-88	28	16	2,035	3	295

Source: Puget Sound Regional Council 2023.



**Table L4.3-5. Employment Growth Rate Projections by Sector for Study Area**

Segment and Forecast Analysis Zone	Construction and Resources	Manufacturing and Wholesale Trade and Utilities	Retail and Food Services	Finance, Insurance, Real Estate, and Services	Government	Education
SODO Segment (Forecast Analysis Zone 5825): Average Annual Growth Rate, 2018 to 2050	0.75%	-0.18%	0.43%	2.37%	-1.05%	4.28%
Duwamish and Delridge Segments (Forecast Analysis Zone 5826): Average Annual Growth Rate, 2018 to 2050	1.95%	0.53%	2.82%	2.29%	-0.94%	3.87%
Duwamish and Delridge Segments (Forecast Analysis Zone 5716): Average Annual Growth Rate, 2018 to 2050	0.11%	0.17%	1.53%	2.36%	-0.97%	1.00%
West Seattle Junction Segment (Forecast Analysis Zone 5720): Average Annual Growth Rate, 2018 to 2050	-0.51%	0.13%	0.01%	0.86%	0.09%	1.04%

Source: Puget Sound Regional Council 2023.

Note: Percentages refer to the average annual growth rate for the segment from the year 2018 to the year 2050.

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### **L4.3.5      References**

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## **Appendix L4.4 Social Resources**

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## Appendix L4.4 Social Resources

Table L4.4-1 lists the social resources in the West Seattle Link Extension corridor by segment and identifies the social resources that could be fully displaced by particular alternatives. All of these resources are shown with symbols on Figures 4.4-1 to 4.4-4 in Section 4.4 of the West Seattle Link Extension Final Environmental Impact Statement (EIS).

**Table L4.4-1. Social Resources in the West Seattle Link Extension Segments**

Segment	Name	Address	Type	Displaced by an Alternative
SODO	Northwest Harvest SODO Community Market	1915 4th Avenue South	Social Service	No
SODO	Amazon Fresh Pick-up <sup>a</sup>	Utah Avenue South and South Lander Street	Grocery Store/Market	No
SODO	Bright Horizons Child Care	2401 Utah Avenue South	Community Facility	No
SODO	SODO Track murals <sup>b</sup>	Near 2250 4th Avenue South	Public Art/Landmark	SODO-1a SODO-1b <b>SODO-1c</b> SODO-2 <b>DUW-1a</b> DUW-1b DUW-2
SODO	US Food Chef's Store	1760 4th Avenue South	Grocery Store/Market	No
Duwamish	Costco Wholesale	4401 4th Avenue South	Grocery Store/Market	No
Duwamish	Seattle Unity	2931 1st Avenue South	Church/Religious Institution	No
Duwamish	Blazing Trails Childcare	1901 Southwest Genesee Street	Community Facility	No
Duwamish	Catholic Seafarers Ministry	3568 West Marginal Way Southwest	Social Service	DUW-2
Delridge	Mode Music and Performing Arts	3801 Delridge Way Southwest	Community Facility	DEL-1a DEL-1b DEL-2a DEL-2b DEL-3 DEL-4 DEL-5 DEL-6a <b>DEL-6b</b> DEL-7
Delridge	Alki Beach Academy	2414 Southwest Andover Street	Community Facility	DEL-5 DEL-6a DEL-6b DEL-7

Segment	Name	Address	Type	Displaced by an Alternative
Delridge	Delridge Deli Mart	3861 Delridge Way Southwest	Grocery Store/Market	DEL-5 DEL-6a <b>DEL-6b</b> DEL-7
Delridge	Washington State Department of Children, Youth, and Families Four Offices: Office of Indian Child Welfare Alliance for Child Welfare Excellence (partnership with University of Washington) Licensing Division West Seattle Family Connection Center	4045 Delridge Way Southwest	Social Service	DEL-1a DEL-1b DEL-2a DEL-2b DEL-3 DEL-4
Delridge	Youngstown Cultural Arts Center	4408 Delridge Way Southwest	Community Facility	No
Delridge	Delridge Community Center	4501 Delridge Way Southwest	Community Facility	No
Delridge	Seattle Housing Authority Property	4115 25th Avenue Southwest	Seattle Housing Authority Property	DEL-1a DEL-1b DEL-2a DEL-2b
Delridge	Seattle Housing Authority Property	4117 25th Avenue Southwest	Seattle Housing Authority Property	No
Delridge	Seattle Housing Authority Property	4818 Delridge Way Southwest	Seattle Housing Authority Property	No
Delridge	Seattle Housing Authority Property	4822 Delridge Way Southwest	Seattle Housing Authority Property	No
Delridge	Seattle Housing Authority Property	4701 26th Avenue Southwest	Seattle Housing Authority Property	No
Delridge	Seattle Housing Authority Property	4113 25th Avenue Southwest	Seattle Housing Authority Property	DEL-1a DEL-1b DEL-2a DEL-2b
Delridge	Seattle Housing Authority Property	4825 Delridge Way Southwest	Seattle Housing Authority Property	No
Delridge	Disabled American Veterans	4857 Delridge Way Southwest	Social Service	No
Delridge	Seattle Housing Authority Property	2851 Southwest Dakota Street	Seattle Housing Authority Property	No
Delridge	Transitional Resources' Supportive Housing	2970 Southwest Avalon Way	Housing with Services (drop-in center)	No



Segment	Name	Address	Type	Displaced by an Alternative
Delridge	Transitional Resources' Yancy Street Permanent Supportive Housing (Rise on Yancy)	2821 Southwest Yancy Street	Housing with Services	No
Delridge	Transitional Resources' Avalon Mutual Housing	2980 Southwest Avalon Way	Housing with Services	DEL-6a
Delridge	Income-restricted Housing	3050 Southwest Avalon Way	Income-restricted Housing	No
West Seattle Junction	Whole Foods	4755 Fauntleroy Way Southwest, Number 190	Grocery Store/Market	No
West Seattle Junction	Tibbetts United Methodist Church	3940 41st Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	The Church of Jesus Christ Latter Day Saints	4001 44th Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	First Lutheran Church	4105 California Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	Holy Rosary Catholic Church & Parsonage	4139 42nd Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	The Junction Church	4157 California Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	West Seattle Church of the Nazarene <sup>c</sup>	4201 Southwest Juneau Street	Church/Religious Institution	No
West Seattle Junction	Wide Side Presbyterian Church <sup>c</sup>	3601 California Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	West Seattle Christian Church	4400 42nd Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	Fraternal Order of Eagles number 2643	4426 California Avenue Southwest	Social Service	No
West Seattle Junction	Alaska House	4545 42nd Avenue Southwest	Income-restricted Housing	No
West Seattle Junction	West Seattle Stadium	4432 35th Avenue Southwest	Community Facility	No
West Seattle Junction	Senior Center of West Seattle	4217 Southwest Oregon Street	Community Facility	No
West Seattle Junction	Eastridge Church	4500 39th Avenue Southwest	Church/Religious Institution	No
West Seattle Junction	West Seattle Y.M.C.A.	3622 Southwest Snoqualmie Street	Social Service	No
West Seattle Junction	Trader Joe's	4545 Fauntleroy Way Southwest	Grocery Store/Market	WSJ-1 WSJ-2
West Seattle Junction	Bright Horizons at West Seattle	4470 35th Avenue Southwest	Community Facility	No
West Seattle Junction	QFC number 883	4550 42nd Avenue Southwest	Grocery Store/Market	No

Segment	Name	Address	Type	Displaced by an Alternative
West Seattle Junction	Safeway	4720 42nd Avenue Southwest	Grocery Store/Market	WSJ-1 WSJ-3b WSJ-4 <b>WSJ-5b</b>
West Seattle Junction	American Legion Post 160	3618 Southwest Alaska Street	Social Service	No
West Seattle Junction	West Seattle Farmers Market	Southwest Alaska Street and California Avenue Southwest	Grocery Store/Market	No
West Seattle Junction	Arts West	4711 California Avenue Southwest	Theater/Performance Venue	No
West Seattle Junction	Veterans of Foreign Wars	3601 Southwest Alaska Street	Social Service	No
West Seattle Junction	Alki Masonic Center	4736 40th Avenue Southwest	Social Service	No
West Seattle Junction	Safeway number 1062	4754 42nd Avenue Southwest	Grocery Store/Market	No
West Seattle Junction	Camp Long	5200 35th Avenue Southwest	Community Facility	No
West Seattle Junction	Income-restricted Housing	3261 Southwest Avalon Way	Income-restricted Housing	No
West Seattle Junction	Income-restricted Housing	4528 44th Avenue Southwest	Income-restricted Housing	No
West Seattle Junction	Income-restricted Housing	4745 40th Avenue Southwest	Income-restricted Housing	No
West Seattle Junction	Seattle Housing Authority Property	3225 Southwest Genesee Street	Seattle Housing Authority Property	WSJ-1 WSJ-2 WSJ-3a WSJ-3b WSJ-4 WSJ-5a <b>WSJ-5b</b>
West Seattle Junction	Seattle Housing Authority Property	4126 41st Avenue Southwest	Seattle Housing Authority Property	No
West Seattle Junction	Seattle Housing Authority Property	5243 Fauntleroy Way Southwest	Seattle Housing Authority Property	No
West Seattle Junction	Seattle Housing Authority Property	5247 Fauntleroy Way Southwest	Seattle Housing Authority Property	No
West Seattle Junction	Property with Mandatory Housing Affordability Units	4205 Southwest Genesee Street	Property with Mandatory Housing Affordability Units	No

<sup>a</sup> Resource is beyond map extent of Figure 4.4-1

<sup>b</sup> This resource is not shown on Figures 4.4-1 and 4.4-2. Preferred Option SODO-1c, Alternative SODO-1a, Option SODO-1b, and Alternative SODO-2 would remove six to seven murals of the SODO Track urban art gallery. Preferred Alternative DUW-1a would remove nine murals, Option SODO-1b would remove seven murals, and Alternative DUW-2 would remove six murals.

<sup>c</sup> Resource is beyond map extent of Figure 4.4-4

## **Appendix L4.6 Air Quality**

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**Appendix L4.6A**  
**Applicable Laws, Regulations, Guidance, and Policies**

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## Appendix L4.6A Applicable Laws, Regulations, Guidance, and Policies

The following federal, state, and local laws, regulations, guidance, and policies are applicable to the air quality analysis for the West Seattle Link Extension Project:

- Clean Air Act (United States Code Title 42 Section 7401).
- Code of Federal Regulations Title 40, Section 50, United States Environmental Protection Agency, National Primary and Secondary Air Quality Standards.
- Code of Federal Regulations Title 40, Section 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans.
- Washington Clean Air Act (Revised Code of Washington 70.94).
- Washington Administrative Code Chapter 173-420, Conformity of Transportation Activities to Air Quality Implementation Plans.
- Federal Highway Administration, Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA [National Environmental Policy Act] Documents. 2023.
- Federal Transit Administration, *Greenhouse Gas Emissions from Transit Projects: Programmatic Assessment*. 2024.
- Puget Sound Clean Air Agency Regulation I, Article 9, Section 15, Fugitive Dust Control Measures.
- United States Environmental Protection Agency, National Ambient Air Quality Standards.
- Washington State Department of Transportation (WSDOT), *WSDOT Guidance – Project Level Greenhouse Gas Evaluations under NEPA and SEPA* [State Environmental Policy Act]. 2018.
- The Council on Environmental Quality, *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change* (88 Federal Register 10097).



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**Appendix L4.6B**  
**Air Monitoring Data from the Study Area**

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## Appendix L4.6B Air Monitoring Data from the Study Area

**Table L4.6B-1. Air Monitoring Data from the Study Area**

Parameter	National Ambient Air Quality Standard	2020	2021	2022
Carbon monoxide maximum 1-hour concentration (parts per million)	35	1.7	1.3	1.7
Carbon monoxide maximum 8-hour concentration (parts per million)	9	1.7	1.0	1.5
Ozone fourth-highest 8-hour concentration (parts per million)	0.070	0.052	0.052	0.047
Nitrogen oxides 98th-percentile 1-hour concentration (parts per million)	0.100	0.057	0.049	0.054
Nitrogen oxides annual average (parts per million)	0.053	0.01577	0.01586	0.01640
PM <sub>10</sub> maximum 24-hour concentration (micrograms per cubic meter)	150	46	25	35
PM <sub>2.5</sub> 98th-percentile 24-hour concentration (micrograms per cubic meter)	35	61	17	30
PM <sub>2.5</sub> Weighed Annual Mean (micrograms per cubic meter)	12	10.1	6.6	8.9
Sulfur dioxide 99th-percentile 1-hour concentration (parts per million)	0.075	0.004	0.003	0.003

Source: United States Environmental Protection Agency 2023.

Note:

Monitoring data are from the monitoring stations closest to the project corridor located at 4700 East Marginal Way, 4103 Beacon Hill South, and 10th Avenue South and South Weller Street in the Chinatown-International District. If the same pollutant was monitored at more than one of the three monitoring stations closest to the project corridor, the highest monitored concentrations among the stations is presented.

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in diameter

PM<sub>10</sub> = particulate matter less than 10 microns in diameter

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**Appendix L4.6C**  
**Limitations of the Mobile Source Air Toxics Analysis**

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## Appendix L4.6C Limitations of the Mobile Source Air Toxics Analysis

The mobile source air toxics analysis in Sections 4.6, Air Quality, of the Final West Seattle Link Extension Project Environmental Impact Statement includes a basic analysis of the likely mobile source air toxics impacts of the proposed project. Due to the limitations of information and methodology of the analysis, the following discussion is included in accordance with Council on Environmental Quality regulations regarding incomplete or unavailable information (Code of Federal Regulations Title 40 Section 1502.22[b]). The discussion regarding the limitations of the mobile source air toxics analysis is prototype language taken from Appendix C of the Federal Highway Administration *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA* [National Environmental Policy Act] *Documents* (Federal Highway Administration 2023).

Information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in mobile source air toxics emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to mobile source air toxics exposure associated with a proposed action.

The United States Environmental Protection Agency is responsible for protecting the public health and welfare from any known or anticipated effects of an air pollutant. The United States Environmental Protection Agency is the lead authority for administering the Clean Air Act and its amendments and has specific statutory obligations with respect to hazardous air pollutants and mobile source air toxics. The United States Environmental Protection Agency is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. It maintains the [Integrated Risk Information System](https://www.epa.gov/iris) (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (<https://www.epa.gov/iris>). Each report provides assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of mobile source air toxics, including the Health Effects Institute. A number of Health Effects Institute studies are summarized in Appendix D of the *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents* (Federal Highway Administration 2023). Among the adverse health effects linked to mobile source air toxics compounds at high exposures are cancer in humans in occupational settings, cancer in animals, and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of mobile source air toxics compounds at current environmental concentrations (Health Effects Institute 2007) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts, with each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the mobile source air toxics health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that timeframe, because such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime mobile source air toxics concentrations and exposure near roadways, to determine the portion of time that people are actually exposed at a specific location, and to establish the extent of exposure attributable to a specific proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various mobile source air toxics because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by the Health Effects Institute (2007). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for mobile source air toxics compounds, and in particular for diesel particulate matter. The United States Environmental Protection Agency states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk” ([United States Environmental Protection Agency IRIS database](https://iris.epa.gov/static/pdfs/0642_summary.pdf), Diesel Engine Exhaust, Section II.C, [https://iris.epa.gov/static/pdfs/0642\\_summary.pdf](https://iris.epa.gov/static/pdfs/0642_summary.pdf)).

There is also a lack of national consensus on an acceptable level of risk. The current context is the process used by the United States Environmental Protection Agency as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires United States Environmental Protection Agency to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than one in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than one in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the [United States Court of Appeals for the District of Columbia Circuit](#) upheld the United States Environmental Protection Agency’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable ([https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/\\$file/07-1053-1120274.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf)).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

### References

- Federal Highway Administration. 2023. [Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents](#). Memorandum from Emily Biondi, Acting Associate Administrator, Office of Planning, Environment, and Realty. [https://www.fhwa.dot.gov/ENVIRonment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/msat/fhwa\\_nepa\\_msat\\_memorandum\\_2023.pdf](https://www.fhwa.dot.gov/ENVIRonment/air_quality/air_toxics/policy_and_guidance/msat/fhwa_nepa_msat_memorandum_2023.pdf). January 18.
- Health Effects Institute. 2007. [Health Effects Institute Special Report 16, Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects](#). <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>. Accessed January 3, 2020.

**Appendix L4.6D**  
**Air Quality Best Management Practices**

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## Appendix L4.6D Air Quality Best Management Practices

Sound Transit would minimize or avoid potential air quality impacts during construction of the West Seattle Link Extension Project by selecting best management practices appropriate for the circumstances. Best management practices may include the following:

- Spray exposed soil with a dust-control agent, such as water, as necessary to reduce emissions of particulate matter.
- Cover all transported loads of soil and wet materials before transport or provide adequate freeboard (i.e., space from the top of the material to the top of the truck bed) to reduce particulate matter emissions during transport.
- Provide wheel washes where necessary to reduce dust and mud that would be carried offsite by vehicles and decrease particulate matter on area roadways.
- Remove any dust and mud deposited by construction vehicles or other project activities on paved public roads.
- Route and schedule high volumes of construction traffic, where practicable, to reduce additional congestion during peak travel periods and reduce carbon monoxide and nitrogen oxide emissions.
- Require appropriate emissions-control devices on all construction equipment powered by gasoline or diesel fuel to reduce carbon monoxide and nitrogen oxide emissions.
- Use well-maintained heavy equipment to reduce carbon monoxide and nitrogen oxide emissions, which may also reduce greenhouse gas emissions.
- Cover, install mulch, or plant vegetation as soon as practicable after grading to reduce windblown particulates in the area.
- Encourage contractors to employ emissions-reduction technologies and practices for both on-road and off-road equipment and vehicles (e.g., retrofit equipment with diesel emission-control technology, use ultra-low-sulfur diesel, or do both).
- Implement idling restrictions for construction trucks.
- Locate construction equipment and truck-staging zones away from air-quality-sensitive receptors when possible and considering other factors such as noise and safety.
- Comply with Sound Transit standard specifications. Sound Transit standard specifications require United States Environmental Protection Agency Tier 2 and above for off-road equipment, with 85 percent of equipment meeting United States Environmental Protection Agency Tier 3 or above. They also require on-road vehicles to be 2007 or newer.

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**Appendix L4.6E**  
**Greenhouse Gas Analysis**

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## **Appendix L4.6E1**

### **Greenhouse Gas Emissions**

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## Greenhouse Gas Emissions Summary

### Annualized CO<sub>2</sub>e Greenhouse Gas Emissions <sup>1</sup>

Year	2042		
Scenario	Build Alternative: Low Cost	Build Alternative: High Cost	Build Alternative: Preferred
Units	metric tons/year	metric tons/year	metric tons/year
Construction (amortized over 50 years)	1,610	10,191	7,604
Transitway Maintenance	39	46	41
Facility Operations	0	0	0
Vehicle Operations	0	0	0
Vehicle Maintenance	19	19	19
Displaced Emissions	-3,001	-3,001	-3,001
<b>Annual Operation</b>	-2,943	-2,936	-2,941
<b>Annual Construction and Operation</b>	-1,333	7,255	4,662

### Adjusted Annualized CO<sub>2</sub>e Greenhouse Gas Emissions <sup>4</sup>

Year	2042		
Scenario	Build Alternative: Low Cost	Build Alternative: High Cost	Build Alternative: Preferred
Units	metric tons/year	metric tons/year	metric tons/year
Construction (amortized over 50 years)	1,610	4,134	2,819
Transitway Maintenance	39	46	41
Facility Operations	0	0	0
Vehicle Operations	0	0	0
Vehicle Maintenance	19	19	19
Displaced Emissions	-3,001	-3,001	-3,001
<b>Annual Operation</b>	-2,943	-2,936	-2,941
<b>Annual Construction and Operation</b>	-1,333	1,199	-122

#### Notes:

1. Annual Operation emissions include the Transitway Maintenance, Facility Operations, Vehicle Operations, Vehicle Maintenance, and minus the Displaced Emissions
2. Annualized greenhouse gas emissions for each activity were taken from the Federal Transit Administration's Transit Greenhouse Gas Emissions Estimator v3.0. using an analysis period of 50 years.
3. Facility operation emissions were set to zero because Sound Transit will use 100% renewable energy for station operation.
4. Upstream construction emissions factors for tunnel trackway are reduced by 90 percent based on a literature review of peer-reviewed studies

CO<sub>2</sub>e = carbon dioxide equivalent

MT = metric ton(s)

Scenario	Total Construction Emissions	Total Adjusted Construction Emissions
	(MT CO <sub>2</sub> e)	(MT CO <sub>2</sub> e)
West Seattle Link Extension Build Alternative: Low-cost	80,508	80,508
West Seattle Link Extension Build Alternative: High -cost	509,544	206,723
West Seattle Link Extension Build Alternative: Preferred	380,181	140,952

# Adjusted Emissions - Preferred Alt (using 10% of the ICE tool emission factors for tunnel)

## Current Emissions

Track Type	Miles	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/mile	MT CO2e/mile	MT CO2e
elevated	5.71	5,047	793	33,346
tunnel	1.58	168,234	4,246	272,518
at-grade	1.92	425	138	1,081
			Total	306,946

station type	#	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/station	MT CO2e/station	MT CO2e
elevated	1	10,736	383	11,119
tunnel	1	53,740	782	54,522
at-grade	2	3,786	11	7,594
			Total	73,235

<b>Project Total</b>	<b>380,181</b>
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## Adjusted Emissions

Track Type	Miles	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/mile	MT CO2e/mile	MT CO2e
elevated	5.71	5,047	793	33,346
tunnel	1.58	16,823	4,246	33,290
at-grade	1.92	425	138	1,081
			Total	67,717

station type	#	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/station	MT CO2e/station	MT CO2e
elevated	1	10,736	383	11,119
tunnel	1	53,740	782	54,522
at-grade	2	3,786	11	7,594
			Total	73,235

<b>Adjusted Project Total</b>	<b>140,952</b>
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Note: Upstream construction emissions factors for tunnel trackway are reduced by 90 percent based on a literature review of peer-reviewed studies

**Adjusted Emissions -High Cost (using 10% of the ICE tool emission factors for tunnel)**

*Current Emissions*

Track Type	Miles	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/mile	MT CO2e/mile	MT CO2e
elevated	6.8	5,047	793	39,712
tunnel	2	168,234	4,246	344,960
at-grade	1.62	425	138	912
			Total	385,584

station type	#	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/station	MT CO2e/station	MT CO2e
elevated	1	10,736	383	11,119
tunnel	2	53,740	782	109,044
at-grade	1	3,786	11	3,797
			Total	123,960

<b>Project Total</b>	<b>509,544</b>
----------------------	----------------

*Adjusted Emissions*

Track Type	Miles	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/mile	MT CO2e/mile	MT CO2e
elevated	6.8	5,047	793	39,712
tunnel	2	16,823	4,246	42,139
at-grade	1.62	425	138	912
				82,763

station type	#	Upstream factor	Downstream factor	Total Emissions
		MT CO2e/station	MT CO2e/station	MT CO2e
elevated	1	10,736	383	11,119
tunnel	2	53,740	782	109,044
at-grade	1	3,786	11	3,797
				123,960

<b>Adjusted Project Total</b>	<b>206,723</b>
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Note: Upstream construction emissions factors for tunnel trackway are reduced by 90 percent based on a literature review of peer-reviewed studies

## Social Cost of Greenhouse Gases Summary

### Unit Social Cost for Greenhouse Gases (2020 dollars per metric ton of greenhouse gas) <sup>1</sup>

Pollutant	Discount Rate (%)			
		2040	2050	2042 <sup>2</sup>
CO <sub>2</sub>	2.0%	270	310	278
CH <sub>4</sub>	2.0%	3,300	4,200	3,480
N <sub>2</sub> O	2.0%	79,000	93,000	81,800

Notes:

1. Source: Supplementary Material for the Regulatory Impact Analysis for the Final Rulemaking, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review." United States Environmental Protection Agency Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances (December 2023).

2. Interpolated 2042 emissions year social cost (2020 dollars per metric ton of greenhouse gas) assuming a linear relationship for social cost from 2040 to 2050.

CO<sub>2</sub> = carbon dioxide

CH<sub>4</sub> = methane

N<sub>2</sub>O = nitrous oxide

### Greenhouse Gases Social Cost for Project Construction and Operation Emissions in 2042 (2020 dollars) <sup>1</sup>

Discount Rate (%)	Emission Year		
	2042		
	Build Alternative:	Build Alternative:	Build Alternative:
	Low Cost	High Cost	Preferred
2.0%	-\$370,568	\$2,016,899	\$1,296,153

Notes:

1. Federal Transit Administration Transit Greenhouse Gas Emissions Estimator v3.0. output is presented as CO<sub>2</sub>e. Social cost of CO<sub>2</sub> was applied to the CO<sub>2</sub>e emissions, as majority of the greenhouse gas emissions from the project would be CO<sub>2</sub>.

### Adjusted Greenhouse Gases Social Cost for Project Construction and Operation Emissions in 2042 (2020 dollars) <sup>1</sup>

Discount Rate (%)	Emission Year		
	2042		
	Build Alternative:	Build Alternative:	Build Alternative:
	Low Cost	High Cost	Preferred
2.0%	-\$370,568	\$333,213	-\$33,959

Notes:

1. Upstream construction emissions factors for tunnel trackway are reduced by 90 percent based on a literature review of peer-reviewed studies

## Greenhouse Gas Equivalencies

### Greenhouse Gas Equivalencies Calculator Output <sup>1</sup>

Equivalency Quantity	Unit
1000	metric tons CO <sub>2</sub> e
238.0	gasoline-powered passenger vehicles driven for one year

Notes:

1. The Greenhouse Gas Equivalencies Calculator was used using 1,000 metric tons of CO<sub>2</sub>e as the input (<https://www.epa.gov/energy/greenhouse-gas-equivalencies->

### Greenhouse Gas Equivalencies

	2042		
	Build Alternative: Low Cost	Build Alternative: High Cost	Build Alternative: Preferred
CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e)	-1,333	7,255	4,662
Equivalencies			
Gasoline-powered passenger vehicles driven for 1 year	-317	1,727	1,110

### Adjusted Greenhouse Gas Equivalencies <sup>1</sup>

	2042		
	Build Alternative: Low Cost	Build Alternative: High Cost	Build Alternative: Preferred
CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e)	-1,333	1,199	-122
Equivalencies			
Gasoline-powered passenger vehicles driven for 1 year	-317	285	-29

1. Upstream construction emissions factors for tunnel trackway are reduced by 90 percent based on a literature review of peer-reviewed studies

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**Appendix L4.6E2**  
**Greenhouse Gas Emissions Calculations –**  
**FTA's Transit Greenhouse Gas Emissions**  
**Estimator v3.0**

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# Welcome to the FTA's Transit Greenhouse Gas Emissions Estimator, version 3.0

## OVERVIEW

The Federal Transit Administration's (FTA's) Transit Greenhouse Gas (GHG) Emissions Estimator v3.0 is a spreadsheet tool that allows users to estimate the partial lifecycle GHG emissions and energy use associated with the construction, operations, and maintenance phases of projects across select transit modes. Users input general information about a project, and the tool calculates annual GHG emissions and energy use by project phase. Total annual GHG emissions for a transit project is the sum of amortized construction emissions, annual maintenance emissions, and annual operations emissions, minus annual displaced emissions. The tool also calculates the total GHG emissions and energy use by project phase over the analysis period selected.

The Estimator was developed in connection with FTA's Greenhouse Gas Emissions from Transit Projects Programmatic Assessment (2016). Although the tool lacks the precision that may be attainable by using more complex emission models or route-specific ridership estimates, it provides a resource to generate coarse but informative estimates of GHG emissions and energy use for a broad range of transit projects. In no case is the use of this tool mandatory, and transit agencies should work with FTA Regions to determine whether to conduct project-specific analyses of GHG emissions and the best approach for doing so.

## NAVIGATING THE TOOL

The tool asks users to enter information associated with four different elements of a project - Construction; Facility Operations; Vehicle Operations and Maintenance, and Displaced Emissions. Users can navigate to the different data input screens using the buttons on the main calculator page or by clicking the individual tabs. To begin, click the "GHG Calculator" tab.

## ADDITIONAL INFORMATION

Refer to the accompanying user guide for detailed instructions on how to use the tool, as well as information about the GHG emissions factors, data sources, and assumptions used in the tool. The User Guide is available on the FTA Environmental Programs website.

## FTA's TRANSIT GREENHOUSE GAS EMISSIONS ESTIMATOR

The tables below summarize the construction, facility operations, vehicle operations and maintenance, and displaced emissions inputs for the project. Users can navigate to the different data input screens using the associated buttons. Once the inputs are added, scroll to the Results section below to view results.

1. Select State

WA

2. Enter Analysis Period (years)

50

Calculate Results

### Construction Information

Structured Parking Spots

0

Surface Parking Lot Spots

0

Trees Removed

0

Transit Mode:	Miles of New Track/Alignment			Miles of Converted or Upgraded Track/Alignment	Number of Stations		
	Underground	Elevated	At-Grade		Underground	Elevated	At-Grade
Light Rail or Streetcar	0.00	7.28	1.49			3	1

### Facility Operations Information

Transit Mode	Building Type	Facility Square Footage
Light Rail or Streetcar	Station	79,044.00
Light Rail or Streetcar	Station	33,605.00
Light Rail or Streetcar	Station	33,605.00
Light Rail or Streetcar	Station	33,605.00

### Vehicle Operations & Maintenance Information

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Light Rail or Streetcar	Electric	100% renewable energy	1,569,500

### Displaced VMT

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Sedan/Auto	Gas		5,621,000
Bus/BRT	Hybrid Diesel		438,000

## RESULTS

Calculate Results

### Summary Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Annual	908	-1,077	-169
Total Analysis Period	45,403	-53,868	-8,465

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Annual	36,329	-8,798	27,531
Total Analysis Period	1,816,460	-439,902	1,376,558

### Detailed Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	1,467	143	1,610
Transitway Maintenance	0	39	39
Facility Operations	0	1,164	1,164
Vehicle Operations	0	0	0
Vehicle Maintenance	0	19	19
Displaced Emissions	559	2,441	3,001
Cumulative Emissions	908	-1,077	-169

Annual Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	73,369	7,139	80,508
Transitway Maintenance	0	1,938	1,938
Facility Operations	0	58,184	58,184
Vehicle Operations	0	0	0
Vehicle Maintenance	0	942	942
Displaced Emissions	27,966	122,071	150,037
Cumulative Emissions	45,403	-53,868	-8,465

Total Analysis Period

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	41,685	1,457	43,142
Transitway Maintenance	0	395	395
Facility Operations	0	10,310	10,310
Vehicle Operations	0	3,889	3,889
Vehicle Maintenance	0	0	0
Displaced Emissions	5,356	24,849	30,205
Cumulative Emissions	36,329	-8,798	27,531

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	2,084,239	72,867	2,157,105
Transitway Maintenance	0	19,733	19,733
Facility Operations	0	515,494	515,494
Vehicle Operations	0	194,461	194,461
Vehicle Maintenance	0	0	0
Displaced Emissions	267,779	1,242,456	1,510,235
Cumulative Emissions	1,816,460	-439,902	1,376,558

<b>CONSTRUCTION</b>	<a href="#">Return to Calculator</a>
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<b>CONSTRUCTION</b>	<a href="#">Return to Calculator</a>
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1. Enter # of Structured Parking Spots to be Built:	2. Enter # of Surface Parking Lot Spots to be Built:	3. Enter the # of Trees to be Removed:*	*If there will be a net gain in trees, enter the number as a negative (e.g., -5)
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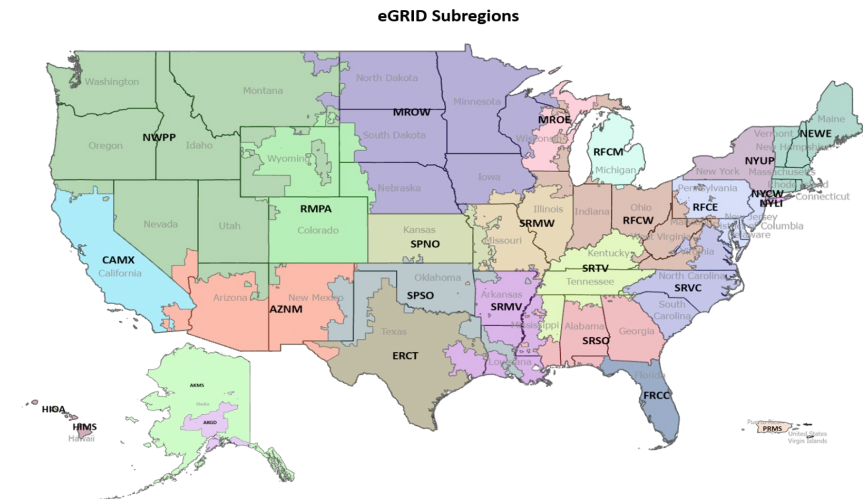
[illegible]

## FACILITY OPERATIONS

[Return to Calculator](#)

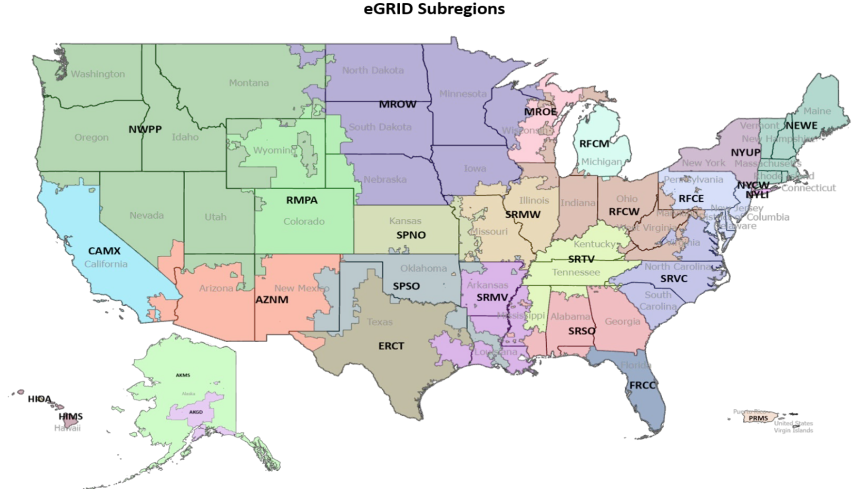
1. Select Transit Mode:	2. Select Facility Type	3. Enter Size (Square Footage) of Facility
Light Rail or Streetcar	Station	79,044
Light Rail or Streetcar	Station	33,605
Light Rail or Streetcar	Station	33,605
Light Rail or Streetcar	Station	33,605

## TRANSIT VEHICLE OPERATIONS & MAINTENANCE

[Return to Calculator](#)[illegible]

## DISPLACED EMISSIONS

[Return to Calculator](#)

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## FTA's TRANSIT GREENHOUSE GAS EMISSIONS ESTIMATOR

The tables below summarize the construction, facility operations, vehicle operations and maintenance, and displaced emissions inputs for the project. Users can navigate to the different data input screens using the associated buttons. Once the inputs are added, scroll to the Results section below to view results.

1. Select State

WA

2. Enter Analysis Period (years)

50

Calculate Results

### Construction Information

Structured Parking Spots

0

Surface Parking Lot Spots

0

Trees Removed

0

Transit Mode:	Miles of New Track/Alignment			Miles of Converted or Upgraded Track/Alignment	Number of Stations		
	Underground	Elevated	At-Grade		Underground	Elevated	At-Grade
Light Rail or Streetcar	2.00	6.80	1.62		2	1	1

### Facility Operations Information

Transit Mode	Building Type	Facility Square Footage
Light Rail or Streetcar	Station	79,044.00
Light Rail or Streetcar	Station	33,605.00
Light Rail or Streetcar	Station	49,000.00
Light Rail or Streetcar	Station	213,900.00

### Vehicle Operations & Maintenance Information

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Light Rail or Streetcar	Electric	100% renewable energy	1,569,500

### Displaced VMT

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Sedan/Auto	Gas		5,621,000
Bus/BRT	Hybrid Diesel		438,000

## RESULTS

Calculate Results

### Summary Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Annual	9,310	375	9,685
Total Analysis Period	465,512	18,730	484,242

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Annual	72,783	4,537	77,320
Total Analysis Period	3,639,169	226,854	3,866,023

### Detailed Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	9,870	321	10,191
Transitway Maintenance	0	46	46
Facility Operations	0	2,430	2,430
Vehicle Operations	0	0	0
Vehicle Maintenance	0	19	19
Displaced Emissions	559	2,441	3,001
Cumulative Emissions	9,310	375	9,685

Annual Results

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	78,139	3,501	81,640
Transitway Maintenance	0	469	469
Facility Operations	0	21,527	21,527
Vehicle Operations	0	3,889	3,889
Vehicle Maintenance	0	0	0
Displaced Emissions	5,356	24,849	30,205
Cumulative Emissions	72,783	4,537	77,320

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	493,478	16,066	509,544
Transitway Maintenance	0	2,303	2,303
Facility Operations	0	121,490	121,490
Vehicle Operations	0	0	0
Vehicle Maintenance	0	942	942
Displaced Emissions	27,966	122,071	150,037
Cumulative Emissions	465,512	18,730	484,242

Total Analysis Period

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	3,906,947	175,043	4,081,991
Transitway Maintenance	0	23,445	23,445
Facility Operations	0	1,076,361	1,076,361
Vehicle Operations	0	194,461	194,461
Vehicle Maintenance	0	0	0
Displaced Emissions	267,779	1,242,456	1,510,235
Cumulative Emissions	3,639,169	226,854	3,866,023

CONSTRUCTION	
--------------	--

[Return to Calculator](#)

1. Enter # of Structured Parking Spots to be Built:	2. Enter # of Surface Parking Lot Spots to be Built:	3. Enter the # of Trees to be Removed:*	*If there will be a net gain in trees, enter the number as a negative (e.g., -5)
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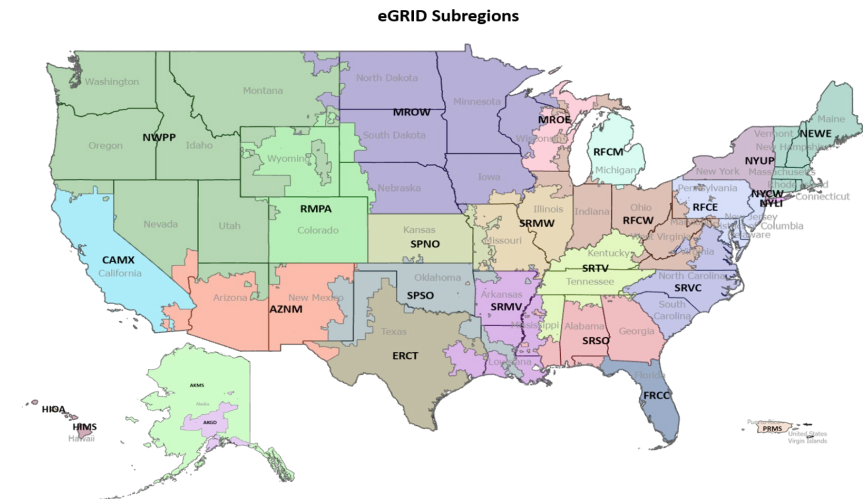
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## FACILITY OPERATIONS

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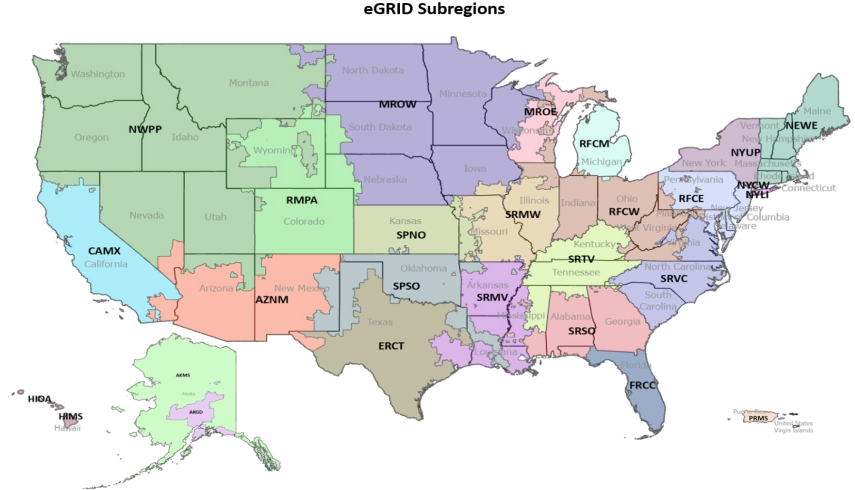
1. Select Transit Mode:	2. Select Facility Type	3. Enter Size (Square Footage) of Facility
Light Rail or Streetcar	Station	79,044
Light Rail or Streetcar	Station	33,605
Light Rail or Streetcar	Station	49,000
Light Rail or Streetcar	Station	213,900

## TRANSIT VEHICLE OPERATIONS & MAINTENANCE

[Return to Calculator](#)[illegible]

## DISPLACED EMISSIONS

[Return to Calculator](#)

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## FTA's TRANSIT GREENHOUSE GAS EMISSIONS ESTIMATOR

The tables below summarize the construction, facility operations, vehicle operations and maintenance, and displaced emissions inputs for the project. Users can navigate to the different data input screens using the associated buttons. Once the inputs are added, scroll to the Results section below to view results.

1. Select State

WA

2. Enter Analysis Period (years)

50

Calculate Results

### Construction Information

Structured Parking Spots

0

Surface Parking Lot Spots

0

Trees Removed

0

Transit Mode:	Miles of New Track/Alignment				Miles of Converted or Upgraded Track/Alignment	Number of Stations		
	Underground	Elevated	At-Grade	Catenary		Underground	Elevated	At-Grade
Light Rail or Streetcar	1.58	5.71	1.92			1	1	2

### Facility Operations Information

Transit Mode	Building Type	Facility Square Footage
Light Rail or Streetcar	Station	79,044.00
Light Rail or Streetcar	Station	33,605.00
Light Rail or Streetcar	Station	49,000.00
Light Rail or Streetcar	Station	213,900.00

### Vehicle Operations & Maintenance Information

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Light Rail or Streetcar	Electric	100% renewable energy	1,569,500

### Displaced VMT

Operation Mode	Fuel Source	eGrid Subregion (if applicable)	VMT
Sedan/Auto	Gas		5,621,000
Bus/BRT	Hybrid Diesel		438,000

## RESULTS

Calculate Results

### Summary Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Annual	6,791	302	7,092
Total Analysis Period	339,526	15,085	354,611

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Annual	55,608	3,747	59,354
Total Analysis Period	2,780,384	187,339	2,967,723

### Detailed Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	7,350	254	7,604
Transitway Maintenance	0	41	41
Facility Operations	0	2,430	2,430
Vehicle Operations	0	0	0
Vehicle Maintenance	0	19	19
Displaced Emissions	559	2,441	3,001
Cumulative Emissions	6,791	302	7,092

Annual Results

#### GHG Emissions (MTCO2eq)

	Upstream	Downstream	Total
Construction	367,492	12,689	380,181
Transitway Maintenance	0	2,035	2,035
Facility Operations	0	121,490	121,490
Vehicle Operations	0	0	0
Vehicle Maintenance	0	942	942
Displaced Emissions	27,966	122,071	150,037
Cumulative Emissions	339,526	15,085	354,611

Total Analysis Period

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	60,963	2,765	63,728
Transitway Maintenance	0	414	414
Facility Operations	0	21,527	21,527
Vehicle Operations	0	3,889	3,889
Vehicle Maintenance	0	0	0
Displaced Emissions	5,356	24,849	30,205
Cumulative Emissions	55,608	3,747	59,354

#### Energy Use (mmBTU)

	Upstream	Downstream	Total
Construction	3,048,163	138,251	3,186,414
Transitway Maintenance	0	20,723	20,723
Facility Operations	0	1,076,361	1,076,361
Vehicle Operations	0	194,461	194,461
Vehicle Maintenance	0	0	0
Displaced Emissions	267,779	1,242,456	1,510,235
Cumulative Emissions	2,780,384	187,339	2,967,723

## CONSTRUCTION

[Return to Calculator](#)

1. Enter # of Structured Parking Spots to be Built:	2. Enter # of Surface Parking Lot Spots to be Built:	3. Enter the # of Trees to be Removed:*	*If there will be a net gain in trees, enter the number as a negative (e.g., -5)
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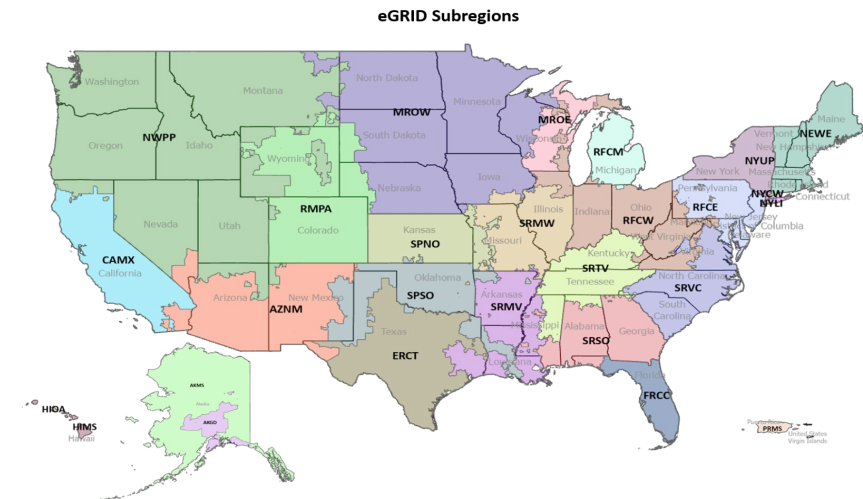
## FACILITY OPERATIONS

[Return to Calculator](#)

1. Select Transit Mode:	2. Select Facility Type	3. Enter Size (Square Footage) of Facility
Light Rail or Streetcar	Station	79,044
Light Rail or Streetcar	Station	33,605
Light Rail or Streetcar	Station	49,000
Light Rail or Streetcar	Station	213,900

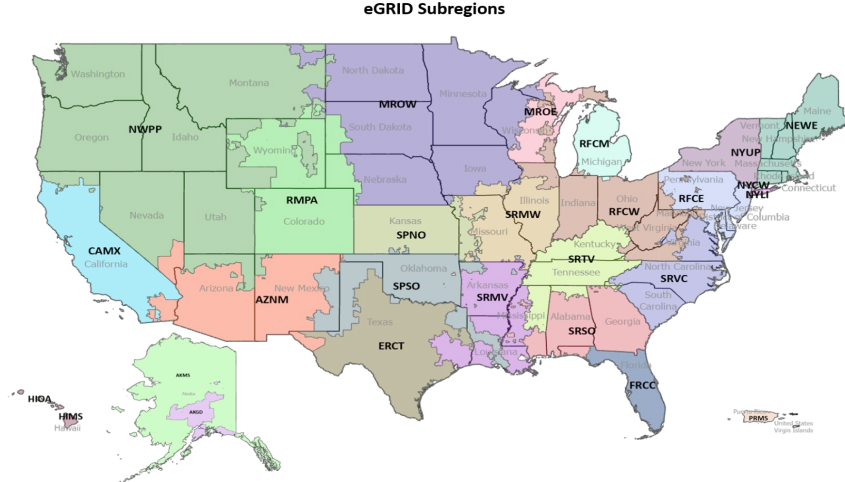


## TRANSIT VEHICLE OPERATIONS & MAINTENANCE

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## DISPLACED EMISSIONS

[Return to Calculator](#)

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## **Appendix L4.8 Water Resources**

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## Acronyms and Abbreviations

Ecology	Washington State Department of Ecology
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
WAC	Washington Administrative Code

# Appendix L4.8 Water Resources

## L4.8.1 Regulatory Requirements

The following laws, statutes, local ordinances, and guidelines address hydrology, water quality, and flooding issues relevant to the project. Under the Washington Administrative Code (WAC) 173-201A, each of the waterbodies in the study area has designated water uses. These are shown in Table L4.8-1. These uses define the Washington State Department of Ecology (Ecology) water quality standards that must be met for each waterbody and that are enforced by Ecology.

### L4.8.1.1 Federal

- Clean Water Act, 33 United States Code 1251 *et seq.*, including Sections 401 – Water Quality Certification, 402 – National Pollutant Discharge Elimination System, and 404 – Permits for Dredge or Fill
- Coastal Zone Management Act, 16 United States Code 1451 *et seq*
- Floodplain Management Presidential Executive Order 11988
- Federal Flood Risk Management Standard Presidential Executive Order 13690
- Climate-Related Financial Risk Executive Order 14030
- Safe Drinking Water Act, 42 United States Code 300 *et seq.*, Chapter 6A

### L4.8.1.2 State

- Water Quality Standards for Surface Waters, WAC 173-201A
- Water Quality Standards for Groundwater, WAC 173-200
- Flood Control Management Act, Revised Code of Washington 89
- Water Pollution Control Act, Revised Code of Washington 90.48
- Shoreline Management Act, Revised Code of Washington 90.58, WAC 173-26
- National Pollutant Discharge Elimination System Construction Stormwater General Permit (Ecology 2020)
- *Stormwater Management Manual for Western Washington* (Ecology 2019) and *Errata for the 2019 SWMMWW* (Ecology 2022)
- Washington State Department of Transportation *Hydraulics Manual* (2023)
- Washington State Department of Transportation *Highway Runoff Manual* (2019)
- Washington State Hydraulic Code (WAC 220-660)

**Table L4.8-1. Designated Water Uses for Waterbodies in the Study Area**

Waterbody Name	Total Basin Area (square miles)	Receiving Water	Segment(s)	Water Resource Inventory Area Basin Designation	Designated Use – Aquatic Life	Designated Use – Recreation Uses <sup>a</sup>	Designated Use – Water Supply Uses <sup>b</sup>	Designated Use – Miscellaneous Uses <sup>c</sup>
Longfellow Creek	4.2	Duwamish Waterway	Delridge Segment	9 – Duwamish-Green	Rearing/migration only	Primary contact	All, except domestic water	All
Duwamish Waterway	21.6	Elliott Bay	Duwamish Segment	9 – Duwamish-Green	Rearing/migration only	Primary contact	All, except domestic water	All
Elliott Bay	8.1	Puget Sound	SODO and Duwamish segments	8-Cedar-Sammamish and 9 – Duwamish-Green	Rearing/migration only	Secondary contact	All, except domestic water	All

<sup>a</sup> Examples of recreation uses include swimming, wading, boating, and surfing.

<sup>b</sup> Examples of water supply uses include domestic water, industrial water, agricultural water, and stock water.

<sup>c</sup> Examples of miscellaneous uses include wildlife habitat, harvesting, commerce/navigation, boating, and aesthetics.



### L4.8.1.3 Regional

- Sound Transit *Link Design Criteria Manual*, Rev. 5 (Sound Transit 2021)
- Low Impact Development Technical Guidance Manual for Puget Sound (Puget Sound Partnership 2012)
- Sound Transit Environmental Policy (2004)
- Sound Transit Sustainability Initiative (Resolution No. R2007-12)
- Sound Transit Sustainability Plan – 2019 Update (2019)
- King County Surface Water Design Manual (2021)

### L4.8.1.4 Local

- City of Seattle Municipal Code Title 22, Subtitle VIII, Stormwater Code
- City of Seattle Department and Planning and Development, Seattle Public Utilities Stormwater Manual Volumes 1 through 5, Appendices A to I. Director's Rule DWW-200 (City of Seattle 2021)
- City of Seattle Department of Construction and Inspections, Seattle Municipal Code Section 25.06 – Floodplain Development Code
- City of Seattle, Seattle Municipal Code Section 21.16 – Side Sewers
- City of Seattle, Seattle Municipal Code Section 23.60A – Seattle Shoreline Master Program Regulations, including applicable standards in 23.60A.152 – General Development, and 23.60A.158 – Standards for Mitigation Sequencing
- City of Seattle, Seattle Municipal Code Section 25.09 – Floodplain/Floodways
- City of Seattle Department of Construction and Inspections, Director's Rules 4-2011, Requirements for Design and Construction of Side Sewers (Drainage and Wastewater Discharges)
- City of Seattle Department of Construction and Inspections, Director's Rules 13-2010/ Seattle Public Utilities 5-2010: Groundwater/Dewatering
- Client Assistance Memo 1180: Design Guidelines for Public Storm Drain Facilities (City of Seattle 2020)
- Port of Seattle Stormwater Management Program Plan for Maritime Phase I Properties (Port of Seattle 2023)

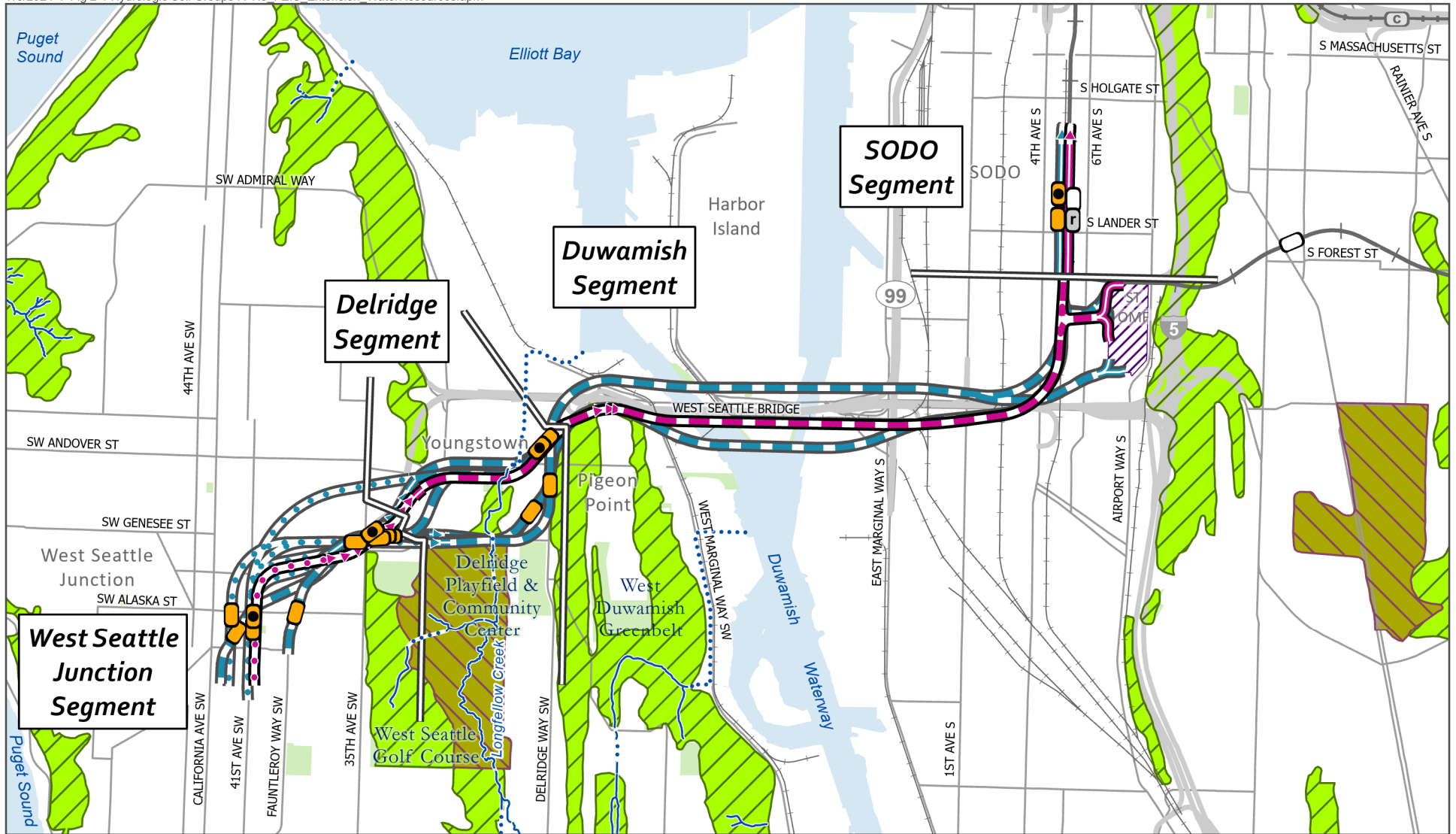
## L4.8.2 Hydrologic Soil Groups

The soils in King County have been classified into lettered groups. Each soil group has similar soil properties. Hydrologic soil group is one of the classified soil properties. Hydrologic soil group is a relative measure of the soil's infiltration rate. There are four hydrologic soil groups (A to D), defined as follows:

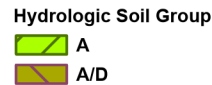
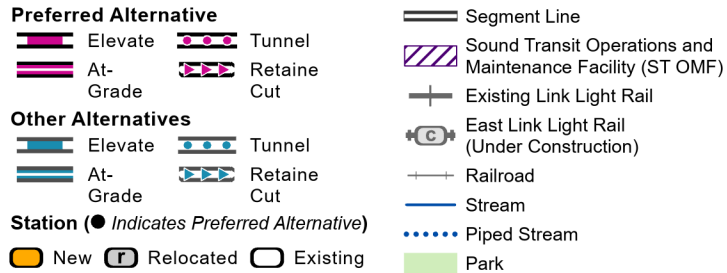
- **Group A soils** have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

- **Group B soils** have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
- **Group C soils** have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
- **Group D soils** have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Some areas are classified with soils from two groups, such as A/D. These are areas that could have characteristics of both groups, such as different soil layers (for example, a shallow porous layer over a till layer). Figure L4.8-1 shows the hydrologic soils groups in the study area. Most of the study area is heavily urbanized with imported fill, so the hydrologic soil groups are not available.

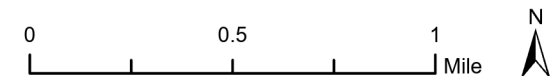


Source: NRCS, City of Seattle, King County (2023).



**FIGURE L4.8-1  
Hydrologic Soil Groups**

*West Seattle Link Extension*



In addition to added impervious surfaces, there will be some older existing impervious surfaces on the streets and at stations that would be replaced. Runoff from replaced surfaces would also receive water quality treatment and flow control prior to discharging to surface waters. The replaced surfaces have not been quantified in these estimates, but they would be identified in future design phases, based on pavement condition data to be collected.

Portions of the project consist of elevated guideways that would intercept rainfall before it reaches the underlying ground surface. For this analysis, it was assumed that the guideway runoff would be collected at discrete discharge locations and then conveyed by pipe down the guideway columns. For this reason, if the guideway would be over existing pervious area, the guideway would represent new impervious area. In areas where guideway would be over existing impervious area, no change in impervious area would result.

In areas where guideway would be over existing pollution-generating impervious surfaces, such as crossing a road or parking lot, no net change in pollution-generating impervious surfaces is assumed. Even though the overlying guideway (non-pollution-generating impervious surfaces) would intercept precipitation, the runoff from surrounding, at-grade pollution-generating impervious surfaces would pick up and transport pollutants from the underlying (“sheltered”) pollution-generating impervious surfaces and carry them to the local drainage system. Discharges would continue to their current locations (typically into the same municipal stormwater systems). Thus, from a practical standpoint, there would be no net reduction in existing pollution-generating impervious surfaces. In the case of a guideway situated over existing non-pollution-generating impervious surfaces, there would be no change in non-pollution-generating impervious surfaces.

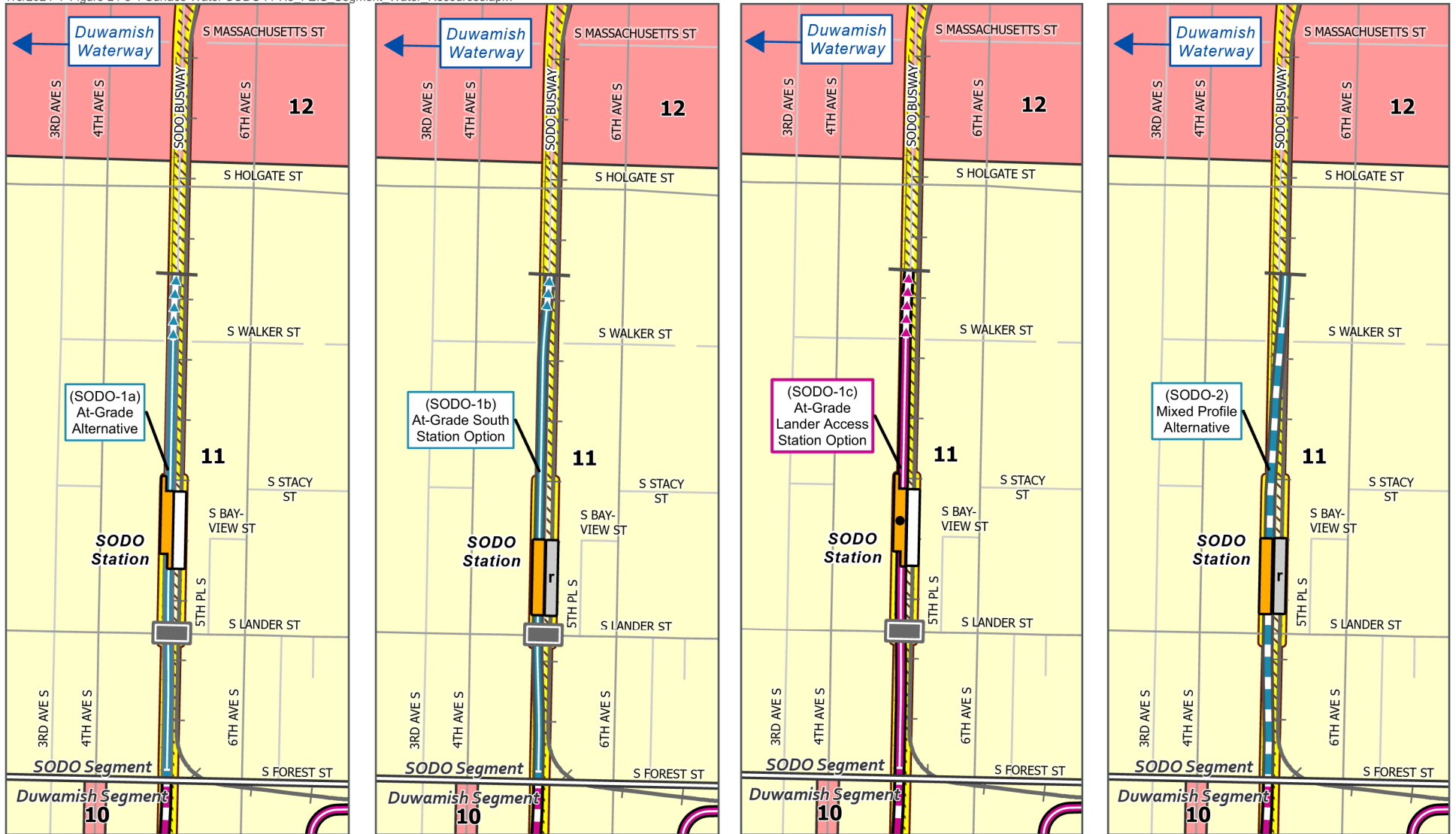
#### **L4.8.2.1 SODO Segment**

Because the SODO Segment is in an industrialized and urbanized area, existing land cover is primarily impervious. Runoff from added impervious areas for all alternatives in this segment would drain west to the Duwamish Waterway (also known as Duwamish River) (Figure L4.8-2, outfall number 30). As shown in Table L4.8-2, Option SODO-1b would have the highest total added impervious areas because this alternative would remove the largest area of existing planter strip between the guideways in the SODO Busway. Required flow-control and water quality facilities in this segment would reduce flows to the storm drain system, while controlling flows and pollutants to the Duwamish Waterway.

Preferred Option SODO-1c, Alternative SODO-1a, and Option SODO-1b include the South Lander Street overpass. However, the South Lander Street overpass structure adds very little new impervious area because it is constructed over an existing impervious roadway. In addition, because a new bridge over South Lander Street would eliminate the need for vehicles to stop for train traffic, fewer pollutants from those vehicles are expected to concentrate at that location, which would improve the quality of water draining to the Duwamish Waterway from this area.

#### **L4.8.2.2 Duwamish Segment**

Stormwater in the Duwamish Segment would flow primarily directly through storm drains to the Duwamish Waterway (Figure L4.8-3). As shown in Table L4.8-2, Option DUW-1b would add the most impervious areas and associated runoff from converting undeveloped areas in the West Duwamish Greenbelt to impervious surfaces. Preferred Alternative DUW-1a would have a smaller but similar increase. Alternative DUW-2 would be constructed over more existing paved areas west of Harbor Island and would avoid the West Duwamish Greenbelt; therefore, it would have substantially less increase in impervious area. Required flow-control and water quality facilities in this segment would reduce flows to the storm drain system, while controlling flows and pollutants to the Duwamish Waterway.



Source: City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Retained Cut

**Station** (● Indicates Preferred Alternative)

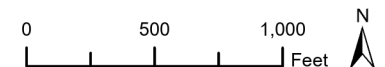
- New
- Existing
- Relocated

- Segment Line
- Existing Link Light Rail
- Railroad
- SODO Busway
- Proposed Overpass
- Combined Sewer Basin
- Separated Storm Drainage Basin

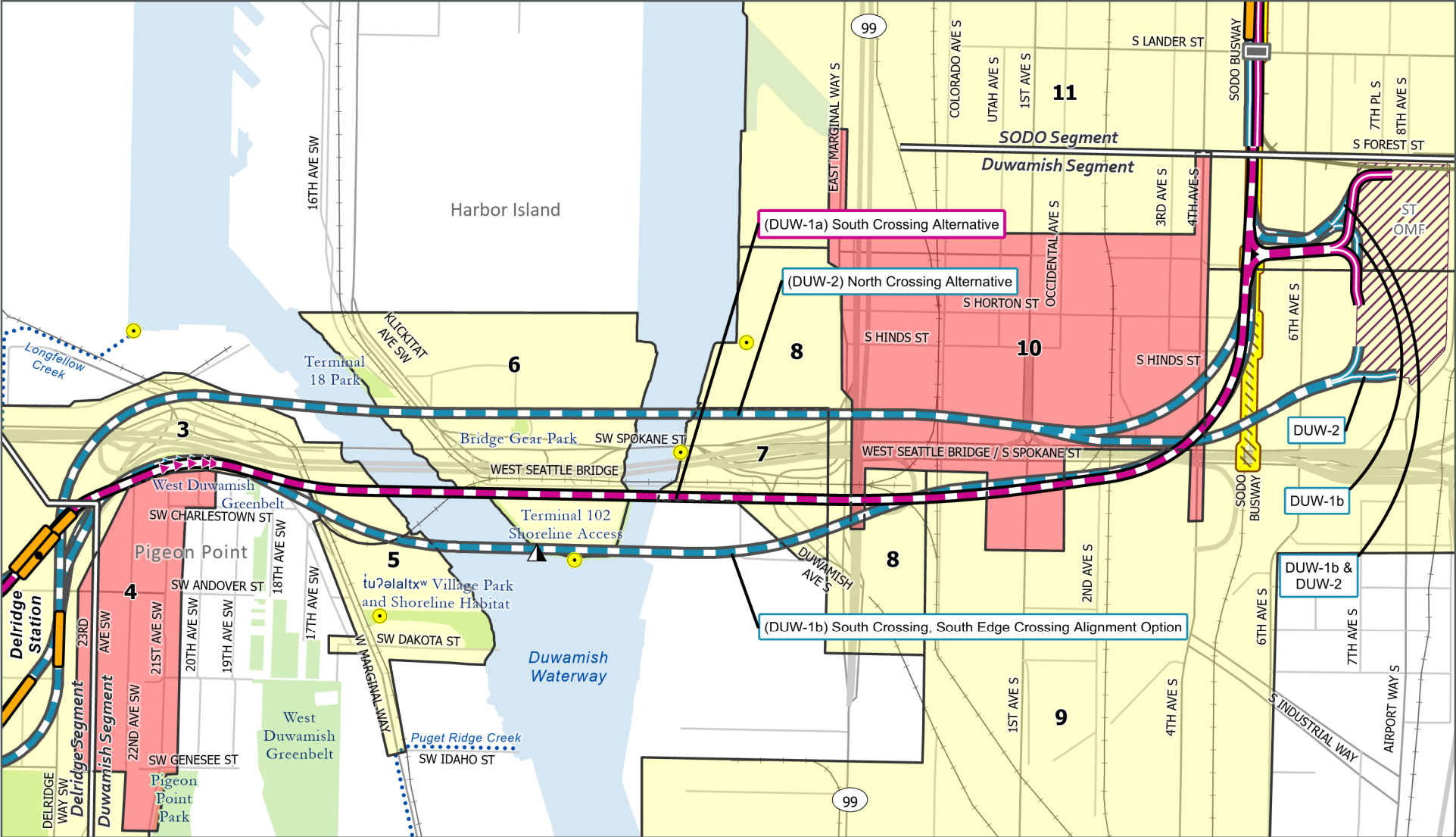
Basin No.	Discharge Location
10	West Point Treatment Plant
11	Outfall #30
12	West Point Treatment Plant

**FIGURE L4.8-2  
Drainage Basins  
SODO Segment**

*West Seattle Link Extension*







Source: City of Seattle, King County (2023).

- Preferred Alternative**

  - Elevated
  - At-Grade

**Other Alternatives**

  - Elevated
  - At-Grade

**Station** (● Indicates Preferred Alternative)

  - New
- Segment Line

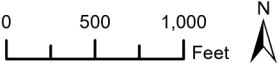
  - Existing Link Light Rail
  - Railroad
  - SODO Busway
  - Proposed Overpass
  - Sound Transit Operations and Maintenance Facility (ST OMF)
  - Piped Stream
  - Park
- Storm Drain Outfall to be Relocated

  - Combined Sewer Basin
  - Separated Storm Drainage Basin
  - Outfalls

Basin No.	Discharge Location
3	Outfall #99
4	West Point Treatment Plant
5	Terminal 105 Outfall
6	Port of Seattle Outfall 10
7	Outfall #34
8	Outfall #107
9	Outfall #111
10	West Point Treatment Plant
11	Outfall #30

FIGURE L4.8-3  
Drainage Basins and  
Outfalls  
Duwamish Segment

West Seattle Link Extension



**Table L4.8-2. Summary of Added Impervious Areas for the Build Alternatives**

Segment	Alternatives and Design Options	New Non-Pollution-Generating Impervious Surfaces in Non-Combined Sewer Drainage Areas <sup>a</sup> (square feet)	New Pollution-Generating Impervious Surfaces in Non-Combined Sewer Drainage Areas <sup>a</sup> (square feet)	New Impervious Surface in Combined Sewer Basins (square feet)	Total New Impervious Surface (square feet)
<b>SODO</b>	<b>Preferred At-Grade Lander Access Station Option (SODO-1c)</b>	<b>4,700</b>	<b>700</b>	<b>0</b>	<b>5,400</b>
SODO	At-Grade Alternative (SODO-1a)	0	0	5,400	5,400
SODO	At-Grade South Station Option (SODO-1b)	4,400	2,700	0	7,100
SODO	Mixed Profile Alternative (SODO-2)	2,100	1,600	0	3,700
<b>Duwamish</b>	<b>Preferred South Crossing Alternative (DUW-1a)</b>	<b>41,800</b>	<b>0</b>	<b>5,900</b>	<b>47,700</b>
Duwamish	South Crossing South Edge Crossing Alignment Option (DUW-1b)	30,300	27,600	2,200	60,100
Duwamish	North Crossing Alternative (DUW-2)	3,400	0	1,400	4,800
<b>Delridge</b>	<b>Preferred Andover Street Station Lower Height South Alignment Option (DEL-6b)</b>	<b>29,400</b>	<b>9,000</b>	<b>18,300</b>	<b>56,700</b>
Delridge	Dakota Street Station Alternative (DEL-1a)	50,800	2,600	0	53,400
Delridge	Dakota Street Station North Alignment Option (DEL-1b)	35,500	2,000	7,100	44,600
Delridge	Dakota Street Station Lower Height Alternative (DEL-2a)	44,100	100	7,100	51,300
Delridge	Dakota Street Station Lower Height North Alignment Option (DEL-2b)	21,800	100	0	21,900
Delridge	Delridge Way Station Alternative (DEL-3)	41,400	6,900	0	48,300
Delridge	Delridge Way Station Lower Height Alternative (DEL-4)	31,000	700	0	31,700

Segment	Alternatives and Design Options	New Non-Pollution-Generating Impervious Surfaces in Non-Combined Sewer Drainage Areas <sup>a</sup> (square feet)	New Pollution-Generating Impervious Surfaces in Non-Combined Sewer Drainage Areas <sup>a</sup> (square feet)	New Impervious Surface in Combined Sewer Basins (square feet)	Total New Impervious Surface (square feet)
Delridge	Andover Street Station Alternative (DEL-5)	23,400	1,400	2,500	27,300
Delridge	Andover Street Station Lower Height Alternative (DEL-6a)	19,600	2,000	7,800	29,400
Delridge	Andover Street Station Lower Height No Avalon Station Tunnel Connection Alternative (DEL-7)	30,900	8,800	8,700	48,400
<b>West Seattle Junction</b>	<b>Preferred Medium Tunnel 41st Avenue Station West Entrance Station Option (WSJ-5b)</b>	<b>0</b>	<b>0</b>	<b>98,300</b>	<b>98,300</b>
West Seattle Junction	Elevated 41st/42nd Avenue Station Alternative (WSJ-1)	4,000	0	31,900	35,900
West Seattle Junction	Elevated Fauntleroy Way Station Alternative (WSJ-2)	0	0	30,700	30,700
West Seattle Junction	Tunnel 41st Avenue Station Alternative (WSJ-3a)	0	13,000	51,000	64,000
West Seattle Junction	Tunnel 42nd Avenue Station Option (WSJ-3b)	2,800	7,600	20,300	30,700
West Seattle Junction	Short Tunnel 41st Avenue Station Alternative (WSJ-4)	0	13,000	68,700	81,700
West Seattle Junction	Medium Tunnel 41st Avenue Station Alternative (WSJ-5a)	0	0	98,300	98,300
West Seattle Junction	No Avalon Station Tunnel Alternative (WSJ-6)	2,200	6,800	54,600	63,600

<sup>a</sup> Includes direct discharge areas and drainage areas to receiving waters in partially separated drainage systems.



### **L4.8.2.3 Delridge Segment**

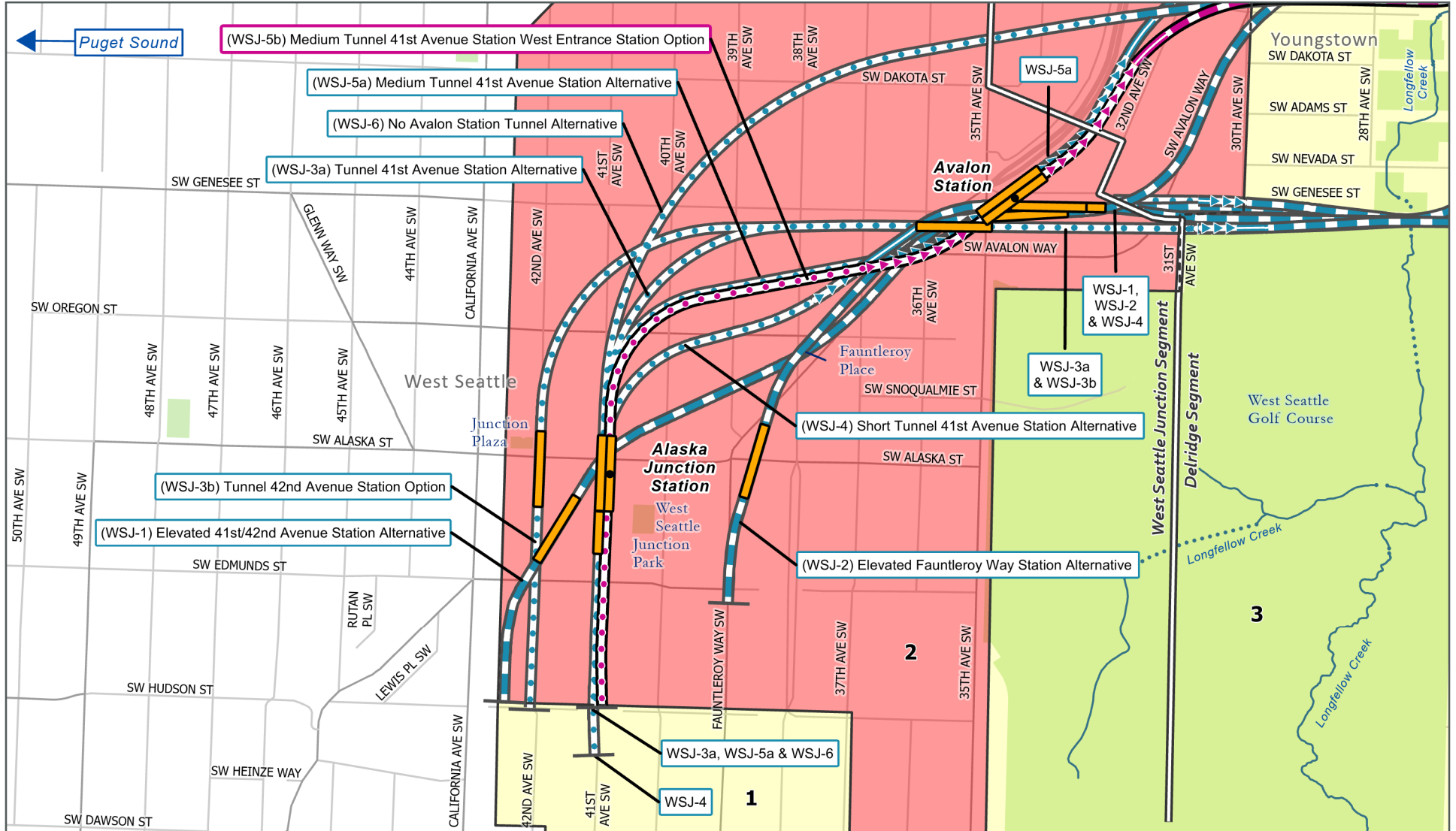
As shown in Table L4.8-2, Preferred Option DEL-6b would have the greatest increase in impervious surface; it passes over vegetated areas along the north side of Southwest Yancy Street and along the west side of 32nd Avenue Southwest (Figure L4.8-4). Option DEL-2b would add the least impervious area because it would travel through areas with more existing impervious surface. Preferred Option DEL-6b, Alternative DEL-3, and Alternative DEL-7 would have the most added pollution-generating impervious surfaces in the basins that drain to the Duwamish Waterway, with between 6,900 and 9,000 square feet. All other alternatives would have 2,600 square feet or less of added pollution-generating impervious surface that drains to the Duwamish Waterway.

Required flow-control for all discharge and water quality facilities for areas discharging to the Duwamish Waterway would reduce flows to the combined sewer system and control flows and pollutants to the Duwamish Waterway.

### **L4.8.2.4 West Seattle Junction Segment**

As shown in Table L4.8-2, most of the new impervious surface in this segment would be in a combined sewer system basin (Figure L4.8-5, basin number 2), so runoff from new impervious surfaces would be conveyed to and treated at the West Point Treatment Plant (Figure L4.8-5). Preferred Option WSJ-5b and Alternative WSJ-5a would add the most total impervious area due to cut-and-cover stations and associated roadway improvements in residential areas with areas of pervious areas. Alternative WSJ-3a and Alternative WSJ-4 would add the most pollution-generating impervious area to non-combined sewer basins because they would remove more vegetated areas during cut-and-cover construction of the tunnel than the other alternatives. Alternative WSJ-1 and Alternative WSJ-2 would have the least added pollution-generating impervious surface impacts because they would disturb fewer existing street surfaces and would be mostly in areas already covered with pollution-generating impervious surfaces. Required flow-control for all discharge would reduce flows to the combined sewer system.





Source: City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station** (● Indicates Preferred Alternative)

New

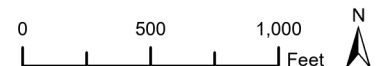
- Segment Line
- Stream
- Piped Stream
- Park

- Combined Sewer Basin
- Separated Storm Drainage Basin
- Outfalls

Basin No.	Discharge Location
1	Outfall #69
2	West Point Treatment Plant
3	Outfall #99

**FIGURE L4.8-5  
Drainage Basins  
West Seattle  
Junction Segment**

*West Seattle Link Extension*



### L4.8.3 Potential Floodplain Impacts

#### L4.8.3.1 Longfellow Creek Floodplain

Table L4.8-3 provides information on the potential number of guideway columns within the Longfellow Creek 100-year floodplain, as well as the estimated area of impact.

**Table L4.8-3. Potential Number and Area of Columns within Longfellow Creek 100-year Floodplain**

Alternatives and Design Options	Potential Number of Columns	Potential Area of Impact (square feet)
<b>Preferred Andover Street Station Lower Height South Alignment Option (DEL-6b)</b>	<b>4</b>	<b>300</b>
Dakota Street Station Alternative (DEL-1a)	1	150
Dakota Street Station North Alignment Option (DEL-1b)	4	900
Dakota Street Station Lower Height Alternative (DEL-2a)	3	100
Dakota Street Station Lower Height North Alignment Option (DEL-2b)	4	100
Delridge Way Station Alternative (DEL-3)	1	200
Delridge Way Station Lower Height Alternative (DEL-4)	1	50
Andover Street Station Alternative (DEL-5)	0	Not applicable
Andover Street Station Lower Height Alternative (DEL-6a)	0	Not applicable
Andover Street Station Lower Height No Avalon Station Tunnel Connection Alternative (DEL-7)	4	300

A hydraulic analysis of the Longfellow Creek crossing for Preferred Option DEL-6b was completed using the conceptual design shown in Appendix J, Conceptual Design Drawings, of the Final EIS.

The analysis demonstrates the project's consistency with local, state, and federal requirements. Guidance for project requirements comes from Section 25.06 of the City of Seattle (City) Municipal Code, which states that new development must not generate an increase the base flood elevation. At the location of Preferred Option DEL-6b, Longfellow Creek is classified as a Federal Emergency Management Agency (FEMA) Zone A in the most recent FEMA Flood Insurance Study published on August 19, 2020 (FEMA 2020), and does not have a recorded base flood elevation or defined floodway at or near the proposed crossing in the Flood Insurance Study. The hydraulic analysis was based on a HEC-RAS model provided by the City in January 2023. The crossing was analyzed for changes in water surface elevation for the base flood as well as for the compensatory storage and scour. The analysis shows the project meets City requirements according to Section 22.170 of the City's Municipal Code.

The analysis identified a 0.01-foot rise in the base flood elevation, based on areas adjacent to the creek being regraded to existing conditions following construction. As design advances, Sound Transit would evaluate whether guideway columns could be shifted to avoid impacts to the floodplain (consistent with Executive Order 11988, Floodplain Management) or coordinate with the City regarding modifications to the floodplain to increase storage capacity. As plans for wetland mitigation adjacent to Longfellow Creek advance, this analysis will be updated to reflect modified grading plans and to determine if there would be a rise in the base flood elevation

would occur and confirm in additional storage capacity would be needed. If modifications to the floodplain occur, Sound Transit would submit a Conditional Letter of Map Revision to FEMA. Longfellow Creek has no defined floodway; therefore, no floodway analysis could be performed.

#### **L4.8.4 Executive Orders 13690 and 14030**

Executive Order 13690, Federal Flood Risk Management Standard, and Executive Order 14030, Climate-Related Financial Risk, were established to encourage climate resiliency of federally funded projects and provide guidelines for what to evaluation in project siting, design, and construction. The Federal Flood Risk Management Standard provides the following three approaches for evaluating the elevation that a project should be built at assuming future increases in floodplain elevations due to climate change (FEMA 2023):

- *Climate Informed Science Approach (CISA): The elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science;*
- *Freeboard Value Approach (FVA): The elevation and flood hazard area that result from adding an additional 2 feet to the base flood elevation for non-critical actions and by adding an additional 3 feet to the base flood elevation for critical actions; or*
- *500-year floodplain: The area subject to flooding by the 0.2%-annual-chance flood.*

The Duwamish Waterway and Longfellow Creek do not have a mapped 500-year floodplain. Using the Freeboard Value Approach, both crossings meet the requirements of these executive orders because they are approximately 140 feet and 70 feet, respectively, above the waterbodies and can accommodate a two to three foot rise of the floodplain without affecting the infrastructure.

#### **L4.8.5 Best Management Practices**

##### **L4.8.5.1 Long-Term Operations**

The proposed stormwater management for the project follows the Sound Transit *Link Design Criteria Manual* (Sound Transit 2021), which requires stormwater design for Sound Transit projects to conform to the requirements of the local jurisdictions. The project would comply with the state and local design. Based on the guidance provided in the *Link Design Criteria Manual*, low-impact development is a preferred stormwater management method and would be employed wherever possible. This method uses techniques that encourage natural processes of managing stormwater, such as infiltration, evaporation, and dispersion. Also, the 2019 Ecology *Stormwater Management Manual for Western Washington* and 2022 Ecology *Errata for the 2019 SWMMWW* requires low-impact development approaches to stormwater management to the extent feasible. However, in areas where use of low-impact development measures is not feasible because of physical site constraints, other techniques may be used. Stormwater flow-control techniques may include, but are not limited to, detention ponds, vaults, bioretention, and dispersion. Discharge of groundwater collected in tunnels to a storm sewer, sanitary sewer, or combined sewer would require approval from the utility provider.

##### **L4.8.5.2 Construction**

The risk of construction-related impacts to water resources would be controlled by complying with the National Pollutant Discharge Elimination System Construction Stormwater General Permit process and best management practices, as appropriate. If discharge of treated construction or



process water to a combined or sanitary sewer is proposed, approval must be obtained from the King County Industrial Waste Division and the City of Seattle. For construction within and over streams or other waterbodies, a Hydraulic Project Approval would be obtained from the Washington Department of Fish and Wildlife before work begins. A Section 404 permit would be needed for work within a Water of the United States, and a Section 10 permit would be needed for work in navigable waters. Both permits are issued by the United States Army Corps of Engineers Section 404 permit. A Section 401 Water Quality Certification would also be needed from Ecology.

Through compliance with these requirements, Sound Transit would develop and implement an approved Construction Stormwater Pollution Prevention Plan for the project. The Construction Stormwater Pollution Prevention Plan would describe overall procedural and structural pollution prevention and flow-control best management practices, including location, size, maintenance requirements, and monitoring. An Ecology-certified erosion and sediment control lead would conduct compliance inspections. In addition, the Construction Stormwater Pollution Prevention Plan would include each of the following plans:

- Temporary Erosion and Sediment Control Plan – This plan would outline the design and construction specifications for best management practices to be used to identify, reduce, eliminate, or prevent sediment and erosion problems
- Spill Prevention, Control, and Countermeasures Plan – This plan would outline requirements for and implementation of spill prevention, inspection protocols, equipment, material containment measures, and spill response procedures
- Concrete Containment and Disposal Plan – This plan would outline the management, containment, and disposal of concrete debris, slurry, and dust, and discuss best management practices that would be used to reduce high pH
- Dewatering Plan – This plan would outline procedures for pumping groundwater away from the construction area, and storing (as necessary), testing, treating (as necessary), and discharging or disposing of the dewatering water
- Fugitive Dust Plan – This plan would outline measures to prevent the generation of fugitive dust from exposed soil, construction traffic, and material stockpiles

Potential best management practices include, but are not limited to, the following:

- Minimizing the amount of cleared area at a construction site
- Stabilizing construction entrances and haul roads using quarry spall rock
- Washing truck tires at construction entrances, as necessary
- Constructing silt fences downslope from exposed soils
- Protecting catch basins from sediment
- Containing and controlling concrete and hazardous materials onsite
- Installing temporary ditches to route runoff around or through construction sites, with periodic straw bales or rock check dams to slow and settle runoff
- Providing temporary plastic or mulch to cover soil stockpiles and exposed soil
- Using straw wattles to reduce the length of unbroken slopes and minimize runoff concentration
- Using temporary erosion-control blankets or mulch on exposed steep slopes to minimize erosion before vegetation is established

- Constructing temporary sedimentation ponds to remove solids from concentrated runoff and dewatering before being discharged
- Conducting vehicle fueling and maintenance activities no closer than 100 feet from a waterbody or ditch
- Implementing stream-protection measures, as necessary, including diverting stream flow around the construction area and limiting the construction period to the required “in-water work window,” a period of the year identified in the Hydraulic Project Approval and United States Army Corps of Engineers Section 404 permit when impacts to fish would be reduced

## L4.8.6 References

City of Seattle. 2020. *Seattle Public Utilities Client Assistance Memo 1180*. September.

City of Seattle. 2021. [Seattle Public Utilities Stormwater Manual](https://www.seattle.gov/Documents/Departments/SDCI/Codes/ChangesToCodes/UpdatingStormwaterRegulations/2021SWFullManualFinalClean.pdf). Volumes 1 through 5, Appendices A to I. Director’s Rule DWW-200. July. <https://www.seattle.gov/Documents/Departments/SDCI/Codes/ChangesToCodes/UpdatingStormwaterRegulations/2021SWFullManualFinalClean.pdf>.

Federal Emergency Management Agency (FEMA). 2020. [“Flood Insurance Rate Map: King County Washington and Incorporated Areas, Panel 630 of 1725.”](https://map1.msc.fema.gov/firm?id=53033C0630G) August 19, 2020. <https://map1.msc.fema.gov/firm?id=53033C0630G>. Accessed April 10, 2023.

Federal Emergency Management Agency (FEMA). 2023. [Federal Flood Risk Management Standard](https://www.fema.gov/floodplain-management/intergovernmental/federal-flood-risk-management-standard). Updated September 29, 2023. <https://www.fema.gov/floodplain-management/intergovernmental/federal-flood-risk-management-standard>. Accessed October 9, 2023.

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Sound Transit. 2004. [Environmental Policy](https://www.soundtransit.org/sites/default/files/documents/pdf/about/environment/environmental-policy.pdf). <https://www.soundtransit.org/sites/default/files/documents/pdf/about/environment/environmental-policy.pdf>. Accessed June 5, 2023.

Sound Transit. 2019. [Sustainability Plan – 2019 Update](https://www.soundtransit.org/sites/default/files/documents/2019-sustainability-plan.pdf). <https://www.soundtransit.org/sites/default/files/documents/2019-sustainability-plan.pdf>. Accessed June 5, 2023.

Sound Transit. 2021. [Link Design Criteria Manual](https://www.soundtransit.org/sites/default/files/documents/design-criteria-manual-may-2021.pdf). Revision 5, Amendment 11. May. <https://www.soundtransit.org/sites/default/files/documents/design-criteria-manual-may-2021.pdf>.

Washington State Department of Ecology (Ecology). 2019. [Stormwater Management Manual for Western Washington](https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/DocsForDownload/2019SWMMWW.pdf). July. <https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/DocsForDownload/2019SWMMWW.pdf>.

Washington State Department of Ecology (Ecology). 2020. [National Pollutant Discharge Elimination System Construction Stormwater General Permit](https://apps.ecology.wa.gov/paris/DownloadDocument.aspx?Id=348923). November. <https://apps.ecology.wa.gov/paris/DownloadDocument.aspx?Id=348923>.

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Washington State Department of Transportation. 2019. [Highway Runoff Manual](https://www.wsdot.wa.gov/publications/manuals/fulltext/M31-16/highwayrunoff.pdf). April. <https://www.wsdot.wa.gov/publications/manuals/fulltext/M31-16/highwayrunoff.pdf>.

Washington State Department of Transportation. 2023. [Hydraulics Manual](https://www.wsdot.wa.gov/publications/manuals/fulltext/M23-03/HydraulicsManual.pdf). April. <https://www.wsdot.wa.gov/publications/manuals/fulltext/M23-03/HydraulicsManual.pdf>.



## **Appendix L4.11 Geology and Soils**

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Table L4.11-1. Summary of Geology Documents Reviewed

Author	Date	Title and Source Information
Altiney and Associates	1926	<i>Elliott Tire and Service.</i>
Associated Earth Sciences, Inc.	1988	<i>21-Unit Apartment/Commercial Building, Seattle, Washington.</i>
Blakely, R.J., Wells, R.E., Weaver, C.S., and Johnson, S. Y.	2002	<i>Location, Structure, and Seismicity of The Seattle Fault Zone, Washington: Evidence from Aeromagnetic Anomalies, Geologic Mapping, and Seismic-Reflection Data.</i>
Brown, R.	2011	<i>The Puget Lobe Glaciation.</i>
City of Seattle	2008	<a href="https://www.seattle.gov/Documents/Departments/SDCI/About/LandslideProneAreas.pdf">Landslide Prone Areas.</a> <a href="https://www.seattle.gov/Documents/Departments/SDCI/About/LandslideProneAreas.pdf">https://www.seattle.gov/Documents/Departments/SDCI/About/LandslideProneAreas.pdf</a> .
Dames & Moore	1967	<i>Report of Soils Investigation – Phase I Proposed Warehouse Site Sixth Avenue South and South Forest Street Seattle, Washington.</i>
Earth Consultants, Inc.	1983	<i>Geotechnical Engineering Study Proposed Industrial Building 3605 6th Avenue South, Seattle Washington.</i>
Geotech Consultants	1997	<i>Geotechnical Engineering Study Proposed Addition to Existing Duplexes 3656 and 3658 – 13th Avenue West Seattle, Washington.</i>
Golder Associates, Inc.	2001	<i>Final Draft Report on Central Link Light Rail Geotechnical Design Investigation Design Segment 700 Royal Brougham Way to Airport Way South.</i>
Golder Associates, Inc.	2018	<i>WSBLE Project Memo – Field Geological Reconnaissance: North Slope of Pigeon Point and Proposed Portal Locations at Southwest Genesee Street.</i>
Government Technology	2015	<a href="http://www.govtech.com/em/emergency-blogs/disaster-zone/seattlenaturalhazardsmap.html">Seattle Natural Hazards Map.</a> <a href="http://www.govtech.com/em/emergency-blogs/disaster-zone/seattlenaturalhazardsmap.html">http://www.govtech.com/em/emergency-blogs/disaster-zone/seattlenaturalhazardsmap.html</a>
Hart Crowser, Inc.	1986	<i>Subsurface Exploration and Geotechnical Engineering Study 5th Avenue South Viaduct and Retaining Wall Seattle, Washington.</i>
Hart Crowser, Inc.	1986	<i>Subsurface Explorations and Design Phase Geotechnical Engineering Study SR-90, Seattle Access General Purpose and Transit/HOV Lanes, Seattle, Washington. Volume II of III.</i>
HNTB and Golder Associates, Inc.	2020	<i>Geotechnical Data Report – Duwamish Crossing, Draft 3, October 2020.</i>
HNTB and Golder Associates, Inc.	2021	<i>Phase 2 Geotechnical Data Report – Pigeon Point, Draft 3, August 2021.</i>
HNTB and Golder Associates, Inc.	2021	<i>Phase 2 Geotechnical Data Report – Delridge and West Seattle Junction Segments, Draft 2, August 2021.</i>
HNTB and Golder Associates, Inc.	2021	<i>Geotechnical Recommendations Report; Advanced Conceptual Design - Duwamish Crossing, Draft 2, February 2021.</i>
Liu & Associates	2004	<i>Geotechnical Engineering Study Twin Duplex Buildings 3420 – 14th Avenue West Seattle, Washington.</i>
Morse, R.W.	1989	<i>Regrading Years in Seattle. In Engineering Geology in Washington, Vol. 2.</i>
Neil H. Twelker and Associates	1965	<i>John M. McFarland Apartments at 3401 14th Avenue West Seattle, Washington.</i>
Neil H. Twelker and Associates	1974	<i>Soils and Foundation Investigation for Proposed Plate Warehouse at South Hinds Street and 6th Avenue South, Seattle, Washington.</i>
Pacific Northwest Seismic Network	2019	<a href="https://pnsn.org/outreach/earthquakesources/csz">Cascadia Subduction Zone.</a> <a href="https://pnsn.org/outreach/earthquakesources/csz">https://pnsn.org/outreach/earthquakesources/csz.</a>

Author	Date	Title and Source Information
PanGeo, Inc.	2002	<i>Addendum #1 to Geotechnical Report Proposed Duplex 4110 – Delridge Way Southwest, Seattle, Washington.</i>
Pratt, T., Troost, K.G., Odum, J.K. and Stephenson, W.J.	2016	<i>Kinematics of Shallow Backthrusts in the Seattle Fault Zone, Washington State.</i>
Robinson, R.A.	2013	<i>Lesson's Learned from 130 Years of Tunneling in Seattle's Complex Soils. Proceedings of the Rapid Excavation and Tunneling Conference.</i>
Roger Lowe and Associates	1978	<i>Washington Fish and Oyster Company.</i>
Seattle Department of Construction & Inspections	2017	<a href="http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2">GIS Maps</a> . <a href="http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2">http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2</a> .
Seattle Engineering Department	1924	<i>23rd Avenue Southwest et al. Concrete Walks etc., Local Improvement District 3874.</i>
Seattle Engineering Department	1973	<i>Preliminary Foundation Investigation Longfellow Storm Separation.</i>
Seattle Engineering Department	1980	<i>West Seattle Bridge Design Team.</i>
Shannon & Wilson	1974	<i>West Seattle Freeway Pigeon Point Wall Number 1 Soil-Structure interaction Design Report.</i>
Shannon & Wilson	1977	<i>Proposed Triplex Complex Delridge Way Southwest Seattle, Washington.</i>
Shannon & Wilson	1981	<i>Geotechnical Engineering Studies West Seattle Freeway Bridge Replacement City of Seattle West Interchange East Interchange – Volume 1 Engineering Studies and Recommendations.</i>
Shannon & Wilson	1986	<i>Geotechnical Report Field &amp; Laboratory Test Results, Volume 1 of 2 – Field Explorations and Testing.</i>
Shannon & Wilson	1994	<i>Seismic Retrofit Study 15th Avenue West Interchange West Emerson Street Viaduct Seattle, Washington.</i>
Shannon & Wilson	1997	<i>Seattle Public Utilities Southwest Dakota Street Slide Seattle, Washington.</i>
Shannon & Wilson	1997	<i>Geotechnical Report West Central Maintenance Facility Landslide Seattle, Washington.</i>
Shannon & Wilson	2008	<i>Geotechnical Engineering Report South Spokane Street Viaduct Eastbound – Fourth Avenue Off-ramp Seattle, Washington.</i>
Troost, K.G., Booth, D.B., Wisher, A.P., and Shimel, S.A.	2005	<i>The Geologic Map of Seattle.</i> United States Geological Survey. Open-File Report 2005-1252.
Washington Department of Natural Resources	2019	<a href="https://www.dnr.wa.gov/programs-and-services/geology/explore-popular-geology/puget-sound-and-coastal-geology#puget-sound-geology">Puget Sound and Coastal Geology</a> . <a href="https://www.dnr.wa.gov/programs-and-services/geology/explore-popular-geology/puget-sound-and-coastal-geology#puget-sound-geology">https://www.dnr.wa.gov/programs-and-services/geology/explore-popular-geology/puget-sound-and-coastal-geology#puget-sound-geology</a> .
Wells, R.E., and Simpson, R.W.	2001	<i>Northward Migration of the Cascadia Forearc in the Northwestern U.S. and Implications for Subduction Deformation.</i>
Yount, J.C., Dembroff, G.R., and Barats, G.M.	1985	Map showing depth to bedrock in the Seattle 30-foot by 60-foot quadrangle, Washington. United States Geological Survey Miscellaneous Field Studies Map MF-1692, scale 1:100,000.

Table L4.11-2. Geologic Units

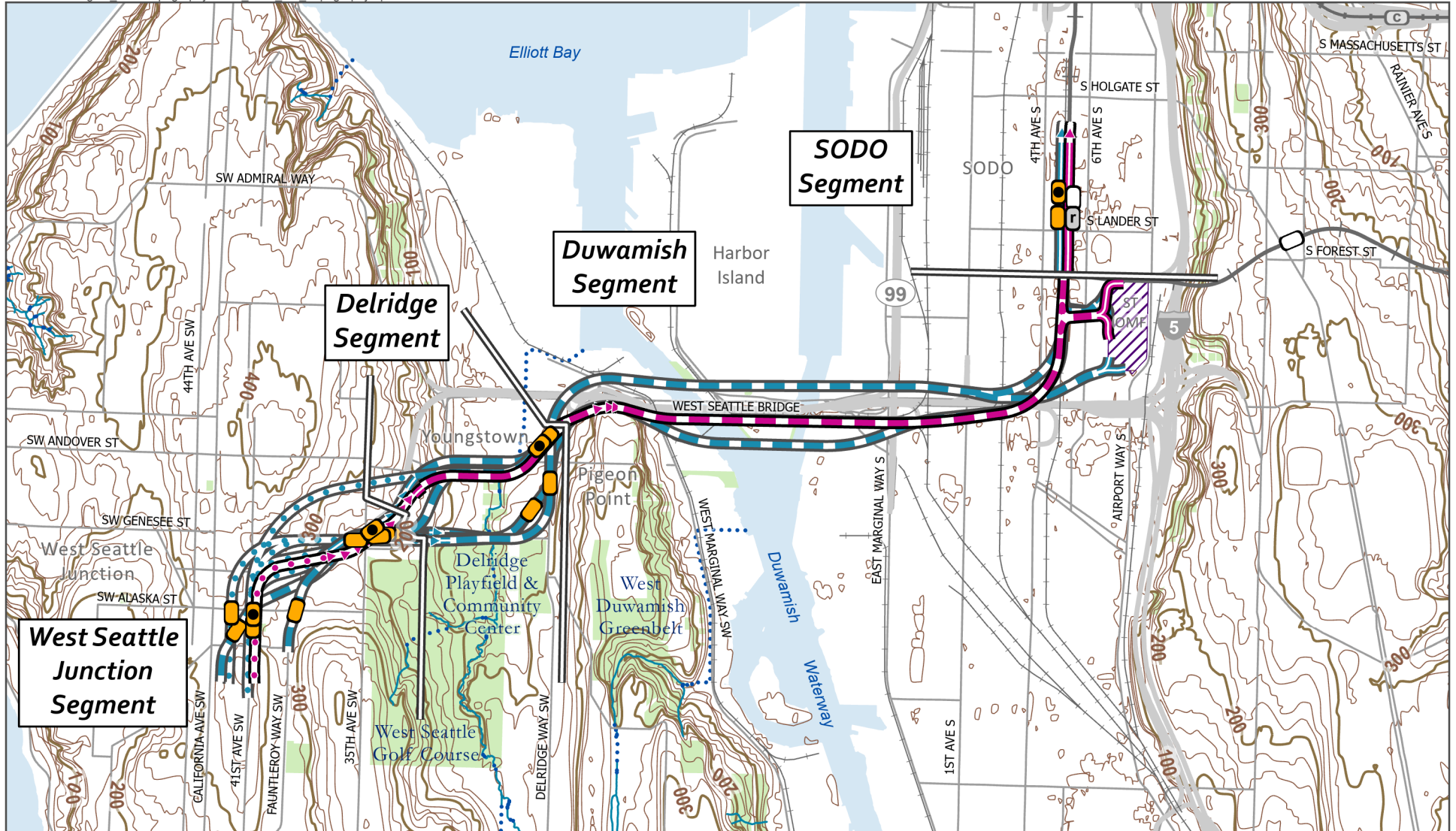
Geologic Unit (Map Symbol)	Description	Density and/or Hardness	Permeability Factors
Alluvium (Qal)	Sand, silt, gravel, and cobbles deposited by streams and running water. May include landslide debris and colluvium at margins. Locally contains very soft peat lenses.	Loose to dense or soft to stiff	Predominantly sandy and horizontally bedded, fine and coarser-grained lenses
Beach deposits (Qb)	Loose sand and gravel deposited or reworked by modern wave action. Along the Puget Sound shoreline, on the east side of Duwamish Head, west of Harbor Island, and along Lake Washington, where it is commonly overlain by fill.	Loose to dense	Uniformly to well graded
Uplifted beach deposits (Qbu)	Loose sand and gravel deposited by wave action and subsequently uplifted above modern tide level by tectonic movement.	Loose to dense	Uniformly to well graded
Lake Deposits (Ql)	Silt and clay with local sand layers, peat, and other organic sediments, deposited in slow-flowing water. Locally gradational with units Qvrl, Qal, and Qp.	Very soft to medium stiff or very loose to medium dense	Predominantly fine-grained and horizontally bedded
Olympia beds (Qob)	Sand, silt (locally organic-rich), gravel, and peat, discontinuously and thinly interbedded; may contain tephra and/or diatomaceous layers. Sand and gravel clast lithology varies depending on source area, from volcanic to reworked northern lithologies.	Very dense to hard	Localized iron-oxide cemented layers, interbedded and intermixed fine- and coarse-grained layers
Peat (Qp)	Predominantly organic matter consisting of plant material and woody debris, accumulated in bodies greater than about 1 meter in thickness and of mappable extent. Accumulations are greatest in the floors of recessional outwash channels and where lowering of Lake Washington has exposed extensive lake-floor deposits. Commonly interbedded with silt and clay.	Very soft to medium stiff or very loose to medium dense	Commonly saturated
Possession glaciolacustrine deposits (Qpdf)	Laminated silt and clay exposed along the west, north, and east faces of Beacon Hill; assigned to this unit based on a single infra-red stimulated luminescence date just southeast of the Interstate 5 and Interstate 90 junction. Correlative with Marine Isotope Stage 4, with an age range from 60 to 80 thousand years ago. Dated exposure displays strongly contorted and faulted beds, plausibly related to motion on the Seattle fault but also possibly a result of glaciotectonic shear or postglacial landsliding. Correlative diamict (unit Qpdt) is identifiable in subsurface borings and in outcrop to the south and is assigned to this unit based on spatial and stratigraphic proximity to dated exposure.	Hard	Localized iron-oxide cemented layers and sand partings; locally deformed and jointed
Deposits of pre-Fraser glaciation age (Qpf)	Interbedded sand, gravel, silt, and diamicts of indeterminate age and origin. Locally divided.	Very dense and hard	Localized iron-oxide cemented layers, interbedded and intermixed fine- and coarse-grained layers

Geologic Unit (Map Symbol)	Description	Density and/or Hardness	Permeability Factors
Nonglacial deposits (Qpfn)	Sand, gravel, silt, clay, and organic deposits of inferred nonglacial origin, based on the presence of peat, paleosols, and tephra layers.	Very dense and hard	Localized iron-oxide cemented layers, interbedded and intermixed fine- and coarse-grained layers
Deposits of pre-Olympia age (Qpo)	Interbedded sand, gravel, silt, and diamicts of indeterminate age and origin. Locally divided into Qpof, Qpoc.	Very dense and hard	Localized iron-oxide cemented layers, interbedded and intermixed fine- and coarse-grained layers
Coarse-grained deposits (Qpoc)	Sand and gravel, clean to silty, with some silt layers, lightly to moderately oxidized.	Very dense	Localized iron-oxide cemented layers and channels
Fine-grained deposits (Qpof)	Silt and clay, may have sandy interbeds, laminated to massive.	Hard	Localized iron-oxide cemented layers and sandy partings
Glacial deposits (Qpog)	Silt, sand, gravel and till of glacial origin. Weakly to strongly oxidized. Underlies Vashon-age deposits and thus must also be of pre-Olympia age. Sediment is of inferred glacial (northern) origin, based on presence of clasts or mineral grains requiring southward ice-sheet transport.	Very dense and hard	Localized iron-oxide cemented layers, interbedded and intermixed fine- and coarse-grained layers
Glacial diamict (Qpogd)	Till-like material, but finer grained and with fewer gravel clasts than most Puget Lowland tills.	Very dense and hard	Localized iron-oxide cemented layers, sandy partings, and lenses
Fine-grained glacial deposits (Qpogf)	Silt and clay, may have sandy interbeds, laminated to massive.	Hard	Localized iron-oxide cemented layers and sandy partings
Till deposits (Qpogt)	Till thick enough to show at map scale. Most extensive on west slopes of Queen Anne hill, and in the west wall of the Duwamish valley.	Very dense and hard	Localized iron-oxide cemented layers, sandy partings, and lenses
Nonglacial deposits (Qpon)	Sand, gravel, silt, clay, and organic deposits of inferred nonglacial origin, based on the presence of paleosols, and tephra layers; or a southern Cascade Range provenance for sedimentary clasts.	Very dense and hard	Localized iron-oxide cemented layers, interbedded and intermixed fine- and coarse-grained layers
Fine-grained nonglacial deposits (Qponf)	Silt and clay, may have sandy interbeds, with peat and tephra layers, laminated to massive.	Hard	Localized iron-oxide cemented layers and sandy partings
Terrace Deposits (Qt)	Sand, silt, gravel, and cobbles, deposited by streams and running water; elevated bench forms resulting from subsequent down cutting. May include slide debris and colluvium, locally gradational with unit Qal.	Loose to dense or soft to stiff	Predominantly sandy and horizontally bedded, fine and coarser-grained lenses

Geologic Unit (Map Symbol)	Description	Density and/or Hardness	Permeability Factors
Tideflat deposits (Qtf)	Silt, sand, organic sediment, and detritus, with some shells, historically exposed in broad coastal benches at low tide and now fill covered. Along Duwamish Waterway, valley thickens to north at mouth; initially deposited post-glacially when marine water extended up the Duwamish valley to Georgetown. Aggraded northward with rising sea level and alluvial filling of the Duwamish valley. Elsewhere, present along much of Puget Sound coastline and now fill covered.	Very loose to dense and/or very soft to stiff	Micaceous, saturated, lenses of shell and wood debris
Advance Outwash Deposits (Qva)	Well-sorted sand and gravel deposited by streams issuing from advancing ice sheet. May grade upward into till. Silt lenses locally present in upper part and are common in lower part. Generally unoxidized to only slightly oxidized. May be overlain by Vashon till in areas too small to show at map scale. Includes Esperance Sand Member of the Vashon Drift. Grades downward into unit Qvlc with increasing silt content.	Dense to very dense	Predominantly medium grained sand, horizontally to cross bedded, hard silt beds common throughout
Ice-contact deposits (Qvi)	Intercalated till and outwash, irregularly shaped bodies of till and outwash. Outwash consists of sand and gravel, clean to silty, horizontally bedded to steeply dipping. The till consists of matrix-supported gravelly sandy silt that may or may not have been glacially overridden.	Loose to very dense	Intermixed irregularly shaped bodies of till and coarse-grained deposits
Lawton Clay (Qvlc)	Laminated to massive silt, clayey silt, and silty clay with scattered drop stones deposited in lowland proglacial lakes. Locally may include fine-grained sediment of unit Qob or distal deposits from the Cascade Mountains where indistinguishable from Qvlc.	Very stiff to hard	Vertical fractures, fine sand partings common near top and bottom of unit
Recessional outwash deposits (Qvr)	Stratified sand and gravel, moderately sorted to well sorted, and less common silty sand and silt. Deposited in outwash channels that carried south-draining glacial meltwater during the ice retreat away from the ice margin. Also includes deposits that accumulated in or adjacent to recessional lakes. Discontinuous. May include thin lag on glacial till uplands.	Loose to dense	Horizontally bedded to cross-bedded, uniformly to well graded, channelized, coarse lag deposits common
Recessional lacustrine deposits (Qvrl)	Laminated silt and clay, low to high plasticity, with local sand layers, peat, and other organic sediments, deposited in slow-flowing water and ephemeral lakes. Locally includes high-plasticity clay with swell potential. Lenses and layers of ash and diatomite may be present.	Very soft to stiff	Horizontally bedded; sandy channels may breach the lacustrine deposits
Vashon till (Qvt)	Compact diamict of silt, sand, and sub-rounded to well-rounded gravel, glacially transported and deposited under ice. Commonly fractured and has intercalated sand lenses. Generally, forms undulating, elongated surfaces. Upper 1 meter of unit generally weathered and only medium dense to dense.	Very dense	Vertical fractures, sand lenses, and crude sub-horizontal bedding common
Younger Alluvium (Qyal)	Sand, silt, gravel, and cobbles deposited by streams and running water. Locally contains soft peat lenses.	Loose to dense or soft to stiff	Predominantly sandy and horizontally bedded, fine and coarser-grained lenses

Source: United States Geological Survey. 2005. *The Geologic Map of Seattle – a Progress Report*, by Kathy Goetz Troost, Derek B. Booth, Aaron P. Wisher, and Scott A. Shimel. Open-File Report 2005-1252, Version 1.0.





Source: City of Seattle, King County (2023).

#### Preferred Alternative

- Elevated
- At-Grade
- Tunnel
- Retained Cut

#### Other Alternatives

- Elevated
- At-Grade
- Tunnel
- Retained Cut

Station (● Indicates Preferred Alternative)

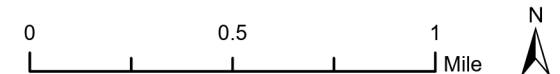
- New
- Relocated
- Existing

- Segment Line
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Existing Link Light Rail
- East Link Light Rail (Under Construction)
- Railroad
- Stream
- Piped Stream
- Park

- 20-ft Contour
- 100-ft Contour

FIGURE L4.11-1  
West Seattle - Topography

West Seattle Link Extension







Source: U.S. Geologic Survey (2005). City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Retained Cut

**Station** (● Indicates Preferred Alternative)

- New
- Existing
- Relocated

**Segment Line**

- Segment Line
- Existing Link Light Rail
- Railroad
- SODO Busway
- Proposed Overpass

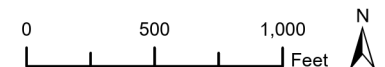
**Geologic Unit**

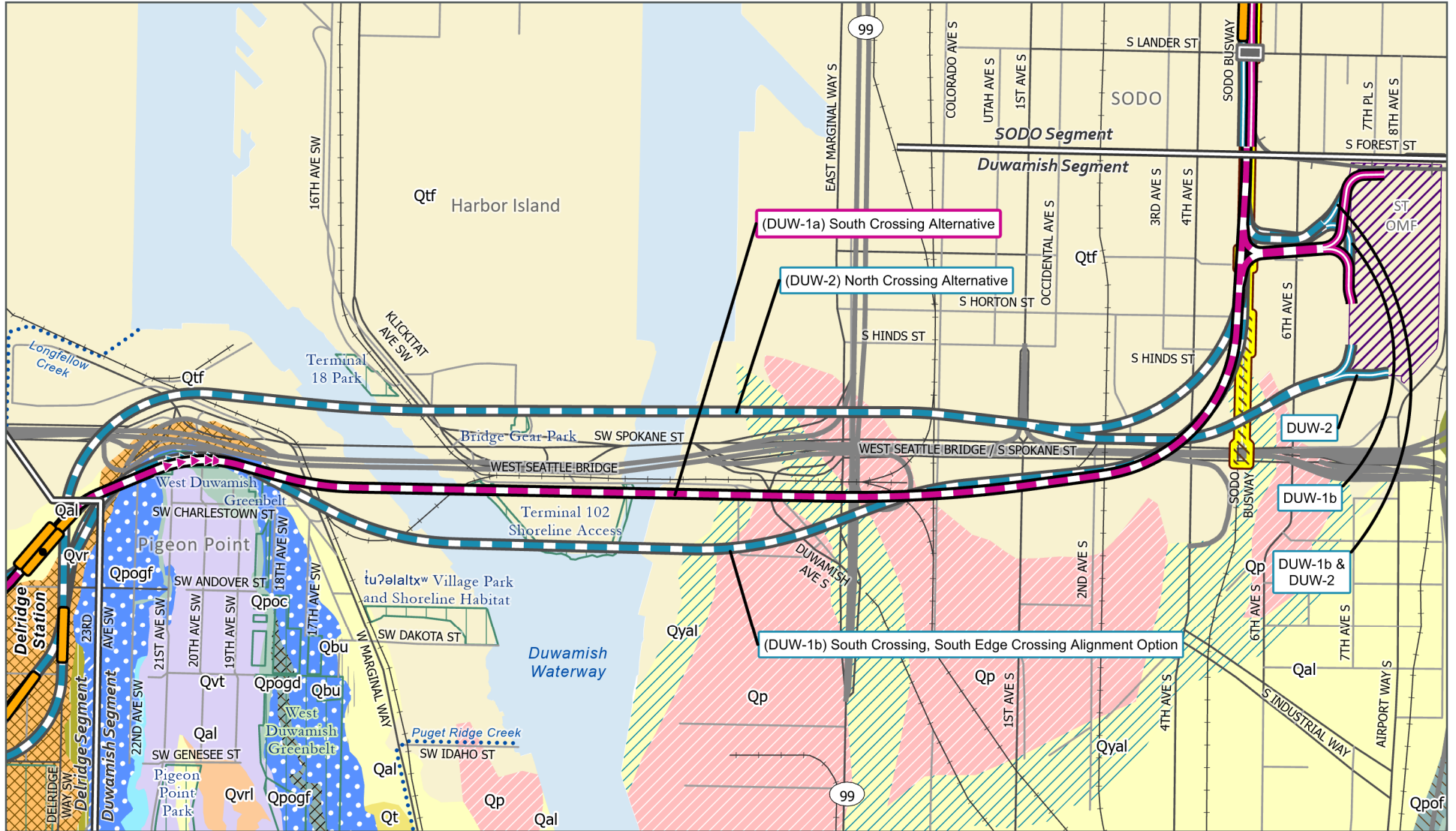
- Qtz

Note: see Appendix L.4.11 for geologic unit names, descriptions, consistency, and permeability

**FIGURE L4.11-2**  
**Geologic Units**  
**SODO Segment**

*West Seattle Link Extension*





Source: U.S. Geologic Survey (2005). City of Seattle, King County (2023).

#### Preferred Alternative

- Elevated
- At-Grade
- Retained Cut

#### Other Alternatives

- Elevated
- At-Grade
- Retained Cut

#### Station (● Indicates Preferred Alternative)

- New

#### Segment Line

- Existing Link Light Rail

- Railroad

- SODO Busway

- Proposed Overpass

- Sound Transit Operations and Maintenance Facility (ST OMF)

- Piped Stream

- Park

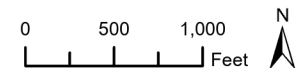
#### Geologic Unit

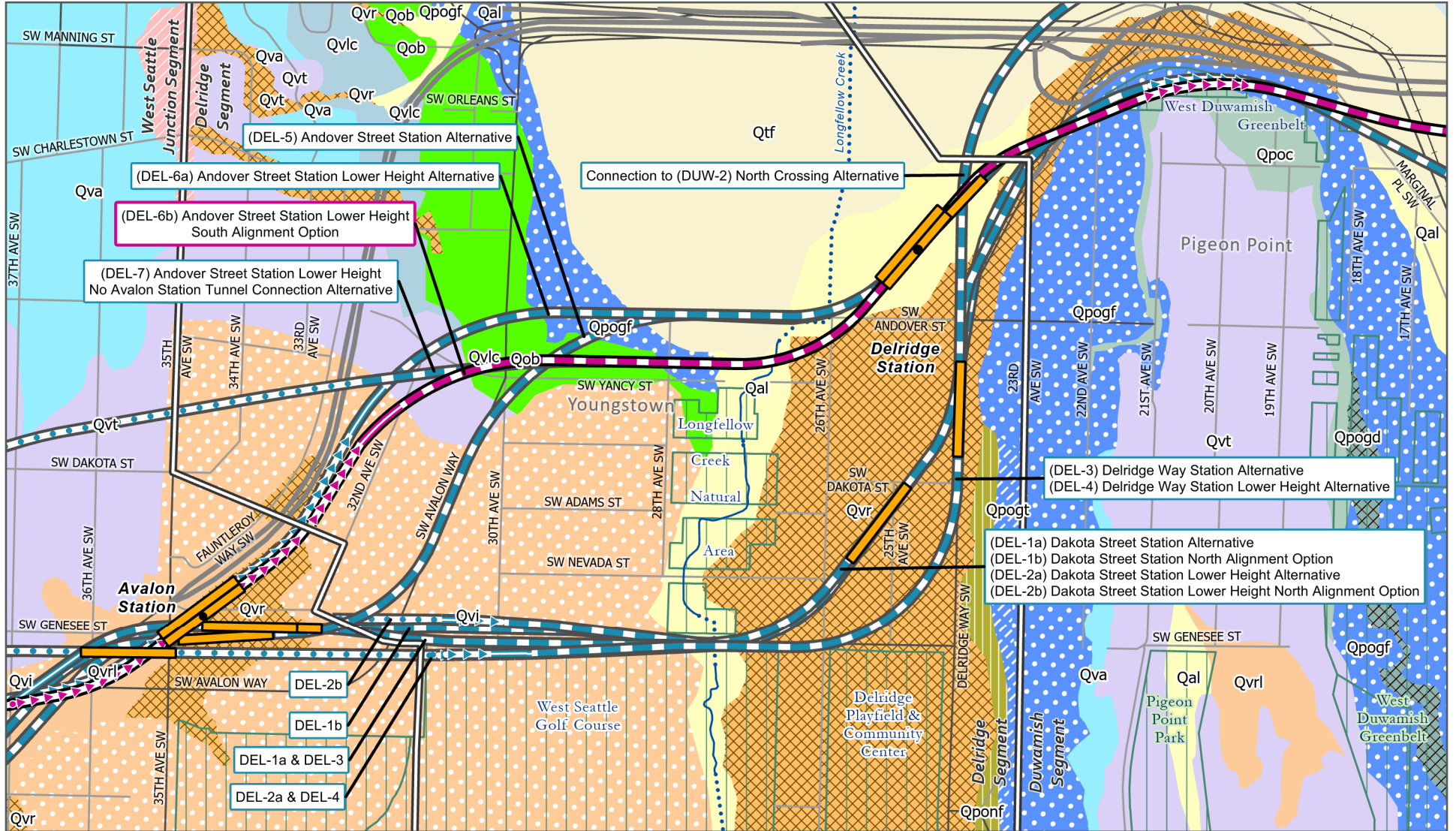
- |      |       |      |
|------|-------|------|
| Qal  | Qpogf | Qqf  |
| Qbu  | Qpogt | Qqa  |
| Qp   | Qpon  | Qqr  |
| Qpoc | Qponf | Qqrl |
| Qpof | Qt    | Qqt  |
|      |       | Qqal |

Note: see Appendix L.4.11 for geologic unit names, descriptions, consistency, and permeability

**FIGURE L4.11-3**  
**Geologic Units**  
**Duwamish Segment**

*West Seattle Link Extension*





Source: U.S. Geological Survey (2005). City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station** (● Indicates Preferred Alternative)

New

- Segment Line
- Railroad
- Stream
- Piped Stream
- Park

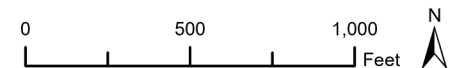
**Geologic Unit**

- |  |  |  |
|--|--|--|
| <span style="display: inline-block; width: 15px; height: 10px; background-color: yellow;"></span> Qal                          | <span style="display: inline-block; width: 15px; height: 10px; background-color: blue; border: 1px solid black;"></span> Qpogf   | <span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue;"></span> Qvc |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: green;"></span> Qob                           | <span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> Qponf | <span style="display: inline-block; width: 15px; height: 10px; background-color: orange;"></span> Qvr    |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: pink;"></span> Qp                             | <span style="display: inline-block; width: 15px; height: 10px; background-color: lightyellow;"></span> Qtf                       | <span style="display: inline-block; width: 15px; height: 10px; background-color: purple;"></span> Qvt    |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen;"></span> Qpoc                     | <span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue;"></span> Qva                         |  |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: gray; border: 1px solid black;"></span> Qpogd | <span style="display: inline-block; width: 15px; height: 10px; background-color: orange;"></span> Qvi                            |  |

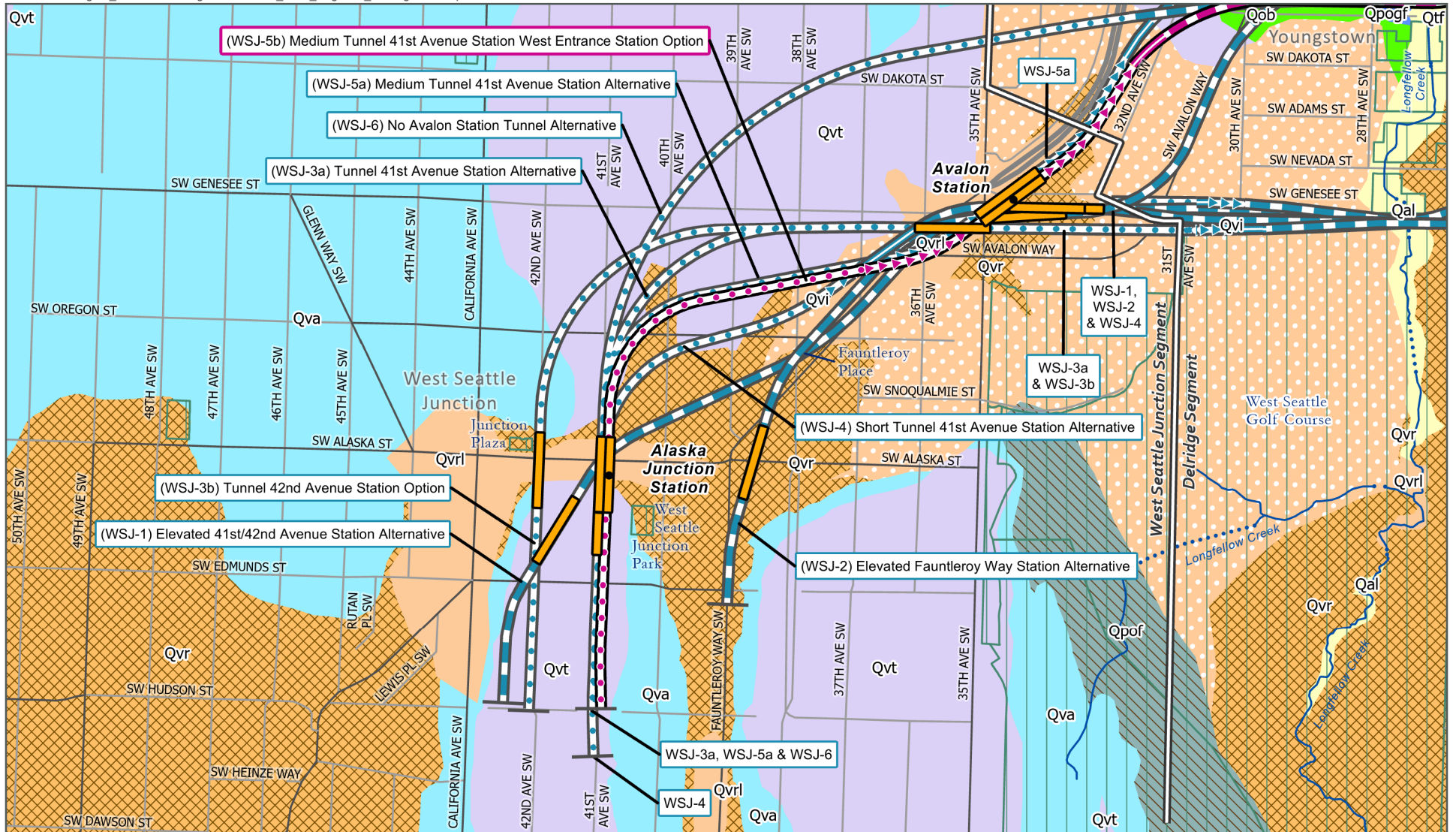
Note: see Appendix L.4.11 for geologic unit names, descriptions, consistency, and permeability

**FIGURE L4.11-4**  
**Geologic Units**  
**Delridge Segment**

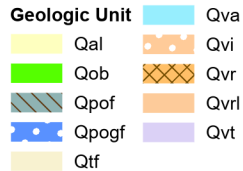
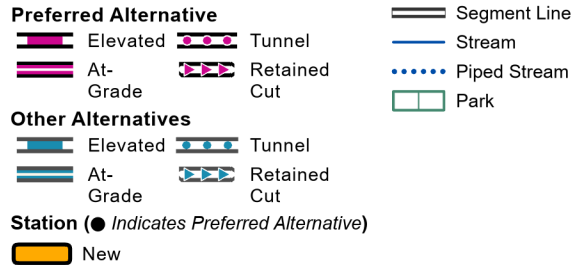
*West Seattle Link Extension*







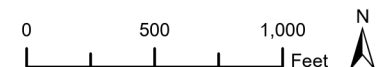
Source: U.S. Geologic Survey (2005). City of Seattle, King County (2023).

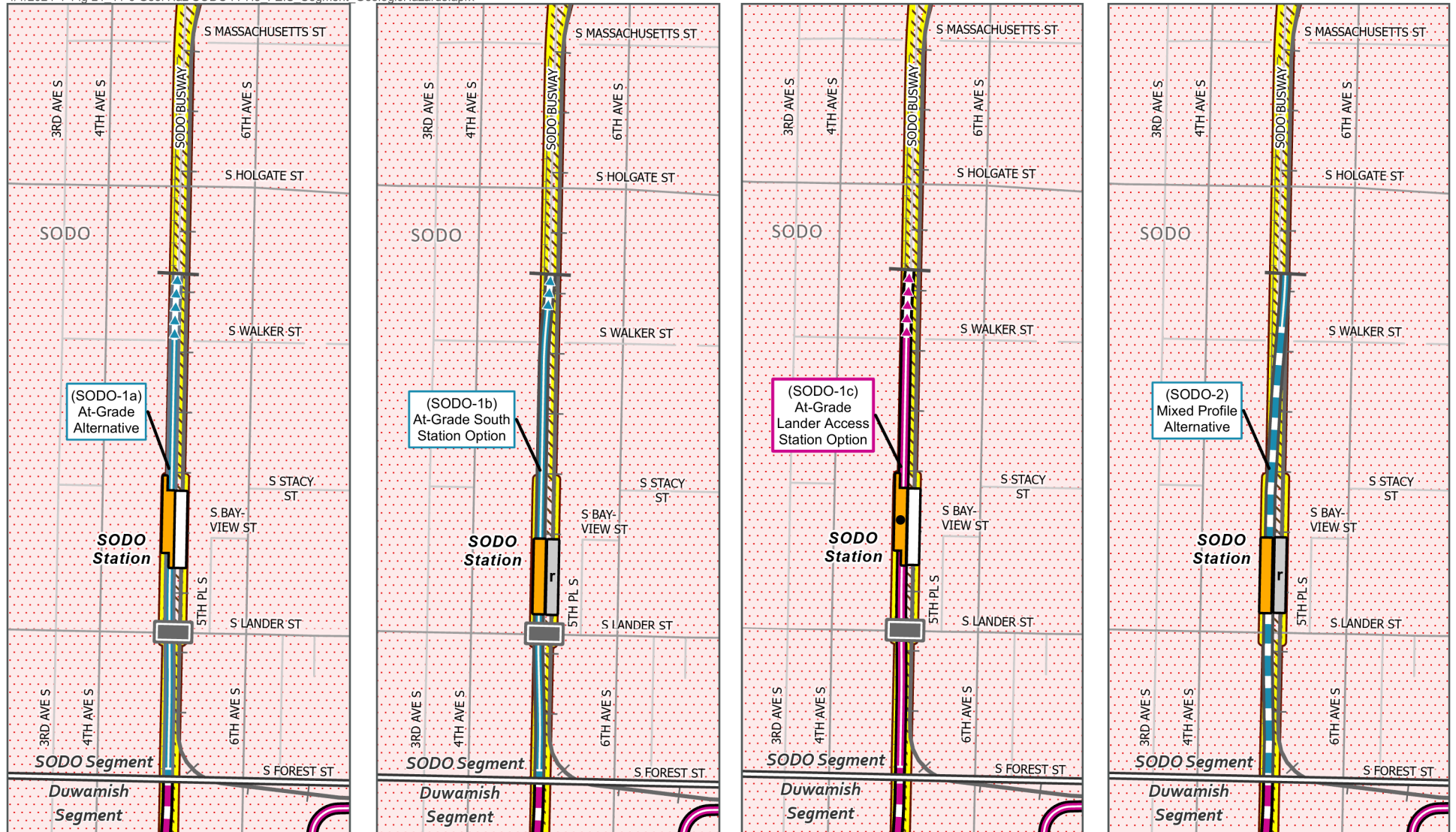


Note: see Appendix L.4.11 for geologic unit names, descriptions, consistency, and permeability

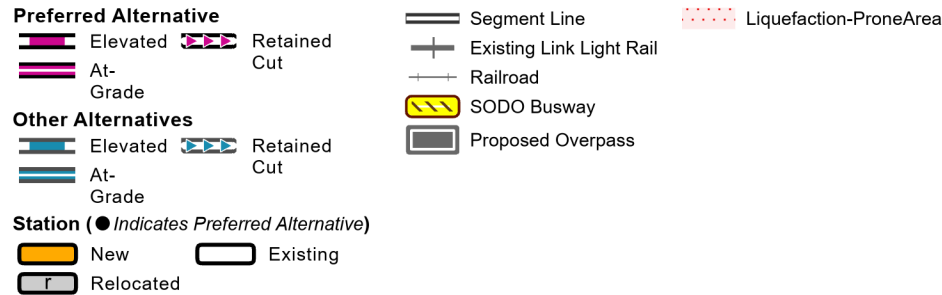
**FIGURE L4.11-5**  
**Geologic Units**  
**West Seattle Junction Segment**

*West Seattle Link Extension*



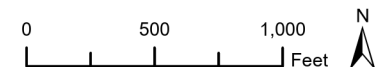


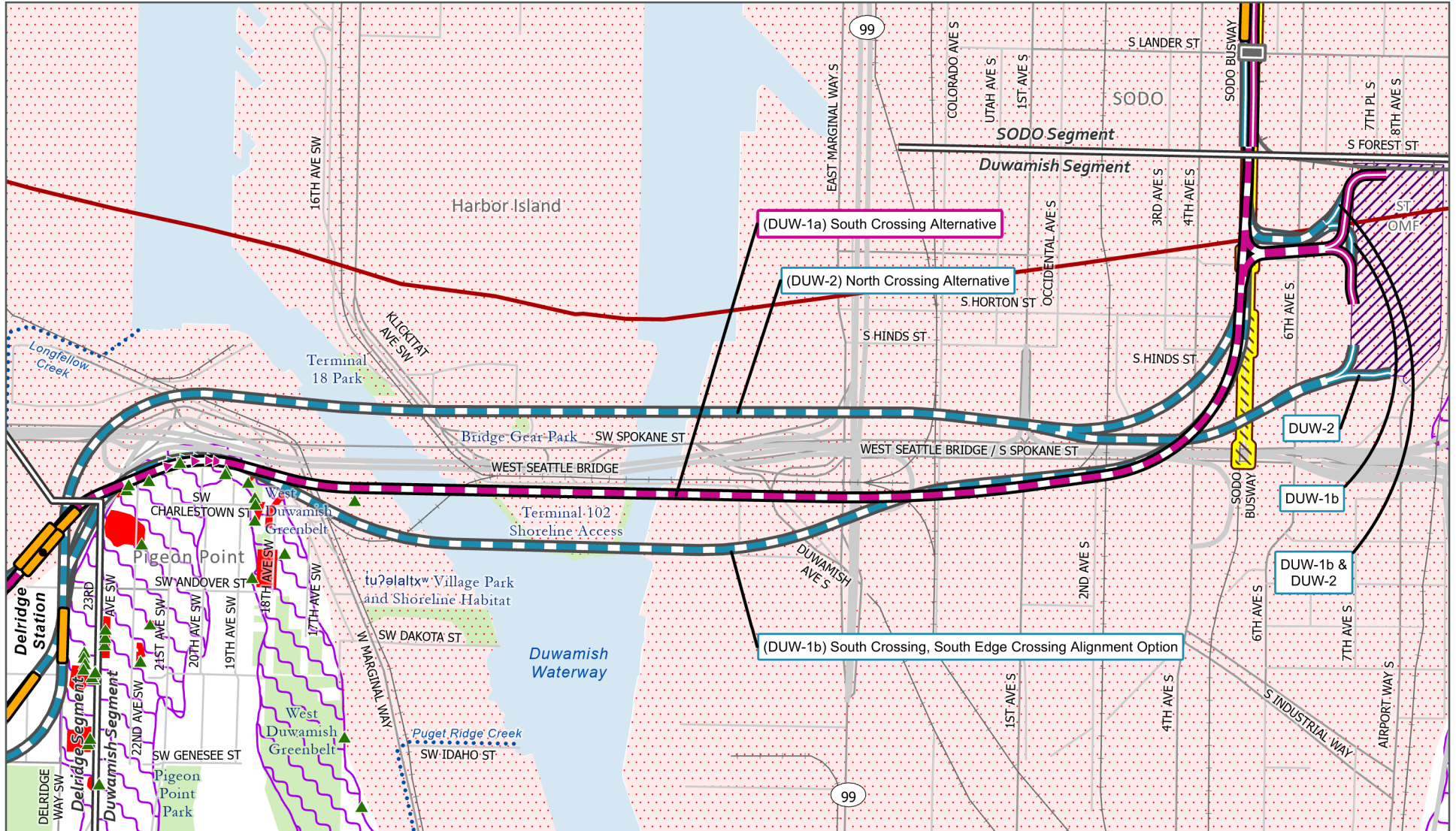
Source: U.S. Geologic Survey (2005), City of Seattle, King County (2023).



**FIGURE L4.11-6**  
**Geologic Hazards**  
**SODO Segment**

*West Seattle Link Extension*





Source: U.S. Geologic Survey (2005), City of Seattle, King County (2023), Washington Department of Natural Resources (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Retained Cut

**Station** (● Indicates Preferred Alternative)

- New

**Segment Line**

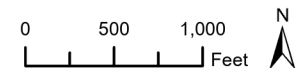
- Existing Link Light Rail
- Railroad
- SODO Busway
- Proposed Overpass
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Piped Stream
- Park

- Known Landslide
- Known Landslide Area
- Potential Landslide Area
- Liquefaction-Prone Area
- Main Strand of the Seattle Fault Zone

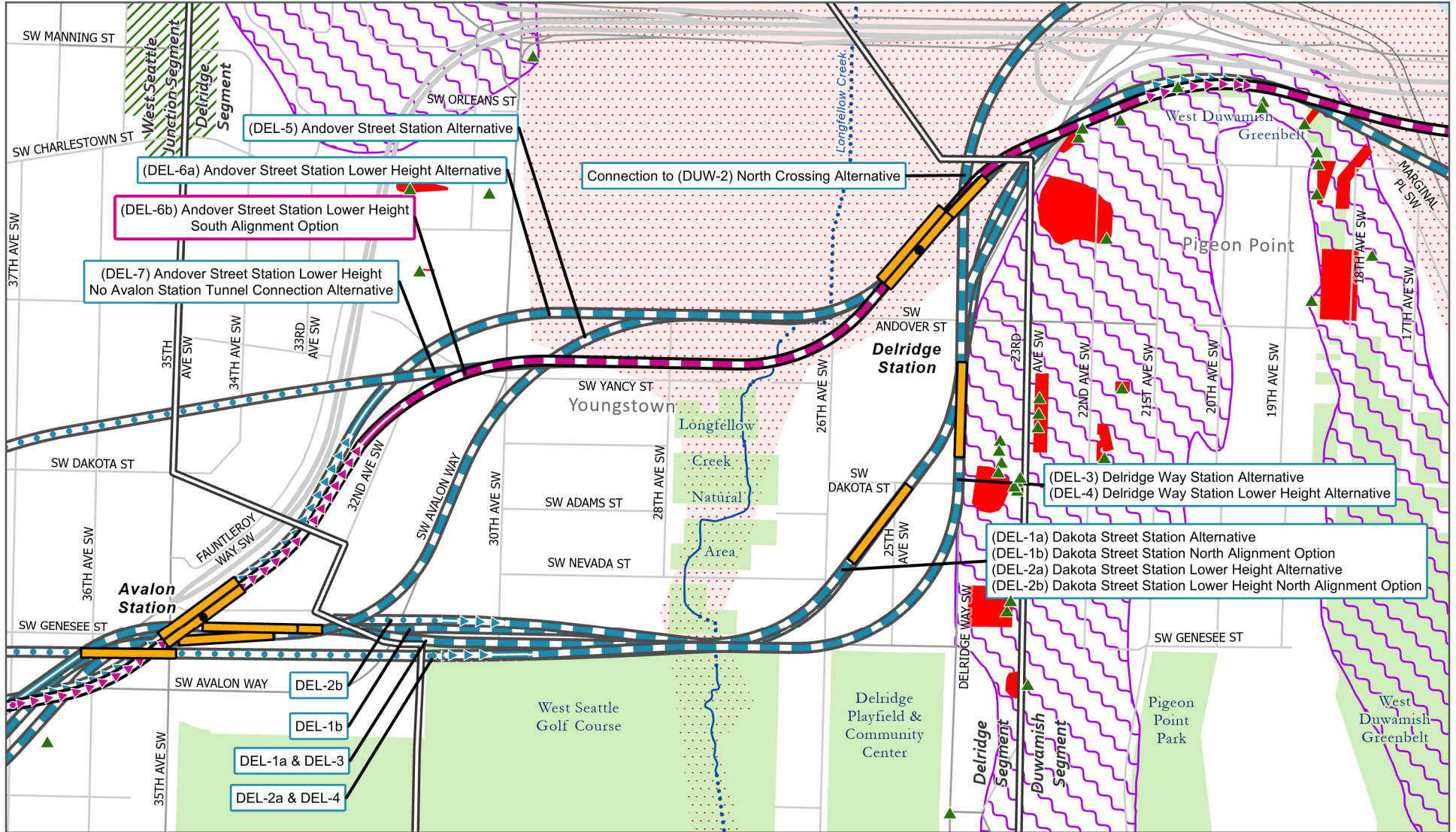
Note: Seattle Fault Zone covers a 3 to 5 mile area on either side of the main strand.

**FIGURE L4.11-7**  
**Geologic Hazards**  
**Duwamish Segment**

*West Seattle Link Extension*







Source: U.S. Geological Survey (2005), City of Seattle, King County (2023).

#### Preferred Alternative

- Elevated
- At-Grade
- Tunnel
- Retained Cut

#### Other Alternatives

- Elevated
- At-Grade
- Tunnel
- Retained Cut

Station (● Indicates Preferred Alternative)

New

Segment Line

Railroad

Stream

Piped Stream

Park

Known Landslide

Known Landslide Area

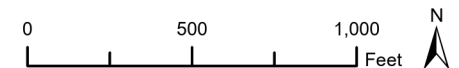
Potential Landslide Area

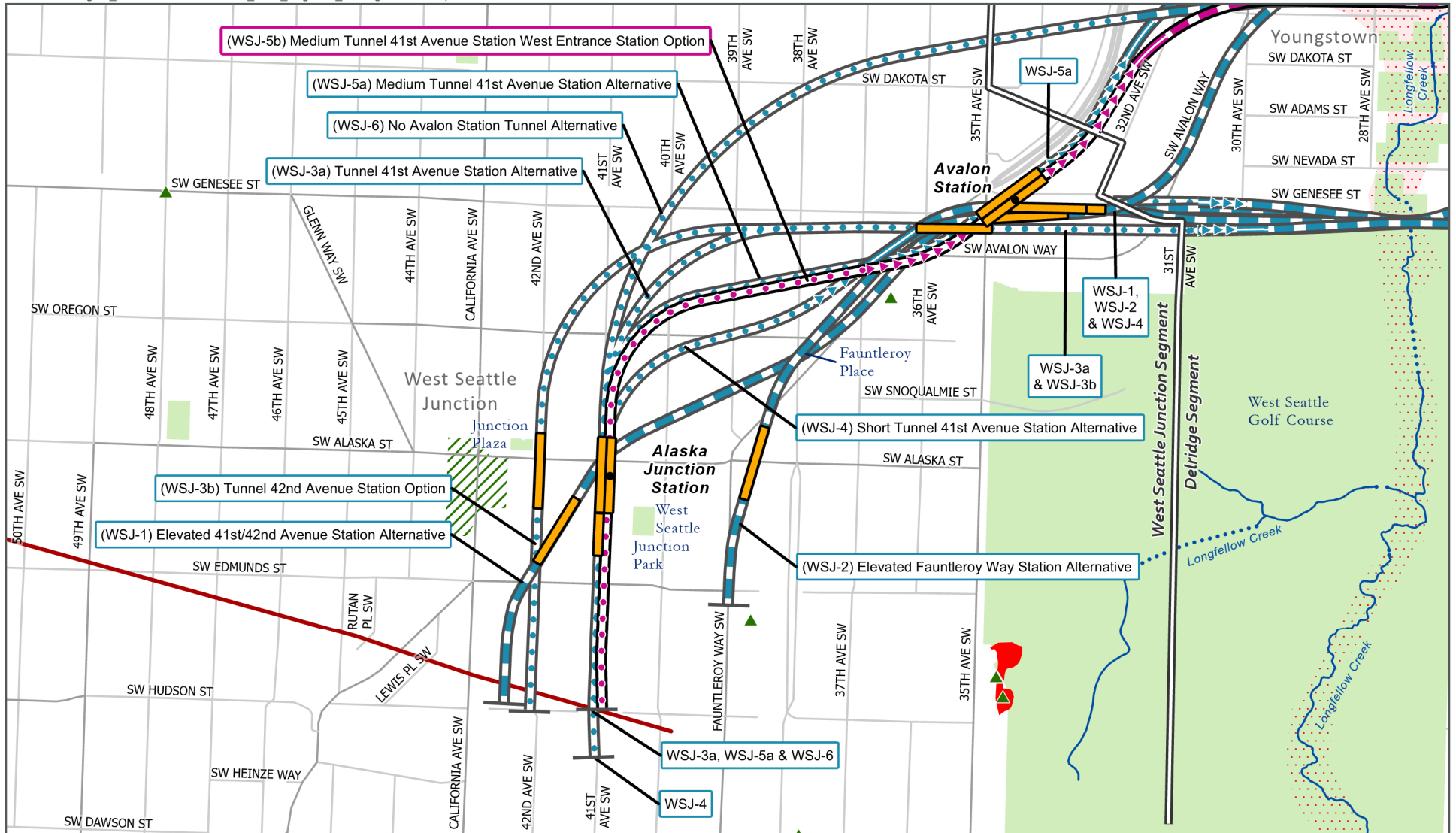
Peat Settlement-Prone Area

Liquefaction-Prone Area

**FIGURE L4.11-8**  
**Geologic Hazards**  
**Delridge Segment**

*West Seattle Link Extension*





Source: U.S. Geological Survey (2005), City of Seattle, King County (2023), Washington Department of Natural Resources (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station** (● Indicates Preferred Alternative)

New

Segment Line

Stream

Piped Stream

Park

Known Landslide

Known Landslide Area

Peat Settlement-Prone Area

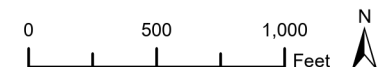
Liquefaction-Prone Area

Main Strand of the Seattle Fault Zone

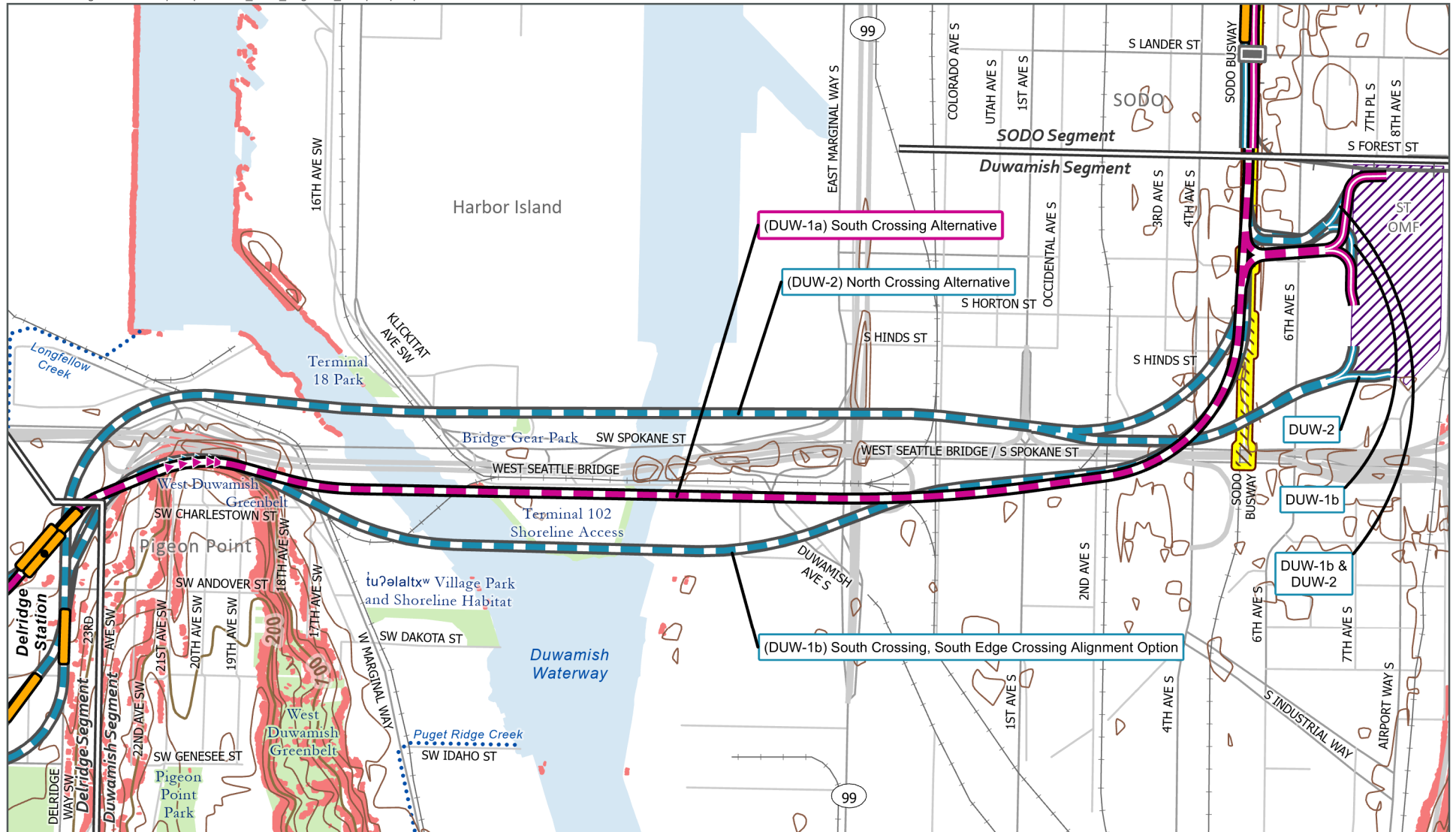
Note: Seattle Fault Zone covers a 3 to 5 mile area on either side of the main strand.

**FIGURE L4.11-9**  
**Geologic Hazards**  
**West Seattle Junction Segment**

*West Seattle Link Extension*







Source: City of Seattle, King County (2023).

#### Preferred Alternative

- Elevated
- At-Grade
- Retained Cut

#### Other Alternatives

- Elevated
- At-Grade
- Retained Cut

#### Station (● Indicates Preferred Alternative)

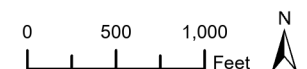
- New

- Segment Line
- Existing Link Light Rail
- Railroad
- SODO Busway
- Proposed Overpass
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Piped Stream
- Park

- 20-ft Contour
- 100-ft Contour
- Steep Slope Greater than 40%

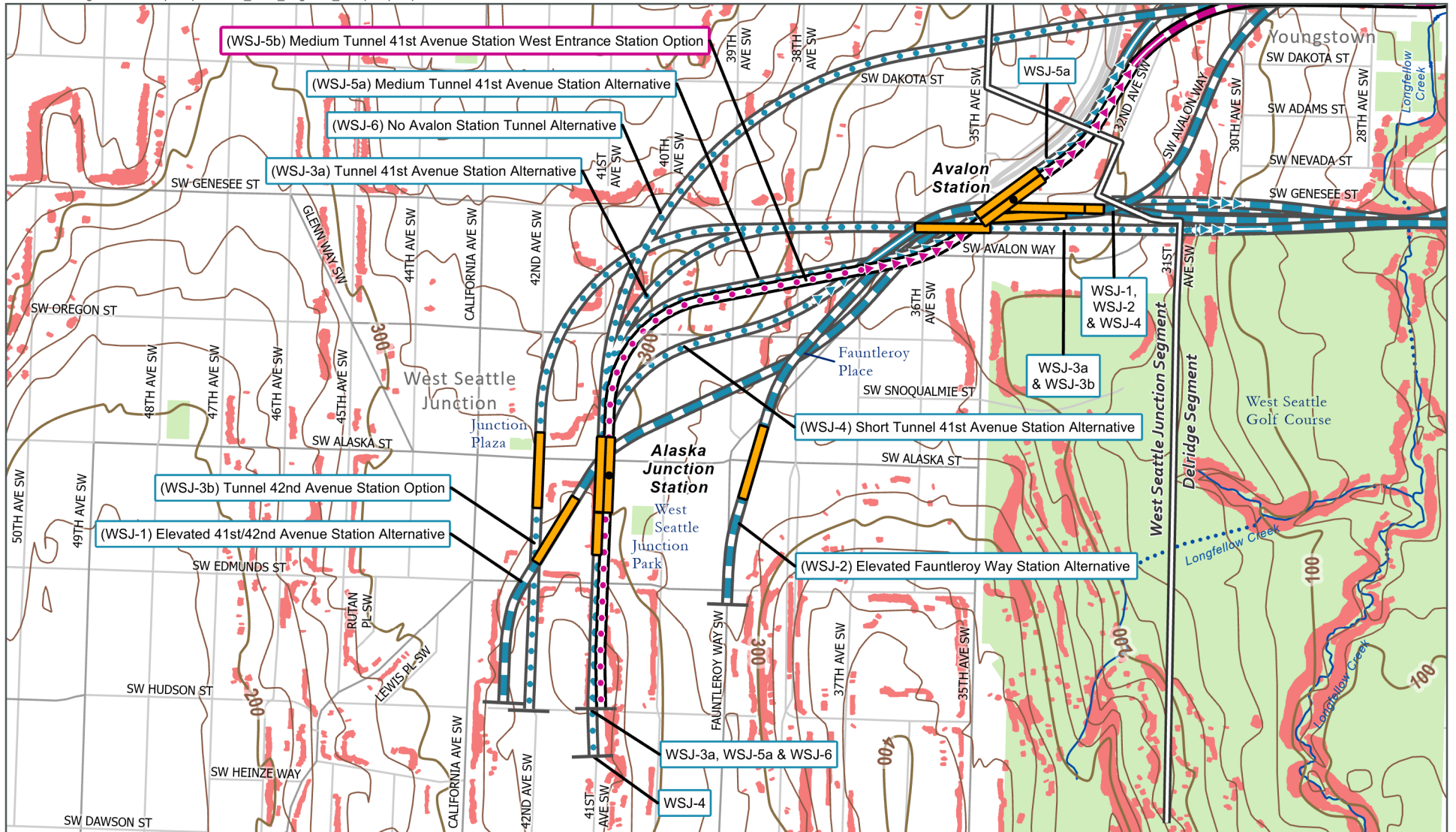
**FIGURE L4.11-10**  
**Steep Slopes > 40%**  
**Duwamish Segment**

*West Seattle Link Extension*



0 500 1,000 Feet





Source: City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Other Alternatives**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station** (● Indicates Preferred Alternative)

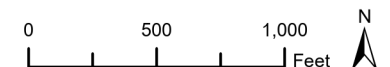
- New

- Segment Line
- Stream
- Piped Stream
- Park

- 20-ft Contour
- 100-ft Contour
- Steep Slope Greater than 40%

**FIGURE L4.11-12**  
**Steep Slopes > 40%**  
**West Seattle Junction Segment**

*West Seattle Link Extension*



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## **Appendix L4.12 Hazardous Materials**

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# Appendix L4.12 Hazardous Materials

## L4.12.1 Regulations

In addition to the relevant regulations considered in all environmental analyses for the West Seattle Link Extension Project, the following hazardous materials-related regulations were considered.

### L4.12.1.1 Federal

- Federal Transit Administration Standard Operating Procedures No. 19, Consideration of Contaminated Properties including Brownfields, 2016
- Federal Highway Administration Technical Advisory T6640.8A, 1987
- Comprehensive Environmental Response, Compensation and Liability Act, (42 United States Code 9601, et seq.)
- Superfund Amendment and Reauthorization Act
- Resource Conservation and Recovery Act of 1976, as amended (42 United States Code 6901, et seq.)
- Clean Water Act (33 United States Code Section 1251, et seq.)
- Toxic Substances Control Act (15 United States Code 2601-2629)

### L4.12.1.2 State

- Dangerous Waste Regulations (Washington Administrative Code [WAC] 173-303)
- Model Toxics Control Act (WAC 173-340)
- Underground Storage Tanks (WAC 173-360A)
- Sediment Management Standards (WAC 173-204)

### L4.12.1.3 Local

- Development standards for abandoned landfills (Seattle Municipal Code 25.09.220)

## L4.12.2 Hazardous Risk Evaluation

Sound Transit acquired information about sites with known contamination or potential contamination within the study area, as well as relevant historical conditions within the study area from the following data sources:

- Environmental agency database records (Environmental Data Resources Inc. 2023)
- Washington State Department of Ecology (Ecology) site files (Ecology 2023a and 2023b)
- Historical fire insurance maps (Sanborn Map Company 1988 and 1905-1950a, b, c, and d)
- Historical aerial photographs (Environmental Data Resources Inc. 2023)
- Current and historical topographic maps (United States Geological Survey 2019)
- Windshield reconnaissance of the study area

Environmental agency database records include records maintained by the United States Environmental Protection Agency and Ecology that track sites with potential or confirmed hazardous material releases to the environment. The Environmental Data Resources Inc. database search was completed in January 2023, and site-specific Ecology files were reviewed between January 2023 and June 2023.

#### **L4.12.2.1 Risk Categories**

Based on the information collected and reviewed, Sound Transit categorized sites into three risk categories (high, medium, and low) to prioritize sites and determine the need for avoidance, remediation, or mitigation when considering project impacts. The risk levels are defined as follows:

- High – Sites that involve substantial contamination of large areas, including soil and groundwater, and multiple contaminants. High-risk sites might represent a higher risk of further releases of hazardous materials to people or the environment or would be likely to involve high levels of regulatory approvals, extensive or lengthy remediation activities that may create other impacts to the environment or could pose major delays to the development of the project.
- Medium – Sites where the nature of potential contamination is known based on existing investigation data, the potential contaminants are not extremely toxic or difficult to treat, and probable remediation approaches are straightforward.
- Low – Sites where the nature of potential contamination is known based on existing investigation data and the sites are not expected to have notable impacts on the project due to their location, or sites where hazardous materials were used but had no or only very small reported releases.

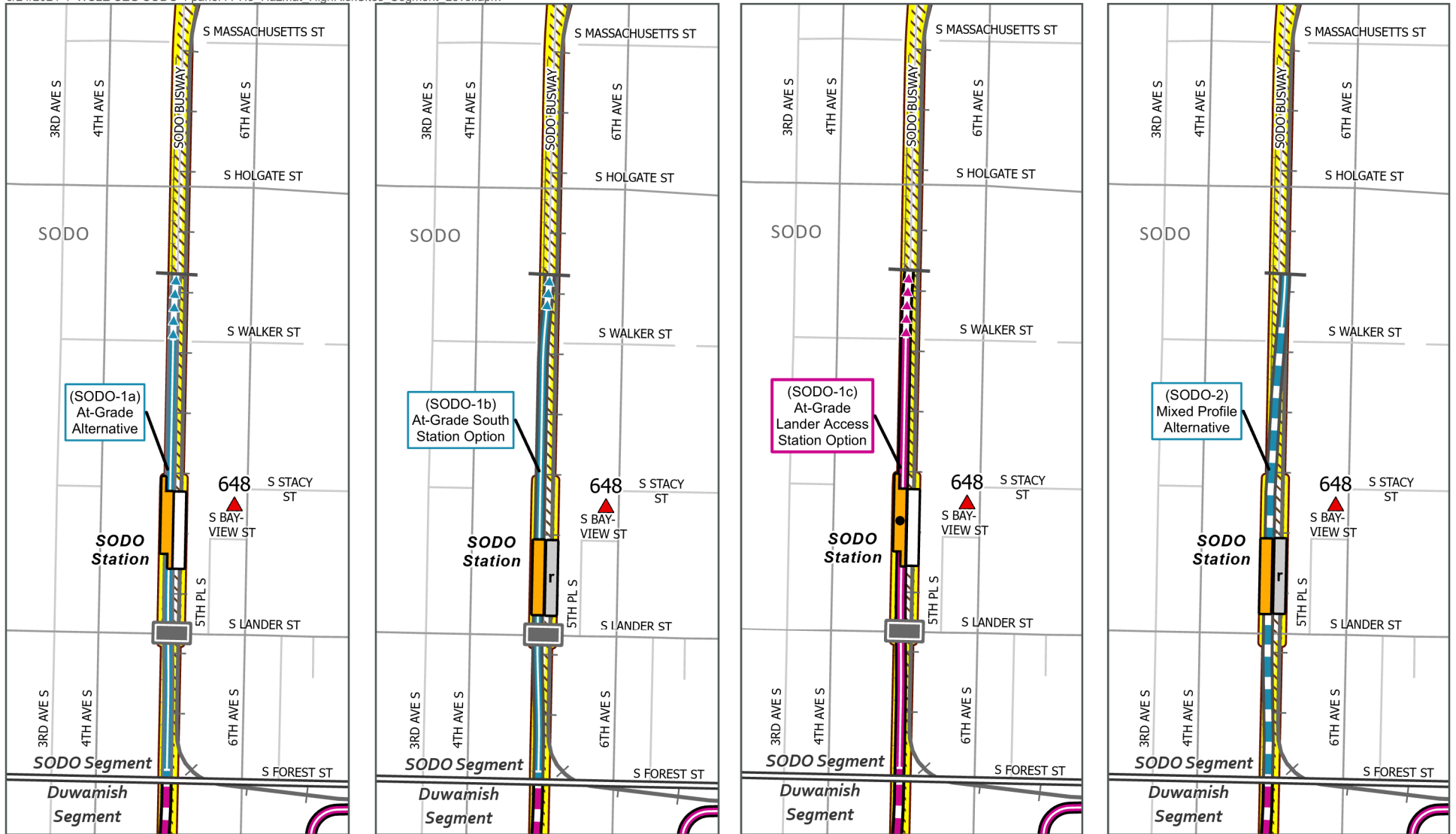
In contrast, sites that were considered minimal risk were not reviewed or counted. Minimal-risk sites include sites that had regulatory interactions not related to the potential release of hazardous materials to soil or groundwater (i.e., permitted air emissions) or sites with a small one-time spill that was reported as cleaned up. The figures in this appendix show the high-, medium-, and low-risk hazardous materials sites in the study area for each project segment. Some listed sites might have multiple points mapped on due to multiple regulatory interactions at different locations on a single property. Table L4.12-1 at the end of this file identifies and provides a description of each site, including its ranking, databases, and whether the site has a documented release.

Detailed descriptions of the high-risk sites are provided below. The map identification number (I.D.) listed for the high-risk sites refers to the number shown on Figures 4.12-1 through 4.12-4 in Section 4.12, Hazardous Materials, of the Final Environmental Impact Statement, which show the location for each high-risk site.

#### **L4.12.2.2 High-risk Sites**

The high-risk sites identified within the study area are discussed below by segment. Figures L4.12-1 through L4.12-4 show the high-, medium-, and low-risk hazardous materials sites within the study area.





Source: City of Seattle, King County, U.S. Environmental Protection Agency, Environmental Data Resources Inc., Ecology (2023).

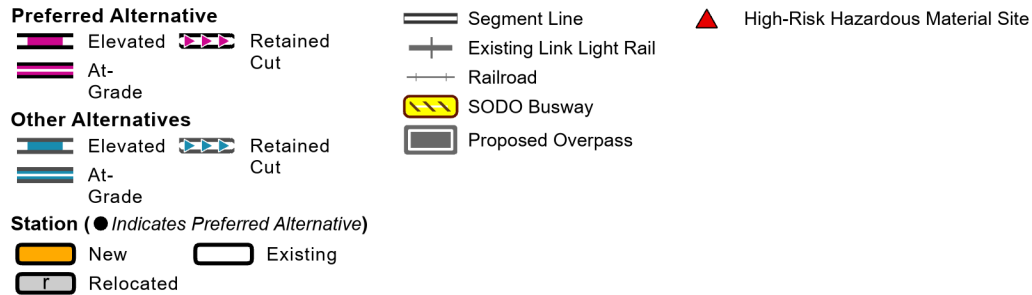
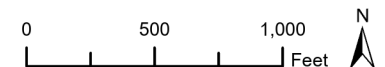
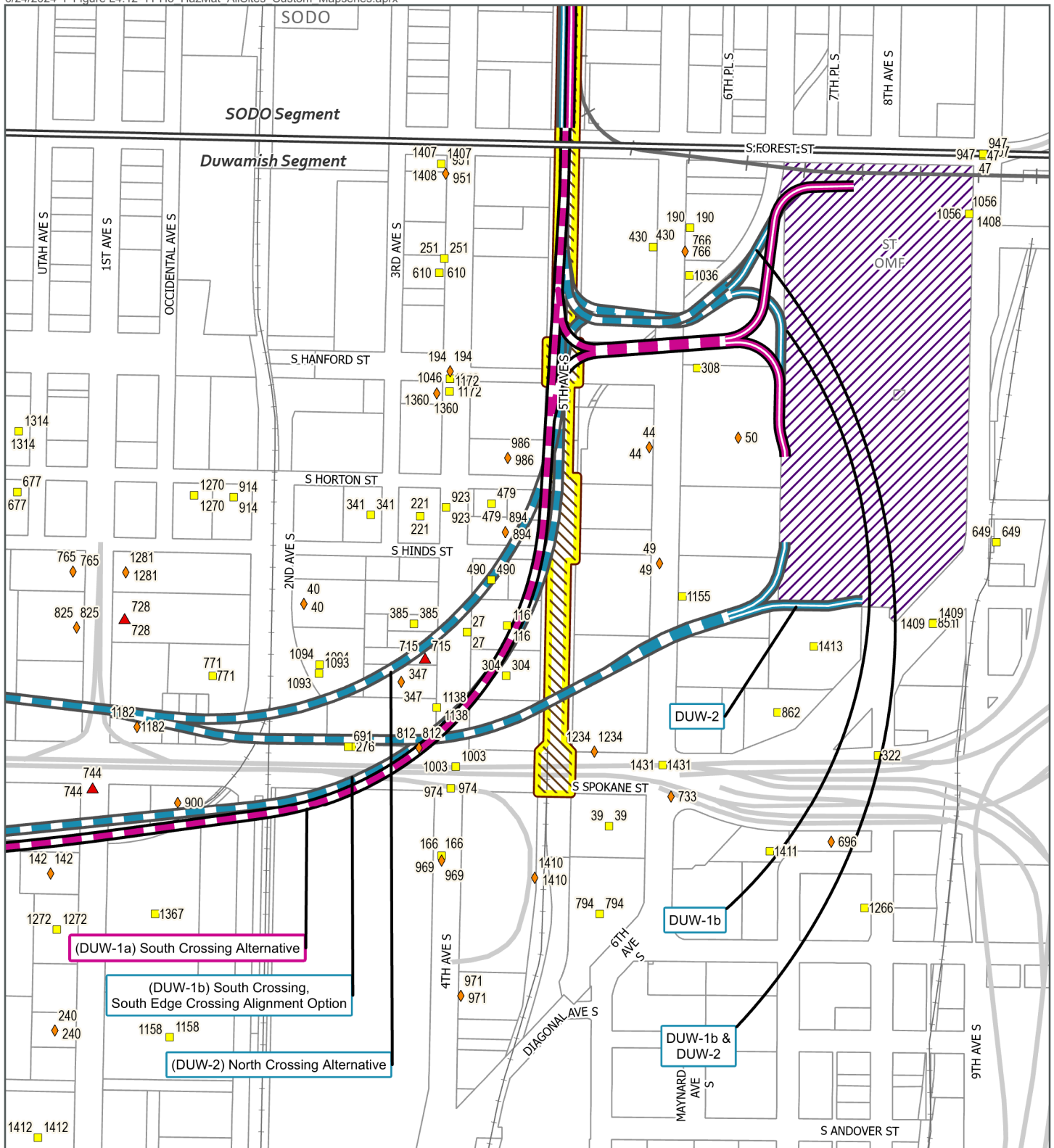


FIGURE 4.12-1  
High-Risk Hazardous Material Sites  
SODO Segment

West Seattle Link Extension





Source: City of Seattle, King County (2023).

**Preferred Alternative**

Elevated At-Grade

**Other Alternatives**

Elevated At-Grade

Segment Line

Existing Link Light Rail

Railroad

SODO Busway

Sound Transit Operations and Maintenance Facility (ST OMF)

Parcel

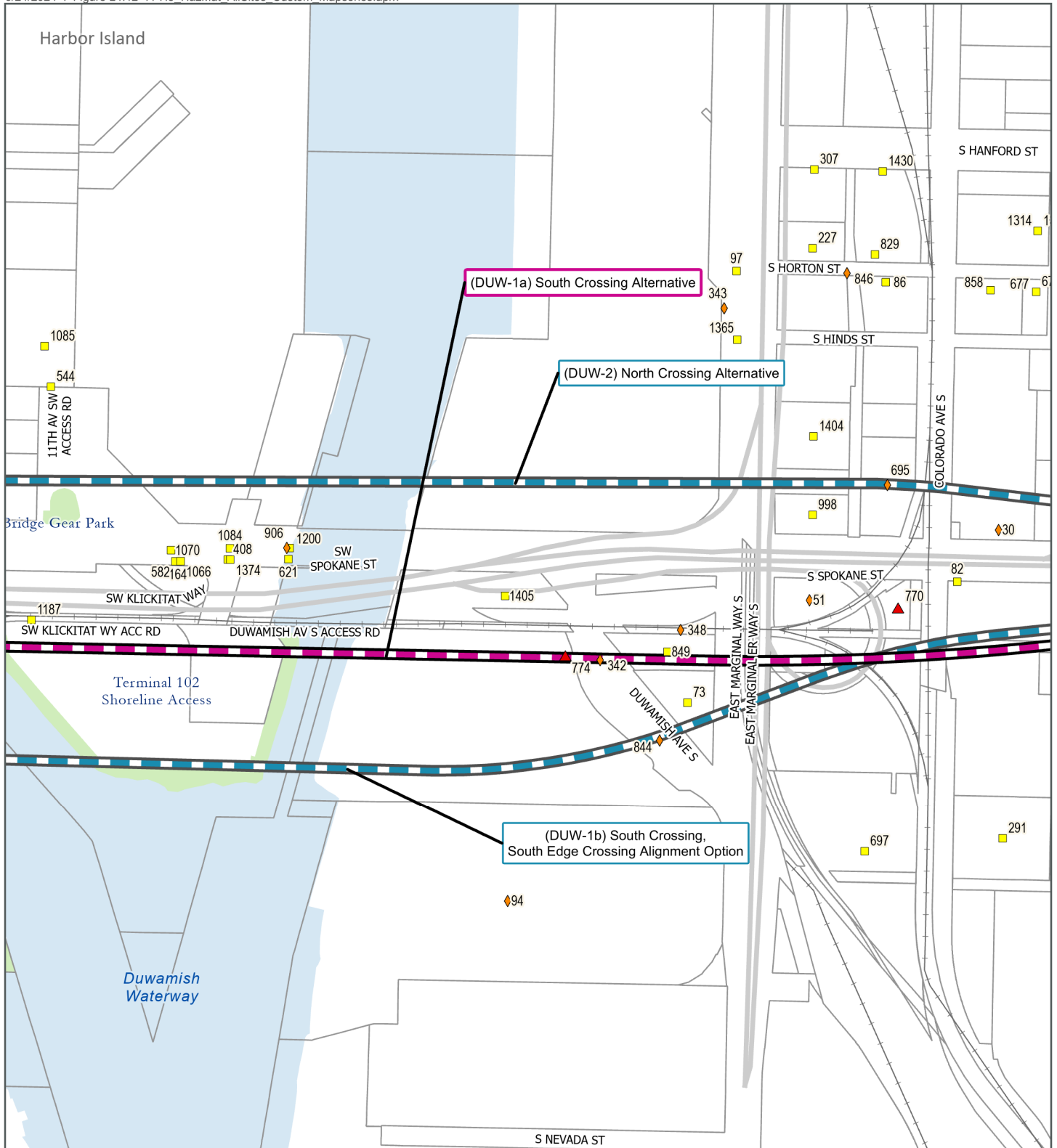
**Hazardous Materials Sites**

High-risk  
 Medium-risk  
 Low-risk

**FIGURE L4.12-2a**  
**Hazardous Materials Sites**  
 Duwamish Segment

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Preferred Alternative**  
 Elevated

**Other Alternatives**  
 Elevated

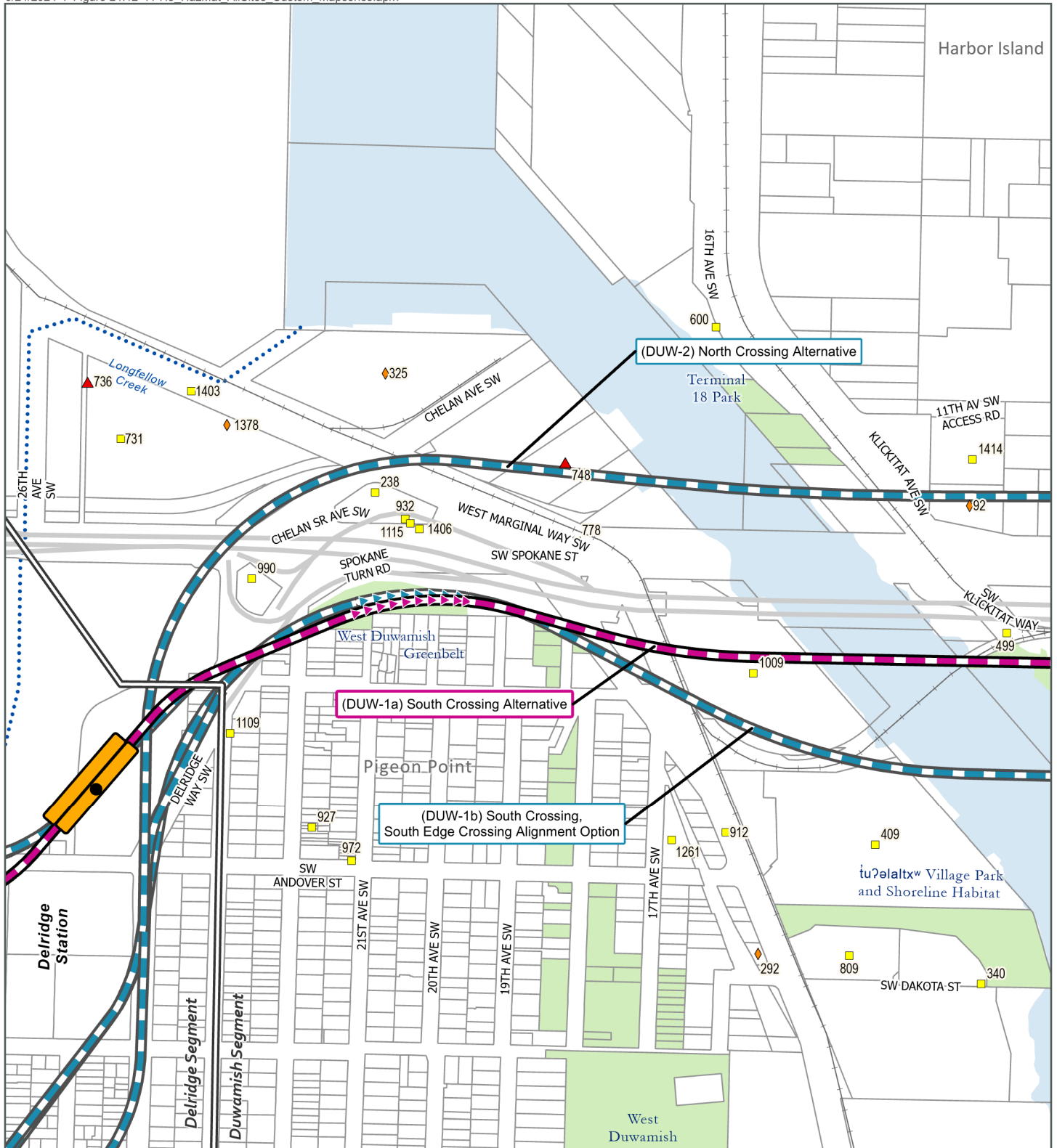
Segment Line  
 Railroad  
 Park  
 Water Body  
 Parcel

**Hazardous Materials Sites**  
 High-risk  
 Medium-risk  
 Low-risk

**FIGURE L4.12-2b**  
**Hazardous Materials Sites**  
 Duwamish Segment

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- Retained Cut

**Other Alternatives**

- Elevated
- Retained Cut

**Station** (● Indicates Preferred Alternative)

- New

- Segment Line
- Railroad
- Piped Stream
- Park
- Water Body
- Parcel

**Hazardous Materials Sites**

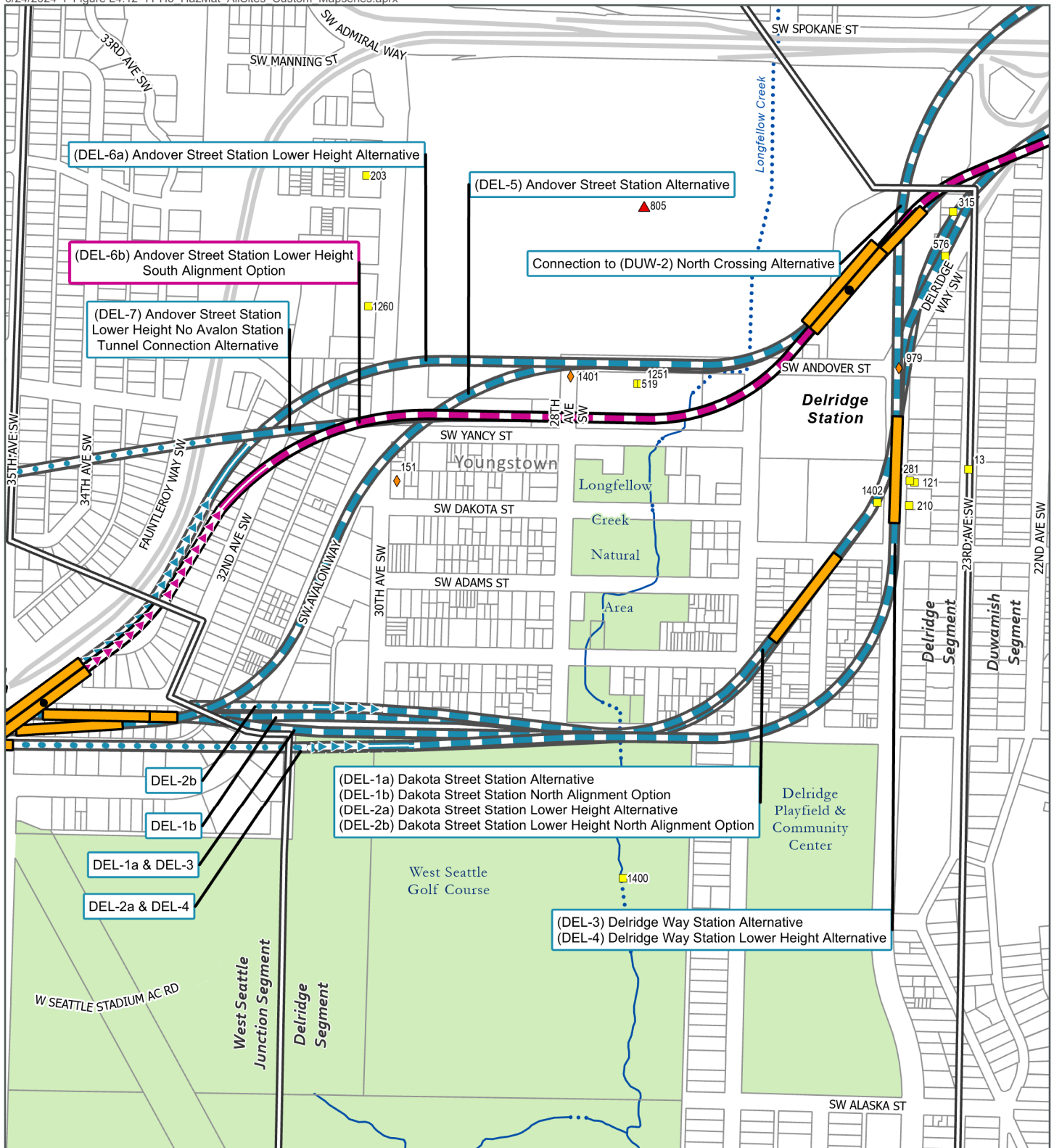
- High-risk
- Medium-risk
- Low-risk

**FIGURE L4.12-2c**  
**Hazardous Materials Sites**  
**Duwamish Segment**

*West Seattle Link Extension*







Source: City of Seattle, King County (2023).

#### Preferred Alternative

- Elevated
- At-Grade
- Retained Cut

#### Other Alternatives

- Elevated
- At-Grade
- Retained Cut

Station (● Indicates Preferred Alternative)

- New

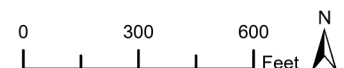
- Segment Line
- Stream
- Piped Stream
- Park
- Parcel

#### Hazardous Materials Sites

- High-risk
- Medium-risk
- Low-risk

**FIGURE L4.12-3**  
**Hazardous Materials Sites**  
**Delridge Segment**

*West Seattle Link Extension*



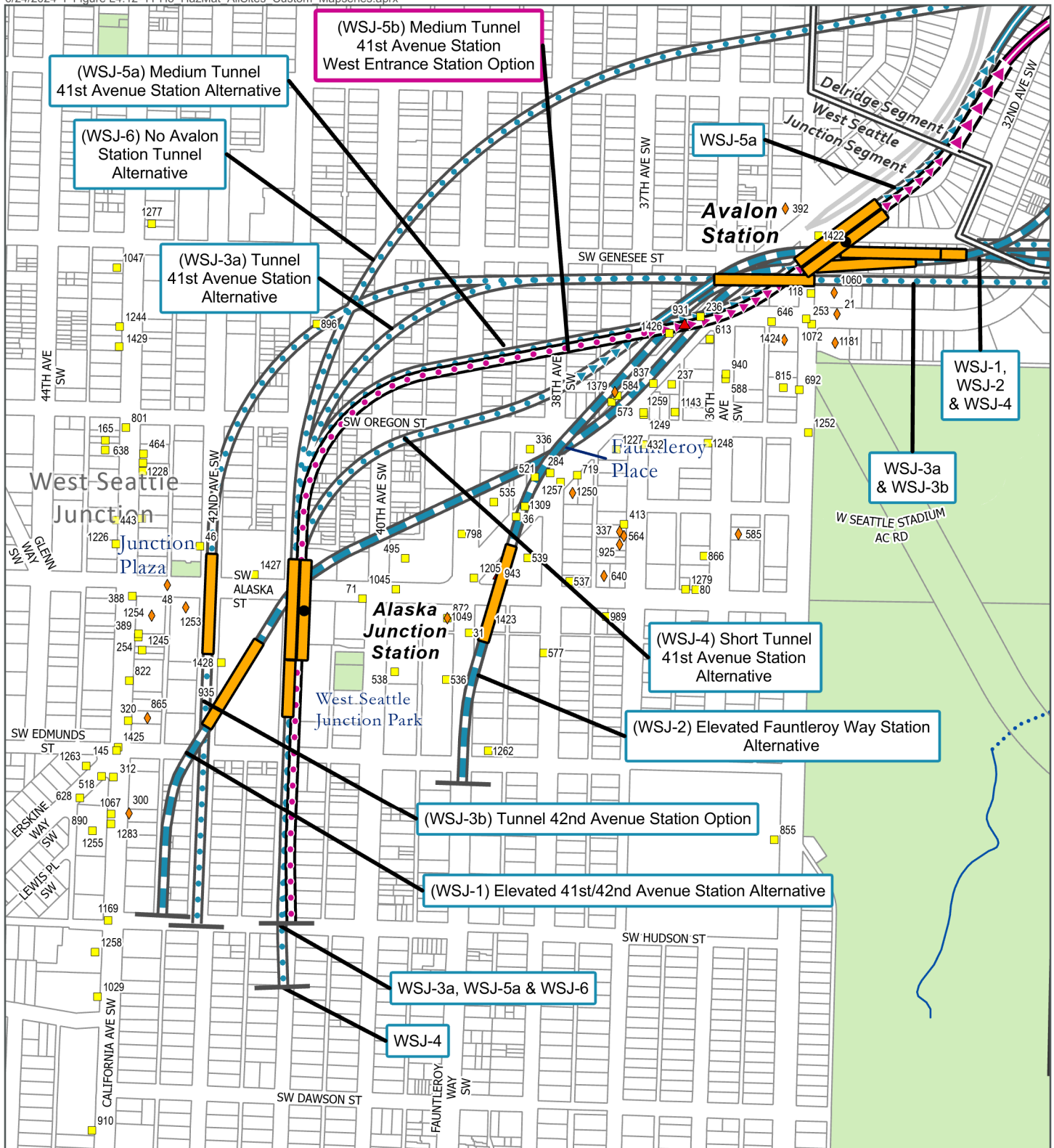
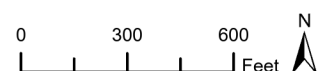


FIGURE L4.12-4  
**Hazardous Materials Sites**  
West Seattle Junction Segment

West Seattle Link Extension



### *SODO Segment*

**Industrial Plating** (2411 6th Avenue South; Map I.D. 648) is a former metal plating facility. Remedial investigations conducted between 2014 and 2016 indicated concentrations of trichloroethylene and its degradation products, cyanide, and metals are present in soil and groundwater at levels exceeding cleanup levels (Environmental Partners, Inc. 2018). Trichloroethylene in soil and groundwater has not been delineated west of the property and might extend beneath the existing Sound Transit rail line. The site is within areas that would be affected for all SODO Build Alternatives.

### *Duwamish Segment*

Two Superfund sites, Harbor Island and the Lower Duwamish Waterway, are along the Duwamish Segment:

**Harbor Island Superfund Site** is within the area that would be affected for all Build Alternatives within the Duwamish Segment. Harbor Island is a 420-acre island in the Duwamish Waterway delta in Elliott Bay. The site includes the East Waterway and West Waterway, which border Harbor Island to the east and west. The site was listed on the National Priorities List in 1983 due to contamination with high levels of pollutants, including polychlorinated biphenyls, arsenic, carcinogenic polycyclic aromatic hydrocarbons, tributyltin, and mercury (AECOM 2018).

The potential sources of contaminants are both historical and from potentially ongoing sources. The United States Environmental Protection Agency divided the site into six operable units to better address site cleanup. Cleanup decisions have been made at five operable units, and the remaining operable unit for cleanup is the East Waterway operable unit. The West Waterway operable unit required no action for cleanup, and there are no institutional controls or long-term monitoring associated with the West Waterway. Current site conditions in the West Waterway allow for unlimited use and unrestricted exposure (United States Environmental Protection Agency 2015).

The Duwamish Segment Build Alternatives cross two ongoing Harbor Island Superfund Site operable units: the sitewide Soil and Groundwater operable unit and the East Waterway operable unit. The proposed plan for the East Waterway operable unit was published in April 2023 and is going through public comment. The proposed remedial alternatives for the East Waterway include a combination of dredging, capping, enhanced natural remediation, in situ treatment, and monitored natural recovery (United States Environmental Protection Agency 2023).

Construction activities within the Harbor Island Superfund Site may generate contaminated soil or groundwater, and any material generated during construction will require analytical testing prior to disposal. The Duwamish Segment Build Alternatives cross the Harbor Island Superfund Site either north or south of the West Seattle Bridge. Construction activities would be coordinated with United States Environmental Protection Agency and the potentially responsible parties, as the construction timeline or methods could impact the remedy implementation at the Harbor Island Superfund Site.

**Lower Duwamish Waterway Superfund Site** is immediately south of Harbor Island in the Duwamish Waterway, within the Duwamish Segment. All alternatives are close to this site and could potentially affect it. The South Crossing South Edge Crossing Alignment Option (Option DUW-1b) would cross the Lower Duwamish Waterway at the north end of the Lower Duwamish Waterway Superfund Site. The United States Environmental Protection Agency declared the Lower Duwamish Waterway a Superfund site in 2001. The Lower Duwamish Waterway's river bottom is contaminated with toxic chemicals from many sources, including stormwater runoff, wastewater, and industrial pollution. There are many chemical contaminants in Lower Duwamish Waterway sediment, fish, and shellfish. Most of the human health risk comes from

polychlorinated biphenyls, arsenic, carcinogenic polycyclic aromatic hydrocarbons, and dioxins and furans (United States Environmental Protection Agency 2019).

The City of Seattle, King County, Port of Seattle, and Boeing Company joined together as the Lower Duwamish Waterway Group. This group completed a comprehensive Remedial Investigation study, which identified some of the most contaminated areas where they could start early cleanups, called Early Action Areas. Several Early Action Areas were selected for action by the United States Environmental Protection Agency and Ecology. All of the Early Action Areas are at least 0.5 mile south of the Build Alternatives alignments.

In 2014, the United States Environmental Protection Agency published a final cleanup plan, also known as a Record of Decision, for the remaining sediment cleanup (United States Environmental Protection Agency 2014). The United States Environmental Protection Agency expects parties potentially responsible for cleanup costs to design and construct the remaining sediment cleanup and to monitor and maintain the site over time. As cleanup and source control continues, analytical testing will be conducted to assess progress toward long-term cleanup goals.

Impacts to sediment from polychlorinated biphenyls, arsenic, carcinogenic polycyclic aromatic hydrocarbons, as well as dioxins and furans could be encountered during construction within the waterway. Sediment generated during construction would require analytical testing prior to disposal. Construction methods and activities would be coordinated with the United States Environmental Protection Agency and the potentially responsible parties to avoid conflicts with the remedy implementation within the Lower Duwamish Waterway Superfund Site.

In addition to the Superfund Sites listed above, the following high-risk sites are within the Duwamish Segment:

**Southwest Harbor Project (Port Terminal 5)** (26th Avenue Southwest and Southwest Spokane Street; Map I.D. 736) is a Port of Seattle property on the western shore of the West Waterway. The Lockheed West Seattle Superfund Site and the Pacific Sound Resources Superfund Site are on the north end of Terminal 5, outside of the project study area. The site has confirmed metals, tetrachloroethylene, and trichloroethylene in groundwater in the remedial action areas adjacent to the North Crossing Alternative (Alternative DUW-2). The site also has a Restrictive Covenant in place (Hart Crowser 2010).

**Island Tug and Barge** (3546 West Marginal Way Southwest; Map I.D. 748), also called West Waterway Lumber, is a former lumber mill along the Duwamish West Waterway. Petroleum impacts were found in soil, with detections of oil, diesel, metals, volatile organic compounds, and polycyclic aromatic hydrocarbons at concentrations below cleanup levels. Dioxin and furans were detected in groundwater exceeding the Model Toxics Control Act Method B criteria (Environmental Resource Management 2015). The site is within the area that would be affected for the North Crossing Alternative (Alternative DUW-2).

**Port of Seattle Terminal 106NW** (3629 Duwamish Avenue South; Map I.D. 774) is a former cargo and shipping terminal along the Duwamish Waterway. There is confirmed lead in soil and dust across the site. The site is adjacent to the Ash Grove Cement plant, which has suspected halogenated solvents in soil and potential for cement kiln dust, based on confirmed cement kiln dust on the parcel south of Ash Grove Cement (Ecology 2015). The site is within areas that would be affected for the Preferred South Crossing Alternative (Preferred Alternative DUW-1a) and North Crossing Alternative (Alternative DUW-2).

**Nelson Iron Works/Irish Foundry** (45 South Spokane Street; Map I.D. 770) is a metal fabricator and has operated as a blacksmith, machine shop, railroad manufacturer, or aluminum and brass parts manufacturer since 1918. Impacts from an oil-water separator were identified at the site in 1991, and a subsequent remedial excavation was completed. Subsequent surface



investigations have identified additional oil, diesel, carcinogenic polycyclic aromatic hydrocarbons, and metals in soil and groundwater across the site (Aerotech Environmental Consulting, Inc. 2019). The site is immediately adjacent to Preferred Alternative DUW-1a and the South Crossing South Edge Crossing Alignment Option (Option DUW-1b).

**Business Pro Computers** (3433 4th Avenue South; Map I.D. 715) has confirmed petroleum impacts to soil and groundwater. The site was issued a No Further Action determination in 1994, but the determination was rescinded in 2011 based on groundwater impacts. The direction of groundwater flow and the lateral extent of impacts in groundwater is currently unknown. The property has a Restrictive Covenant, which restricts use of groundwater (Ecology 2012). The property is within the area that would be affected for the North Crossing Alternative (Alternative DUW-2).

**Buffalo Industries** (99 South Spokane Street; Map I.D. 744) has confirmed petroleum, naphthalene, tetrachloroethylene, and vinyl chloride impacts in soil and groundwater. A remedial investigation and feasibility study were completed in 2021 (Farallon 2021); however, the Pollution Liability Insurance Agency's opinion indicated that the extent of contamination has not been delineated (PLIA 2022). The lateral extent of impacts at the site and into the rights-of-ways are unknown. The site is within areas that would be affected under Preferred Alternative DUW-1a and Option DUW-1b.

**Enterprises Northwest** (3422 1st Avenue South; Map I.D. 728) is a historical industrial site with confirmed polychlorinated biphenyls, petroleum, polycyclic aromatic hydrocarbons, and metals in soil and groundwater (Amec Foster Wheeler 2018). The site was formerly in the Voluntary Cleanup Program but was terminated due to the site complexity, which was attributed mainly to polychlorinated biphenyls in groundwater (Ecology 2017). The site is adjacent to affected areas for Alternative DUW-2.

#### *Delridge Segment*

**Nucor Steel** (2424 Southwest Andover Street; Map I.D. 805), also known as Seattle Steel, is a steel plant that has operated since 1905. A variety of contamination has been confirmed at the site, including polychlorinated biphenyls, polycyclic aromatic hydrocarbons, metals, and solvents (Aspect Consulting 2008). The affected areas for the Andover Street Station Alternative (Alternative DEL-5) and Andover Street Station Lower Height Alternative (Alternative DEL-6a) are within the Nucor Steel property boundary. Contaminated soil and groundwater could be encountered during construction activities near the Nucor Steel site.

#### *West Seattle Junction Segment*

**Conoco Phillips 30124** (4580 Fauntleroy Way Southwest; Map I.D. 943), also known as West Seattle Arco, is an active gasoline service station with confirmed petroleum impacts to soil and groundwater. A soil vapor extraction system currently operates at the site (Antea Group 2023). Vapor intrusion investigations have indicated the potential presence of tetrachloroethylene and trichloroethylene beneath the east adjoining property (Arcadis 2019). The site is within the area that would be affected for the Elevated Fauntleroy Way Station Alternative (Alternative WSJ-2).

**House of Kleen Inc.** (4425 Fauntleroy Way Southwest; Map I.D. 931) was originally a gasoline station from 1935 and was converted to a dry-cleaning business in 1956. Investigations have confirmed tetrachloroethylene, trichloroethylene, and petroleum hydrocarbons in soil and groundwater (UEP 2021). Cleanup at the site is scheduled to start in summer 2023 and will include in-situ chemical reduction, Electrical Resistance Heating, and targeting soil removal (UEP 2023). House of Kleen is within areas that would be affected for all the Build Alternatives in the West Seattle Junction Segment, except Alternative WSJ-6.

Table L4.12-1. Hazardous Materials Sites by Segment

ID	Segment	Name	Address	Database	Rank	Documented Release
648	SODO	Industrial Plating Corp	2411 6th Avenue S	CSCSL, HSL, PRP, RGA HWS, VCP, SEMS-ARCHIVE	High	Yes
15	SODO	4th & Virginia	1924 4th Avenue S	UST	Low	No
19	SODO	6th Avenue S Landfill 2752 6th Avenue S	2752 6th Avenue S	CSCSL NFA	Low	Yes
96	SODO	Associated Petroleum Products Inc	465 S Holgate Street	UST	Low	No
117	SODO	Automotive Service Company Inc	505 S Lander Street	EDR Hist Auto	Low	No
214	SODO	Budget Rent a Car of Washington-Oregon/Elliott Tire & Service Co Inc/Pep Boys #6451	1961 4th Avenue S	CSCSL, CSCSL NFA, EDR Hist Auto, HSL, LUST, PTAP, RCRA-VSQG, RGA HWS, RGA LUST, UST, VCP	Low	Yes
354	SODO	Eckert S Automotive Service	1943 4th Avenue S	EDR Hist Auto	Low	No
364	SODO	Elephant Car Wash	2763 4th Avenue S	CSCSL NFA, EDR Hist Auto, ICR, LUST, RGA LUST, UST	Low	Yes
384	SODO	Exxon 79532	2401 4th Avenue S	CSCSL NFA, EDR Hist Auto, LUST, RGA LUST, UST	Low	Yes
407	SODO	Fleet Repair	466 S Holgate Street	EDR Hist Auto	Low	No
410	SODO	Food Service International	801 S Holgate Street	CSCSL, HSL, ICR, LUST, RGA HWS, RGA LUST, UST	Low	Yes
436	SODO	Friction Service	555 S Lander Street	RGA LUST	Low	Yes
479	SODO	Green S Automotive	2740 4th Avenue S	EDR Hist Auto	Low	No
481	SODO	Green Spot Service Station	2701 6th Avenue S	EDR Hist Auto	Low	No
523	SODO	Holgate Center	1737 Airport Way S	CSCSL NFA, ICR, RCRA-SQG, VCP	Low	Yes
547	SODO	Industrial Warehouse	2450 6th Avenue S	CSCSL NFA, INST CONTROL, PRP, RGA HWS, UST, VCP	Low	Yes

ID	Segment	Name	Address	Database	Rank	Documented Release
559	SODO	J & B Mobile Repair Inc	2747 4th Avenue S	UST	Low	No
656	SODO	Mac Collom W L	1915 6th Avenue S	EDR Hist Auto	Low	No
659	SODO	Mac S Garage	2217 4th Avenue S	EDR Hist Auto	Low	No
662	SODO	Macmillan Piper	185 S Holgate Street	ICR	Low	Yes
726	SODO	Mobile Truck Service	2214 4th Avenue S	CSCSL NFA, ICR, RGA HWS, RGA LUST	Low	Yes
738	SODO	Murray S Truck Terminal	2244 6th Avenue S	EDR Hist Auto	Low	No
901	SODO	R H Brown Co	1900 4th Avenue S	UST	Low	No
911	SODO	Rivers Herbt T	2463 4th Avenue S	EDR Hist Auto	Low	No
981	SODO	Seattle Department Of Transportation	3rd Avenue S & S Walker Street	CSCSL NFA	Low	Yes
1078	SODO	Star Rentals & Sales	1919 4th Avenue S	CSCSL, LUST, RGA LUST, UST, VCP	Low	Yes
1116	SODO	System Transfer & Storage Co	2400 6th Avenue S	CSCSL NFA, UST	Low	Yes
1117	SODO	System Transfer & Storage Company	2417 8th Avenue S	UST	Low	No
1125	SODO	Taylor Edwards Transfer	615 S Holgate Street	ICR	Low	No
1148	SODO	Total Reclaim Inc	2200 6th Avenue S	EDR Hist Auto, PADS, PCB TRANSFORMER, RGA LF, US AIRS	Low	No
1149	SODO	Total Reclaim Inc. 6th Avenue S/Taylow Edwards Inc.	1930 6th Avenue S	CSCSL NFA, ICR, LUST, RCRA-LQG, RGA HWS, RGA LUST, UST	Low	Yes
1161	SODO	Trulabs LLC	624 South Lander Street #48	SSTS	Low	No
1168	SODO	U.S. Postal Service	2401-2445 3rd Avenue S	ICR, RGA LUST, ICR	Low	Yes
1195	SODO	USPS Vehicle Maintenance Facility	2460 4th Avenue S	RCRA-VSQG, UST	Low	No
1207	SODO	Century Automotive Service	2203 4th Avenue S	EDR Hist Auto	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
1208	SODO	Pague Virgil J	1901 4th Avenue S	EDR Hist Auto	Low	No
1239	SODO	Wesco Distribution Seattle	2233 6th Avenue S	CSCSL NFA	Low	Yes
1267	SODO	Western Petroleum	2739 4th Avenue S	CSCSL NFA, LUST, RGA HWS, RGA LUST, UST	Low	Yes
1415	SODO	2424 8th Avenue S	2424 8th Avenue S	RCRA-LQG	Low	No
1417	SODO	All Custom Metal Arts	47.5819/-122.326444	PFAS ECHO	Low	No
1419	SODO	Process Heating Company	2732 3rd Avenue S	SWF/LF	Low	No
1420	SODO	Southern Alaska Forwarders	646 S Holgate Street	CSCSL NFA, LUST, RGA HWS, UST, VCP	Low	Yes
1421	SODO	Towmasters Inc	707 S Lander Street	EDR Hist Auto	Low	No
107	SODO	Austin Mack	2739 6th Avenue S	CSCSL, RGA HWS	Medium	Yes
406	SODO	Flajole Brothers Inc	2201 4th Avenue S	CSCSL, EDR Hist Auto, HSL, ICR, LUST, RGA LUST, UST	Medium	Yes
472	SODO	Gray Line Of Seattle	720 S Forest Street	CSCSL, HSL, ICR, LUST, RGA LUST, UST	Medium	Yes
560	SODO	Jack in the Box 4th & Holgate	1907 4th Avenue S	CSCSL, HSL, ICR, LUST, RGA HWS, RGA LUST, UST	Medium	Yes
606	SODO	King County Metro Transit Power Distribution	2255 4th Avenue S	CSCSL, HSL, LUST, RCRA-VSQG, RGA HWS, RGA LUST, UST	Medium	Yes
663	SODO	Macmillan-Piper Facility/Maust Terminal	1762 6th Avenue S	CSCSL, LUST, PRP, RGA HWS, RGA LUST, SEMS-ARCHIVE, UST	Medium	Yes
754	SODO	Newell Properties	2730 4th Avenue S.	CSCSL, HSL, ICR, LUST, RGA HWS, RGA LUST, UST	Medium	Yes
797	SODO	Pacific Chem & Cleaning Co/Arco #4090	2200 4th Avenue S	CSCSL, CSCSL NFA, EDR Hist Auto, ICR, LUST, RGA LUST, SEMS-ARCHIVE, UIC, UST, VCP	Medium	Yes
864	SODO	Pyramid Tire/Big O Tires 4 Less Seattle	2701 4th Avenue S	CSCSL, EDR Hist Auto, LUST, RCRA-VSQG, RGA HWS, RGA LUST, UST	Medium	Yes
877	SODO	Rabanco Recycling (3rd and Lander)	2733 3rd Avenue S	RGA LF, SWF/LF	Medium	No

ID	Segment	Name	Address	Database	Rank	Documented Release
976	SODO	Seattle City Row Holgate & 3rd	Holgate Avenue & 3rd Avenue S	CSCSL	Medium	Yes
1006	SODO	Seattle School Dist John Stanford Center	2445 3rd Avenue S	CSCSL, HSL, INST CONTROL, LUST, RGA HWS, RGA LUST, UST, VCP	Medium	Yes
1033	SODO	Shell Station 120993/Texaco #63 232 0043	2461 4th Avenue S	CSCSL, EDR Hist Auto, ICR, 0, LUST, PTAP, RGA HWS, RGA LUST, UST, VCP	Medium	Yes
1386	SODO	Pacific Iron & Metal	2230 4th Avenue S	CSCSL, PRP, RGA HWS, RGA LF, SWF/LF, UST	Medium	Yes
1416	SODO	610 Walker Street	610 Walker Street	AQUEOUS FOAM NRC	Medium	Yes
1418	SODO	Go Green Mechanical	2535 Airport Way S	CSCSL, EDR Hist Auto, LUST, RGA LUST, UST	Medium	Yes
805	Delridge	Nucor Steel Seattle Inc	2424 SW Andover Street	CSCSL, LUST, PADS, PRP, RCRA-LQG, RGA HWS, RGA LF, SWF/LF, US AIRS, UST, ICR, RGA HWS, RGA LUST	High	Yes
13	Delridge	4053 Southwest 23rd	4053 SW 23rd Avenue	US CDL	Low	No
121	Delridge	B and M Cleaners	4034 SW Delridge Way	EDR Hist Cleaner	Low	No
203	Delridge	D and O Auto Repair	2938 Avalon Way SW	EDR Hist Auto	Low	No
210	Delridge	Brown Horace	4044 Delridge Way SW	EDR Hist Cleaner	Low	No
281	Delridge	Cleaning By Clark	4032 Delridge Way SW	EDR Hist Cleaner	Low	No
315	Delridge	Delridge Cleaners	3805 Delridge Way SW	EDR Hist Cleaner	Low	No
519	Delridge	Hodges And Delin	2637 W Andover	EDR Hist Auto	Low	No
576	Delridge	Joes Super Service	3817 Delridge Way SW	EDR Hist Auto, UST	Low	No
1251	Delridge	West Seattle Dye Wks	2627 W Andover	EDR Hist Cleaner	Low	No
1260	Delridge	West Seattle Recycling	2964 SW Avalon Way	CSCSL NFA, ICR, LUST, RGA LUST, UST	Low	Yes
1400	Delridge	Longfellow Creek AB Genesee Street NR West Seattle, Wa	(blank)	PFAS WQP	Low	No
1401	Delridge	Seattle Steel Cooling Pond	28th Avenue SW & SW Andover Street	CSCSL NFA, RGA HWS	Medium	Yes

ID	Segment	Name	Address	Database	Rank	Documented Release
1402	Delridge	Seattle Steel Inc	4045 Delridge Way SW	RAATS, RCRA-TSDF, SEMS-ARCHIVE	Low	No
151	Delridge	Bayview Development Partners	4050 30th Avenue SW	CSCSL, EDR Hist Auto, EDR Hist Cleaner, HSL, RGA HWS	Medium	Yes
979	Delridge	Seattle Commerce Center	Delridge Way SW & Andover SW	CSCSL, HSL, RGA HWS	Medium	Yes
715	Duwamish	Business Pro Computers	3433 4th Avenue S	CSCSL, ICR, INST CONTROL, LUST, RGA HWS, RGA LUST, UST, VCP	High	Yes
728	Duwamish	Enterprises NW	3422 1st Avenue S	CSCSL, HSL, RGA HWS, UST, VCP	High	Yes
736	Duwamish	Sw Harbor Project	26th Avenue SW & SW Spokane Street	CSCSL, INST CONTROL	High	Yes
744	Duwamish	Buffalo Industries	99 S Spokane Street	CSCSL, EDR Hist Cleaner, PRP, PTAP, RCRA-SQG, RGA LF, SWF/LF	High	Yes
770	Duwamish	Nelson Iron Works/Irish Foundry	45 S Spokane Street	CSCSL, ICR, RGA HWS, US BROWNFIELDS, VCP	High	Yes
774	Duwamish	Port of Seattle Terminal #106nw	3629 Duwamish Avenue S	CSCSL, ICR, LUST, RGA HWS	High	Yes
748	Duwamish	Island Tug & Barge	3546 West Marginal Way SW	CSCSL, UST	High	Yes
27	Duwamish	A Bet Radiator Co	3462 4th Avenue S	EDR Hist Auto	Low	No
39	Duwamish	Ackerley Communications	3601 6th Avenue S	CSCSL NFA, LUST, PRP, RGA LUST, UST	Low	Yes
47	Duwamish	Alaska Rental Equipment Co Inc	3301 Airport Way S	UST	Low	No
73	Duwamish	Andrews Machinery of Washington Inc	3633 East Marginal Way S	UST	Low	No
82	Duwamish	Aramark Uniform Services Inc	55 S Spokane Street	DRYCLEANERS, UST	Low	No
86	Duwamish	Arco Lake City Way NE Seattle	3860 Lake City Way NE	UST	Low	No
97	Duwamish	Associated Auto Body and Fender Works	3304 East Marginal Way S	EDR Hist Auto	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
116	Duwamish	Automotive Safety House Inc	3414 4th Avenue S	EDR Hist Auto	Low	No
164	Duwamish	Berringer Wm J	1045 SW Spokane Street	EDR Hist Auto	Low	No
166	Duwamish	Better Cleaners	3603 4th Avenue S	EDR Hist Cleaner	Low	No
190	Duwamish	Bow Wow Service Center	2920 6th Avenue S	EDR Hist Auto	Low	No
221	Duwamish	Burger King 4th Avenue S	3301 4th Avenue S	CSCSL NFA, ICR, LUST, RGA LUST, UST	Low	Yes
227	Duwamish	California & Hawaiian Sugar Co	2 S Horton Street	UST	Low	No
238	Duwamish	Carmichael Frank P	Spokane & W Marginal Way	EDR Hist Auto	Low	No
251	Duwamish	Century Automotive Slrvce	2933 4th Avenue S	EDR Hist Auto	Low	No
276	Duwamish	Clark Donald M	232 Spokane	EDR Hist Auto	Low	No
291	Duwamish	Compton Lumber Company	3847 1st Avenue S; PO Box 84972	UST	Low	No
304	Duwamish	Crain NW Inc	3434 4th Avenue S	CSCSL NFA, UST, VCP	Low	Yes
307	Duwamish	Crescent Foods Warehouse	25 S Hanford Street	ICR, RGA LUST	Low	Yes
308	Duwamish	Curtis And Dalby Automotive Inc	628 Hanford	EDR Hist Auto	Low	No
322	Duwamish	Dick S Mobil Service	3519 Airport Way S	EDR Hist Auto	Low	No
340	Duwamish	Duroboat Mfg Co Inc	1140 SW Dakota Street	UST	Low	No
341	Duwamish	Dw Close Company Inc	3317 3rd Avenue S	UST	Low	No
385	Duwamish	Blooms Auto Electric	3423 4th Avenue S	UST	Low	No
408	Duwamish	Fleharty J A	1003 W Spokane Street	EDR Hist Auto	Low	No
409	Duwamish	Fletcher General Construction	3838 West Marginal Way SW	CSCSL NFA, ICR, LUST, RCRA-VSQG, RGA HWS, RGA LUST, UST	Low	Yes
430	Duwamish	Franz Seattle	2901 6th Avenue S	CSCSL NFA, ICR, LUST, RGA HWS, RGA LUST, SEMS-ARCHIVE, US AIRS, UST	Low	Yes

ID	Segment	Name	Address	Database	Rank	Documented Release
479	Duwamish	Green S Automotive	3300 4th Avenue S	EDR Hist Auto	Low	No
490	Duwamish	Gull Industries Inc	3404 4th Avenue S	EDR Hist Auto	Low	No
499	Duwamish	Harbor Marina Corporate Center	1001 SW Klickitat Way	CSCSL, EDR Hist Auto, HSL, ICR, LUST, PADS, RGA LUST, UST	Low	Yes
544	Duwamish	Industrial Office Complex	3400 11th Avenue SW	CSCSL, HSL	Low	Yes
582	Duwamish	Johnson S Service	1047 W Spokane Street	EDR Hist Auto	Low	No
600	Duwamish	King Cnty Solid Waste Div Seattle/Fisher Mills Inc	3235 16th Avenue SW	CSCSL, ICR, LUST, PFAS ECHO, PRP, RGA LUST, RMP, US BROWNFIELDS, UST	Low	Yes
610	Duwamish	Kings Transmissions	2939 4th Avenue S	EDR Hist Auto	Low	No
621	Duwamish	Straley S Ed Service	909 SW Spokane Street	EDR Hist Auto	Low	No
649	Duwamish	Lovstead Industries	3300 Airport Way S	CSCSL NFA	Low	Yes
677	Duwamish	Markey Machinery Co Inc	79 S Horton Street	CSCSL NFA, RGA HWS, VCP	Low	Yes
691	Duwamish	Mc Glenn Thos G	228 Spokane	EDR Hist Auto	Low	No
697	Duwamish	Mce Technologies Inc	3670 E Marginal Way S	CSCSL NFA, RGA HWS, UST, VCP	Low	Yes
731	Duwamish	Morel Foundry Corporation	3400 26th SW	UST	Low	No
771	Duwamish	Obert Marine Supply Inc	3441 2nd Avenue S	UST	Low	No
778	Duwamish	Ole And Charlies High And Dry Company	3568 W Marginal Way SW	PRP, UST	Low	No
794	Duwamish	Owl Transfer & Storage Co Inc	3623 6th Avenue S	PRP, RGA LUST, UST	Low	Yes
809	Duwamish	Pacific Rendering Co Inc	4034 W Marginal Way SW	RGA LF, SWF/LF, US AIRS	Low	No
829	Duwamish	Phantom Restorations	30 S Horton Street	EDR Hist Auto	Low	No
849	Duwamish	Praxair Distribution Inc	3623 East Marginal Way S	UST	Low	No
851	Duwamish	Preservative Paint Company	3410 Airport Way S	ICR	Low	Yes



ID	Segment	Name	Address	Database	Rank	Documented Release
858	Duwamish	Former Psf Industries Horton Street	65 S Horton Street	RCRA-VSQG, UIC, UST	Low	No
862	Duwamish	Puget Sound Electric Supply Inc	640 S Spokane Street	CSCSL NFA, UST, VCP	Low	Yes
907	Duwamish	Riggs Automotive Maintenance	3229 Airport Way S	EDR Hist Auto	Low	No
912	Duwamish	Riverside Body and Fender Works	3851 West Marginal Way	EDR Hist Auto	Low	No
914	Duwamish	Rogers Olympic Corp	151 S Horton Street	UST	Low	No
923	Duwamish	Rose E W	3319 4th Avenue S	EDR Hist Auto	Low	No
927	Duwamish	Rowe Property	3848 22nd Avenue SW	CSCSL NFA	Low	Yes
932	Duwamish	Rutledge & Martin	2340 SW Spokane Street	CSCSL NFA, ICR, LUST, RGA HWS, RGA LUST, UST	Low	Yes
947	Duwamish	Scalzo Company	3211 Airport Way S	ICR, RGA LUST	Low	Yes
972	Duwamish	Seattle City Light Andover Property	2100 SW Andover Street	CSCSL NFA, PCB TRANSFORMER	Low	Yes
974	Duwamish	Seattle City Light South Substation	4th Avenue S & Spokane Street	ICR	Low	Yes
990	Duwamish	Seattle Fire Station 36	3600 23rd Avenue S W	CSCSL NFA, LUST, UST	Low	Yes
998	Duwamish	Seattle Port Terminal 106 North	3440 East Marginal Way S	UST	Low	No
1003	Duwamish	Seattle Row 2nd & Spokane	(blank)	HSL	Low	No
1009	Duwamish	Seattle Steel Industrial Fasteners	3800 West Marginal Way SW	CSCSL NFA, ICR, LUST, PRP, UST	Low	Yes
1036	Duwamish	Sherwin Williams Pain Co 6th Avenue Seattle	2940 6th Avenue S	RCRA-LQG	Low	No
1046	Duwamish	Skeel Enterprises Inc	3221 4th Avenue	EDR Hist Auto	Low	No
1056	Duwamish	Sound Transit Link Op & Maintenance Fac	3407 Airport Way S	RCRA-VSQG	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
1066	Duwamish	Spokane Street Service	1043 SW Spokane Street	EDR Hist Auto	Low	No
1070	Duwamish	SSA Terminals, Llc - T-18	1050 SW Spokane Street	RCRA-SQG, US BROWNFIELDS	Low	Yes
1084	Duwamish	Sterling S Sooper Save	1000 SW Spokane Street	EDR Hist Auto	Low	No
1085	Duwamish	Stevedoring Services Of America	3415 11th Avenue SW	CSCSL NFA, LUST, RGA HWS, RGA LUST, UST	Low	Yes
1094	Duwamish	Lucks, Oscar	3434 2nd Avenue S	PRP	Low	No
1093	Duwamish	Straleys Dean Union 76	3460 2nd Avenue S	EDR Hist Auto	Low	No
1109	Duwamish	Swendsen Berg S	3632 23rd Avenue SW	EDR Hist Auto	Low	No
1115	Duwamish	System Supply	2324 SW Spokane Street	UST	Low	No
1138	Duwamish	Time Oil Station	3461 4th Avenue S	EDR Hist Auto	Low	No
1155	Duwamish	Transport Equipment Co	3400 6th Avenue S	UST	Low	No
1158	Duwamish	Triple B Corporation Db Charles Produc	3844 1st Avenue S	UST	Low	No
1172	Duwamish	Union Seventy Six Service Sta	3231 4th Avenue S	EDR Hist Auto	Low	No
1187	Duwamish	UPRR Harbor Island Klickitat Avenue SW Spill	Klickitat Avenue SW & W Seattle Freeway	CSCSL NFA	Low	Yes
1200	Duwamish	Van Patten Service	900 W Spokane Street	EDR Hist Auto	Low	No
1261	Duwamish	West Seattle Recycling Center	3881 16th Avenue SW	RGA LF, SWF/LF	Low	No
1266	Duwamish	Western Peterbilt	3707 Airport Way S	CSCSL, HSL, LUST, RGA LUST, UST, RGA LUST	Low	Yes
1270	Duwamish	Western Steel Casting Co	145 S Horton Street	CSCSL NFA, ICR, LUST, RGA HWS, RGA LUST, UST, VCP	Low	Yes
1272	Duwamish	Western Union Tel Co Ust 97406	3663 1st Avenue S	UST	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
1314	Duwamish	Young Corporation	3231 Utah Avenue S	PFAS ECHO, US AIRS	Low	No
1365	Duwamish	Bei Chempro Field Svcs Ps	3400 East Marginal Way S	CSCSL NFA, PFAS ECHO	Low	Yes
1365	Duwamish	Crowley Environmental Services Corp	3400 East Marginal Way S	SEMS-ARCHIVE	Low	No
1367	Duwamish	Cascade Designs DbA Mountain Safety Research	3800 1st Avenue S	RCRA-VSQQ, SSTS	Low	No
1374	Duwamish	Sunset Garage	1001 W Spokane Street	EDR Hist Auto	Low	No
1403	Duwamish	Amway Corp	47.57302/-122.36278	PFAS ECHO	Low	No
1404	Duwamish	Buffalo Investments	3420 East Marginal Way S	CSCSL NFA, PTAP	Low	Yes
1405	Duwamish	Colorado Street Facility Rainier Petro	47.571111/-122.343056	PFAS ECHO	Low	No
1406	Duwamish	Emerald City Chemical Inc	2300 SW Spokane Street	SSTS	Low	No
1407	Duwamish	Larson S Brake Service	2901 4th Avenue S	EDR Hist Auto	Low	No
1408	Duwamish	Puget Sound Industry Services Inc.	3407 Airport Way S	US BROWNFIELDS	Low	Yes
1409	Duwamish	Seattle Nissan	3412 Airport Way S	RCRA-SQG	Low	No
1411	Duwamish	Skyline Electric and Manufacturing	47.570806/-122.32439	PFAS ECHO	Low	No
1412	Duwamish	Union Pacific RR Dakota	55 S Dakota Street	CSCSL NFA	Low	Yes
1413	Duwamish	West Coast Trucking	3433 Airport Way S, Suite A	PADS	Low	No
1414	Duwamish	Young Corporation Meltec Division	47.5725/-122.351416	PFAS ECHO	Low	No
1430	Duwamish	Seattle Pottery Supply	35 S Hanford Street	RCRA-LQG	Low	No
1431	Duwamish	Consolidated Press Seattle	47.57164/-122.32597	PFAS ECHO	Low	No
30	Duwamish	A.O. Smith Corp	60 S Spokane Street	CSCSL, CSCSL NFA, LUST, RGA LUST, UST	Medium	Yes

ID	Segment	Name	Address	Database	Rank	Documented Release
40	Duwamish	Acme Intercity Freight	3414 2nd Avenue S	CSCSL, HSL, ICR, LUST, PRP, RGA HWS, RGA LUST, UST, VCP	Medium	Yes
44	Duwamish	Alaska Copper & Brass	3223 6th Avenue S	CSCSL, RGA HWS, SWF/LF	Medium	No
49	Duwamish	Alaskan Copper & Brass 3405 6th Avenue	3405 6th Avenue S	ICR	Medium	Yes
50	Duwamish	Alaskan Copper Works	3200 6th Avenue S	PFAS ECHO, RCRA-LQG, RGA HWS	Medium	No
51	Duwamish	Alaskan Copper Works Seattle	3600 East Marginal Way S	CSCSL, HSL, RGA HWS	Medium	Yes
92	Duwamish	Asahipen America Inc	1128 SW Spokane Street	CSCSL NFA, INST CONTROL, PRP, RGA HWS, UST, VCP	Medium	Yes
94	Duwamish	Ash Grove Cement Co, E Marginal	3801 East Marginal Way S	CSCSL, HSL, PFAS ECHO, RCRA-VSQQ, RGA HWS, SEMS-ARCHIVE, US AIRS, US MINES, 0	Medium	Yes
142	Duwamish	Bargreen Ellingson	3627 1st Avenue S	CSCSL	Medium	Yes
194	Duwamish	BP/Southcenter Oil/Pacific Express	3215 4th Avenue S	CSCSL, EDR Hist Auto, ICR, LUST, RGA HWS, RGA LUST, UIC, UST, VCP	Medium	Yes
240	Duwamish	Cascade Commercial Company	3825 1st Avenue S	RGA LUST	Medium	Yes
240	Duwamish	Discount Office Furniture	3825 1st Avenue S	CSCSL, HSL, LUST, RGA HWS, RGA LUST, UST	Medium	Yes
292	Duwamish	Concrete Restoration Inc/Brys Auto Wrecking	4025 West Marginal Way SW	CSCSL, HSL, RGA HWS, VCP	Medium	Yes
325	Duwamish	Dinol US Inc W Marginal Way	3480 West Marginal Way S	CSCSL, PFAS ECHO	Medium	Yes
342	Duwamish	E Marginal Way Grade Separation Proj Row	Duwamish Way S & S Spokane Street	CSCSL, HSL	Medium	Yes
343	Duwamish	E Marginal Way S Bridge Rehabilitation	East Marginal Way S at S Horton Street	CSCSL	Medium	Yes
347	Duwamish	Earthwise	3447 4th Avenue South, Suite E	SWF/LF	Medium	No

ID	Segment	Name	Address	Database	Rank	Documented Release
348	Duwamish	East Marginal Grade Separation Project	1600 Duwamish	UIC	Medium	No
695	Duwamish	MC Terminals	40 S Spokane Street	CSCSL, ICR, RGA HWS	Medium	Yes
696	Duwamish	Holiday Resales	3605 Airport Way S	CSCSL NFA, INST CONTROL, RGA HWS, SEMS-ARCHIVE, VCP	Medium	Yes
733	Duwamish	Moss G Milan Property	537 S Spokane Street	CSCSL, HSL, RGA HWS, VCP	Medium	Yes
765	Duwamish	Northwest Castings Inc	3411 1st Avenue S	US AIRS	Medium	Yes
766	Duwamish	Northwest Motor Repair	2930 6th Avenue S	CSCSL, HSL, LUST, RGA LUST, UST	Medium	Yes
812	Duwamish	Pacific Trucking Seattle	300 S Spokane Street	CSCSL, ICR, LUST, RCRA-SQG, RGA HWS, RGA LUST, UST	Medium	Yes
825	Duwamish	Penske Truck Leasing Co LP	3443 1st Avenue S	CSCSL, HSL, ICR, LUST, RCRA-VSQQ, RGA HWS, RGA LUST, UST	Medium	Yes
844	Duwamish	Ponchos Legacy Property	3685 Duwamish Avenue S	CSCSL, HSL, RGA HWS, VCP	Medium	Yes
846	Duwamish	Horton Maintenance Shoop	25 S Horton Street	RGA LUST	Medium	Yes
846	Duwamish	Port of Seattle-Horton Maintenance Shop	25 S Horton Street	CSCSL NFA, ICR, LUST, RGA LUST, UST	Medium	Yes
894	Duwamish	REI Woodworking Former	3314 4th Avenue S	ICR, RGA LUST	Medium	Yes
900	Duwamish	Pacific Sheet Metal/Rex Metal Works	100 111 115 117 S Spokane Street	CSCSL, LEAD SMELTERS, PFAS ECHO	Medium	Yes
906	Duwamish	Riedel International	910 SW Spokane Street	AQUEOUS FOAM, AQUEOUS FOAM NRC, CSCSL, LUST, RCRA-SQG, UST, RGA HWS, RGA LUST	Medium	Yes
951	Duwamish	Schucks Auto Supply	2905 4th Avenue S	CSCSL, HSL, ICR, LUST, RGA LUST, UST	Medium	Yes
969	Duwamish	Seattle City Light South Service Center	3613 4th Avenue S	CSCSL, HSL, ICR, LUST, PADS, RCRA-VSQQ, RGA HWS, RGA LF, RGA LUST, SEMS-ARCHIVE, SWF/LF, UST	Medium	Yes
971	Duwamish	Seattle City Light 4th Avenue S	3814 4th Avenue S	CSCSL, HSL, ICR, RGA HWS	Medium	Yes
986	Duwamish	Seattle Fire Station 14	3224 4th Avenue S	CSCSL, HSL, ICR, LUST, RGA LUST, UIC, UST	Medium	Yes

ID	Segment	Name	Address	Database	Rank	Documented Release
1182	Duwamish	Unocal 5472	3460 1st Avenue S	CSCSL, EDR Hist Auto, HSL, ICR, LUST, PTAP, RGA HWS, RGA LUST, UST, VCP	Medium	Yes
1234	Duwamish	WA DOT Seattle S Spokane Street	450 S Spokane Street	CSCSL, ICR, LUST, RGA LUST, UIC, UST	Medium	Yes
1281	Duwamish	WG Recycling Center	3408 1st Avenue S #B	RGA LF, SWF/LF	Medium	Yes
1360	Duwamish	Andys Diner Inc	3201 4th Avenue S	CSCSL, EDR Hist Auto, HSL, ICR, LUST, RGA LUST, UST	Medium	Yes
1378	Duwamish	Lockheed West Seattle	3443 West Marginal Way	NPL, PRP, RCRA-SQG, ROD, SEMS, US ENG CONTROLS, US INST CONTROLS	Medium	Yes
1410	Duwamish	Sixth South And South of Spokane	2900 Block of Sixth Avenue S, Spokane Street A	SWF/LF	Medium	No
931	West Seattle Junction	House of Kleen Inc	4425 Fauntleroy Way SW	CSCSL, DRYCLEANERS, EDR Hist Auto, EDR Hist Cleaner, HSL, ICR, Inactive Drycleaners, RGA HWS, UIC, VCP	High	Yes
943	West Seattle Junction	Conocophillips 30124/BP 11060-30124/Tosco 11060-30124	4580 Fauntleroy Way SW	CSCSL, EDR Hist Auto, ICR, LUST, RGA HWS, RGA LUST, UST, VCP	High	Yes
31	West Seattle Junction	AA Rentals West Seattle	4722 Fauntleroy Way SW	CSCSL NFA, EDR Hist Auto, VCP	Low	Yes
36	West Seattle Junction	Burnill and Nicholson	4557 Fauntleroy Way SW	EDR Hist Auto	Low	No
46	West Seattle Junction	Alaska House	4545 42nd Avenue SW	CSCSL NFA, VCP	Low	Yes
71	West Seattle Junction	Andresen Chrysler Plymouth	4019 SW Alaska Street	EDR Hist Auto	Low	No
80	West Seattle Junction	Antique Auto Restoration	3604 SW Alaska Street	EDR Hist Auto	Low	No
118	West Seattle Junction	Avalon Cleaners	4418 35th Avenue SW	EDR Hist Cleaner	Low	No
165	West Seattle Junction	Kraff S Better Cleaners	4509 California Avenue SW	EDR Hist Cleaner	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
236	West Seattle Junction	Carlsen And Winquist	4421 Fauntleroy Way SW	EDR Hist Auto	Low	No
237	West Seattle Junction	Carlsen and Winquist Service	4480 Fauntleroy Way SW	EDR Hist Auto	Low	No
254	West Seattle Junction	Cheadle Kennan	4714 California Avenue SW	EDR Hist Auto	Low	No
284	West Seattle Junction	Cole S Auto Repair	4509 38th Avenue SW	EDR Hist Auto	Low	No
312	West Seattle Junction	Davis Arth N	4805 California Avenue SW	EDR Hist Auto	Low	No
320	West Seattle Junction	Maytag Laundrymat	4748 California Avenue SW	EDR Hist Cleaner	Low	No
388	West Seattle Junction	Fashion Care Professional Drycleaning	4610 California Avenue SW	EDR Hist Cleaner	Low	No
389	West Seattle Junction	Fashion Care Professional Drycleaning	4710 California Avenue SW	EDR Hist Cleaner	Low	No
413	West Seattle Junction	Foreign Car Workshop	4603 37th Avenue SW	EDR Hist Auto	Low	No
432	West Seattle Junction	Ed S Auto Rebuild Inc	4510 37th Avenue SW	EDR Hist Auto	Low	No
464	West Seattle Junction	Gorne S Cleaners	4506 California Avenue SW	EDR Hist Cleaner, EDR Hist Cleaner	Low	No
464	West Seattle Junction	Gorne S Cleaners	4512 California Avenue SW	EDR Hist Cleaner, EDR Hist Cleaner	Low	No
495	West Seattle Junction	Hancock Fabrics	3922 SW Alaska Street	CSCSL NFA, ICR, LUST, RGA LUST, UST, VCP	Low	Yes
518	West Seattle Junction	Hineline Douglas	4806 Erskine Way	EDR Hist Auto	Low	No
521	West Seattle Junction	Hoffman S Auto Rebuild	4527 Fauntleroy Way SW	EDR Hist Auto	Low	No
535	West Seattle Junction	Huling Bros Buick Inc	4545 Fauntleroy Way SW	EDR Hist Auto, UST	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
536	West Seattle Junction	Huling Bros Chevrolet	4755 Fauntleroy Way SW	CSCSL, LUST, UST, VCP	Low	Yes
537	West Seattle Junction	Huling Bros Chrysler Plymouth Jeep Eagle	4550 38th Avenue SW	UST	Low	No
538	West Seattle Junction	Huling Bros Inc Body Shop	4724 40th Avenue SW	CSCSL, VCP	Low	Yes
539	West Seattle Junction	Franciscan Medical Clinic	4550 Fauntleroy Way SW	CSCSL	Low	Yes
573	West Seattle Junction	Jim S Shell	4479 Fauntleroy Way SW	EDR Hist Auto	Low	No
577	West Seattle Junction	John & Maria Campagnaro LLC	4721 38th Avenue SW	CSCSL NFA, LUST, RGA LUST, UST	Low	Yes
584	West Seattle Junction	Johnston Roy E	4459 Fauntleroy Way SW	EDR Hist Auto	Low	No
588	West Seattle Junction	Junction Manufacturing	4422 36th Avenue SW, PO Box 16345	UST	Low	No
613	West Seattle Junction	Kleen King Car Wash	4440 Fauntleroy Way SW	EDR Hist Auto	Low	No
628	West Seattle Junction	Launder Well Self-Service Laundry.	4814 Erskine Way	EDR Hist Cleaner	Low	No
638	West Seattle Junction	Lewis A S	4513 California Avenue SW	EDR Hist Auto	Low	No
646	West Seattle Junction	Lobb Aug C	3507 SW Avalon Way	EDR Hist Auto	Low	No
692	West Seattle Junction	Mc Kelvey Enterprises	4451 35th Avenue SW	EDR Hist Auto	Low	No
719	West Seattle Junction	Misha 76	4508 Fauntleroy Way SW	EDR Hist Auto, RGA LUST	Low	Yes
798	West Seattle Junction	Pacific Dye Works Inc.	4537 39th Avenue SW	EDR Hist Cleaner	Low	No
801	West Seattle Junction	Pacific Dye Works Inc	4507 California Avenue SW	EDR Hist Cleaner	Low	No



ID	Segment	Name	Address	Database	Rank	Documented Release
815	West Seattle Junction	Parcel Ws232 West Fuel	4455 35th Avenue SW	CSCSL NFA, RGA HWS, UST, VCP	Low	Yes
822	West Seattle Junction	Peitz Julian F S	4728 California Avenue SW	EDR Hist Cleaner	Low	No
837	West Seattle Junction	Pierce Jas W	4450 Fauntleroy Way SW	EDR Hist Auto	Low	No
855	West Seattle Junction	Providence Mount Street. Vincent	4831 35th Avenue SW	PADS, UST	Low	No
866	West Seattle Junction	Quality Auto Rebuild	4623 36th Avenue SW	EDR Hist Auto	Low	No
872	West Seattle Junction	Quick	24 3901 SW Alaska Street	EDR Hist Auto	Low	No
890	West Seattle Junction	Real Estate Associates	4815 California Avenue SW	UST	Low	No
896	West Seattle Junction	Residence	4426 41st Avenue SW	ICR	Low	Yes
910	West Seattle Junction	Rite Aid #5223	5217 California Avenue SW	RCRA-VSQG	Low	No
935	West Seattle Junction	Safeway Store 1062	4754 42nd Avenue SW	RCRA-VSQG	Low	No
940	West Seattle Junction	Sandy S Shell Service	4414 36th Avenue SW	EDR Hist Auto	Low	No
989	West Seattle Junction	Seattle Fire Station 32	3715 SW Alaska Street	UST	Low	No
1029	West Seattle Junction	Shaw S Texaco Service	5027 California Avenue SW	EDR Hist Auto	Low	No
1045	West Seattle Junction	Sixty Minute Tune	3940 SW Alaska Street	EDR Hist Auto	Low	No
1047	West Seattle Junction	Skelly And Bean	4409 California Avenue SW	EDR Hist Auto	Low	No
1067	West Seattle Junction	Spotless Cleaning	4821 California Avenue SW	EDR Hist Cleaner	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
1072	West Seattle Junction	Standard Stations Inc	3407 Avalon Way SW	EDR Hist Auto	Low	No
1143	West Seattle Junction	Tom S Automotive	3616 SW Oregon Street	EDR Hist Auto	Low	No
1169	West Seattle Junction	U.S. West Business Resources	4927 California Avenue SW	ICR	Low	Yes
1205	West Seattle Junction	Vieta Dry Cleaners	4628 Fauntleroy Way SW	EDR Hist Cleaner	Low	No
1226	West Seattle Junction	Wardrobe Cleaners	4549 California Avenue SW	EDR Hist Cleaner	Low	No
1228	West Seattle Junction	W Ardrobe Cleaners	4516 California Avenue SW	EDR Hist Cleaner	Low	No
1244	West Seattle Junction	Qwest Corporation W00297	4427 California Avenue SW	CSCSL NFA, ICR, LUST, RGA LUST, UST	Low	Yes
1245	West Seattle Junction	West End Garage	4720 California Avenue SW	EDR Hist Auto	Low	No
1248	West Seattle Junction	West Seattle Auto Machine	4459 36th Avenue SW	EDR Hist Auto	Low	No
1249	West Seattle Junction	West Seattle Brake Service	4464 37th Avenue SW	EDR Hist Auto	Low	No
1252	West Seattle Junction	West Seattle Golf Course 92	4470 35th Avenue SW	CSCSL NFA, ICR, LUST, RGA HWS, RGA LUST, UST	Low	Yes
1255	West Seattle Junction	West Seattle Nash Inc	4815 California Avenue SW	EDR Hist Auto	Low	No
1257	West Seattle Junction	West Seattle One Hour Martinizing	4524 Fauntleroy Way SW	EDR Hist Cleaner	Low	No
1258	West Seattle Junction	West Seattle Properties	5001 California Avenue SW	UST	Low	No
1259	West Seattle Junction	West Seattle Radiator Service	4460 37th Avenue SW	EDR Hist Auto	Low	No
1262	West Seattle Junction	West Seattle Transmission And Automobile Repair	4754 Fauntleroy Way SW	EDR Hist Auto	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
1263	West Seattle Junction	West Side Service	4805 Erskine Way SW	EDR Hist Auto	Low	No
1277	West Seattle Junction	Westside Clrs & Alterations	4154 California Avenue SW	EDR Hist Cleaner	Low	No
1277	West Seattle Junction	Westside Clrs & Alterations	4536 California Avenue SW	EDR Hist Cleaner	Low	No
1279	West Seattle Junction	Westside Import Repair	3606 SW Alaska Street	EDR Hist Auto	Low	No
1283	West Seattle Junction	Whirlomat	4825 California Avenue SW	EDR Hist Cleaner	Low	No
1309	West Seattle Junction	Xilev S Service	4551 Fauntleroy Way SW	EDR Hist Auto	Low	No
1422	West Seattle Junction	Avalon Power Station	35th Avenue SE & SW Genessee Street	PCB TRANSFORMER	Low	No
1423	West Seattle Junction	Burton S Glen Chevron Service	4700 Fauntleroy Way SW	EDR Hist Auto	Low	No
1425	West Seattle Junction	Logan Kenneth D	4801 Erskine Way	EDR Hist Auto	Low	No
1426	West Seattle Junction	Pep Boys #6452	4441 Fauntleroy Way SW	RCRA-VSQG	Low	No
1427	West Seattle Junction	Petco #1256	4100 SW Alaska Street	RCRA-VSQG	Low	No
1428	West Seattle Junction	Rite Aid 6916 Dba Bartells 016	4706 42nd Avenue SW	RCRA-VSQG	Low	No
1429	West Seattle Junction	Uniqtue Celaners	4437 California Avenue SW	EDR Hist Cleaner	Low	No
443	West Seattle Junction	West Home Laundry	4537 California Avenue SW	EDR Hist Cleaner	Low	No
253	West Seattle Junction	Deans Super Service	35th Avenue and SW Avalon Way	EDR Hist Auto	Low	No
145	West Seattle Junction	Dewey S Automotive Service	4759 California Avenue SW	EDR Hist Auto	Low	No

ID	Segment	Name	Address	Database	Rank	Documented Release
1227	West Seattle Junction	Wardrobe Cleaners	4500 Fauntleroy Way SW	EDR Hist Cleaner, Inactive Drycleaners	Low	No
336	West Seattle Junction	Doyles Automotive Service	4501 38th Avenue SW	EDR Hist Auto	Low	No
21	West Seattle Junction	7-Eleven 22561/The Southland Corp. 22561	3280 SW Avalon Way	CSCSL NFA, EDR Hist Auto, LUST, RGA LUST, UST	Medium	Yes
48	West Seattle Junction	Alaska Square Associates	4200 SW Alaska Street	CSCSL NFA, EDR Hist Auto, LUST, US BROWNFIELDS, UST, VCP	Medium	Yes
337	West Seattle Junction	Doyles Automotive Service	4607 37th Avenue SW	CSCSL, EDR Hist Auto, 0, HSL, ICR, LUST, RGA LUST, UST	Medium	Yes
392	West Seattle Junction	Fauntleroy Plaza	4151 Fauntleroy Way SW	CSCSL NFA, EDR Hist Auto, EDR Hist Cleaner, ICR, RGA HWS, VCP	Medium	Yes
564	West Seattle Junction	James B Hartog	4609 37th Avenue SW	EDR Hist Auto, UST	Medium	No
585	West Seattle Junction	Jones Building	4608 36th Avenue SW	CSCSL, ICR, LUST, RGA HWS, RGA LUST, UST, VCP	Medium	Yes
640	West Seattle Junction	Lien Animal Clinic	3710 SW Alaska Street	CSCSL, RGA HWS, VCP	Medium	Yes
865	West Seattle Junction	Q Cleaners Inc	4744 California Avenue SW	CSCSL NFA, EDR Hist Cleaner, Inactive Drycleaners, VCP	Medium	Yes
925	West Seattle Junction	Roscoe Oil Bulk	4613 37th Avenue SW	CSCSL, HSL, LUST, RGA LUST, UST	Medium	Yes
1049	West Seattle Junction	Sks Shell Station Property	3901 SW Alaska Street	CSCSL, EDR Hist Auto, LUST, RGA HWS, RGA LUST, UIC, UST, VCP	Medium	Yes
1060	West Seattle Junction	Southland Corp 22561	4414 35th Avenue SW	EDR Hist Auto, ICR, RGA HWS, RGA LUST	Medium	Yes
1181	West Seattle Junction	Unocal 3774	3295 SW Avalon Way	CSCSL NFA, EDR Hist Auto, ICR, LUST, RGA HWS, RGA LUST, UST, VCP	Medium	Yes
1250	West Seattle Junction	West Seattle Cleaners	4528 Fauntleroy Way SW	EDR Hist Auto, EDR Hist Cleaner, Inactive Drycleaners	Medium	No
1253	West Seattle Junction	West Seattle Junction East Lot	4201 SW Alaska Street	CSCSL NFA, LUST, UST, VCP	Medium	Yes

ID	Segment	Name	Address	Database	Rank	Documented Release
1254	West Seattle Junction	West Seattle Junction West Lot	4700 California Avenue SW	CSCSL, VCP	Medium	Yes
1379	West Seattle Junction	Former West Seattle Midas	4457 Fauntleroy Way SW	UIC	Medium	Yes
1379	West Seattle Junction	Midas Muffler & Brake Shop	4457 Fauntleroy Way SW	CSCSL, EDR Hist Auto, ICR, LUST, RGA LUST, UST	Medium	Yes
1424	West Seattle Junction	KFC Avalon Way	3501 SW Avalon Way	CSCSL	Medium	Yes
300	West Seattle Junction	Courtesy Tire of West Seattle	4820 California Avenue SW	CSCSL, ICR, LUST, RGA LUST, UST, EDR HIST AUTO	Medium	Yes

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## **Appendix L4.13 Electromagnetic Fields**

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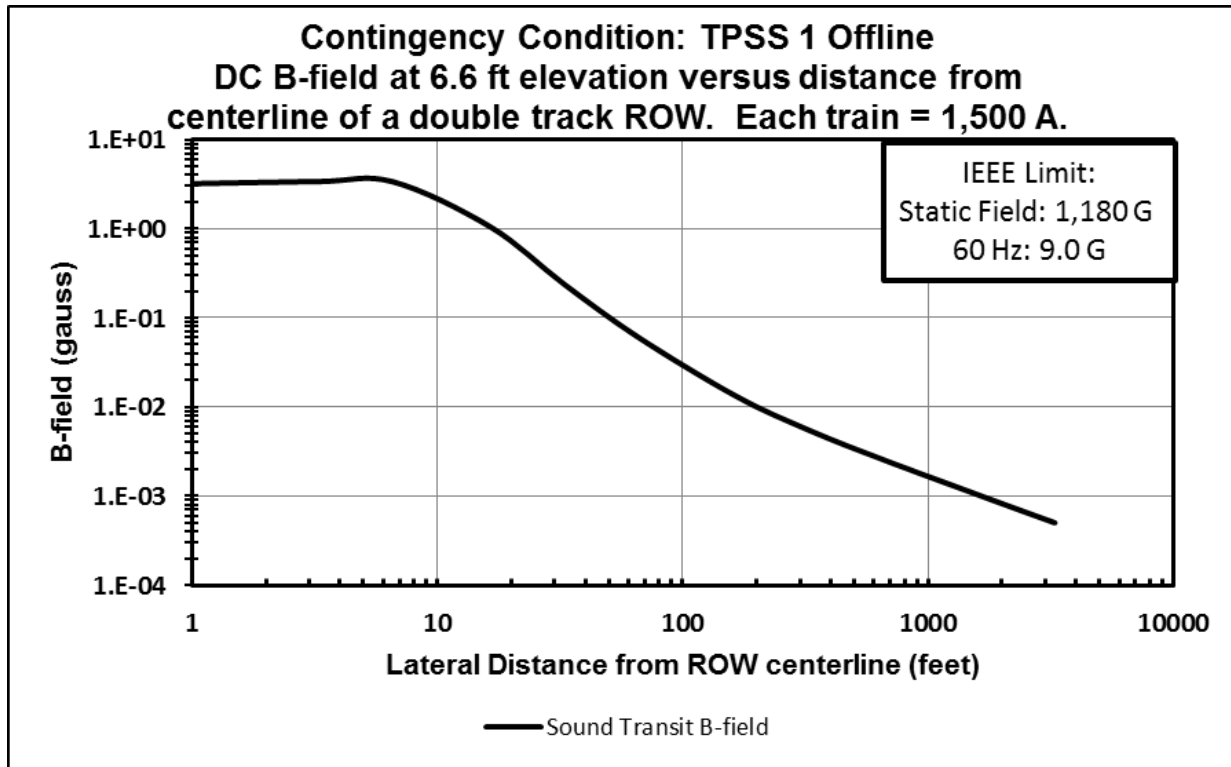
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## Appendix L4.13

### Electromagnetic Fields

The rapid dissipation of the static magnetic field disruption caused by light rail vehicles relative to the lateral distance from the track centerline in worst-case electromagnetic field disruption is summarized on Figures L4.13-1 and L4.13-2. The magnetic field disturbance in the worst-case conditions would be approximately 0.06 to 0.09 gauss at 60 feet from the track centerline and top of rail.

**Figure L4.13-1. Static Magnetic Field of Light Rail Vehicles in Worst-Case Conditions versus Lateral Offset**



A = amp(s)

ft = foot/feet

G = gauss

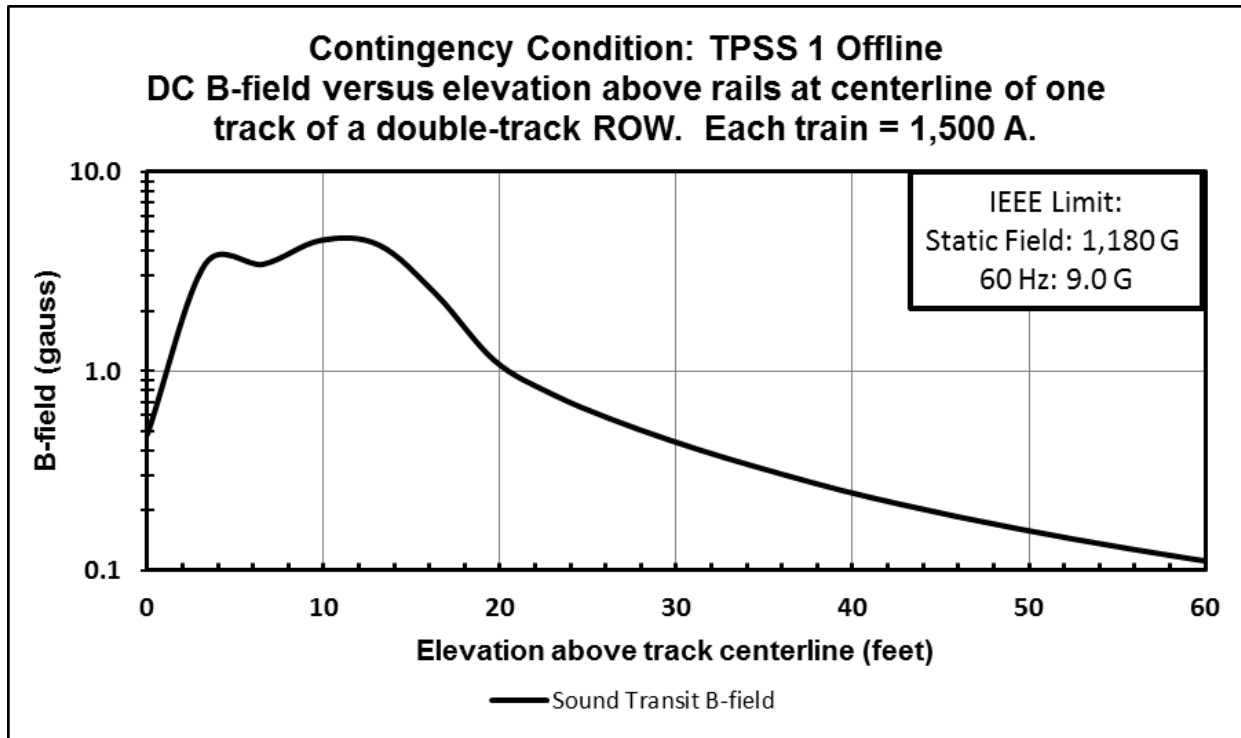
Hz = hertz

IEEE = Institute of Electrical and Electronics Engineers

ROW = right-of-way

TPSS = traction power substation

Figure L4.13-2. Static Magnetic Field of Light Rail Vehicles in Worst-Case Conditions versus Vertical Offset



## **Appendix L4.14 Public Services, Safety, and Security**

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## Appendix L4.14 Public Services, Safety, and Security

The Washington Association of Sheriffs and Police Chiefs crime reporting program provides statistics for violent crimes and property crimes. Table L4.14-1 compares crime data for Seattle with the state average for 2019, 2020, and 2021 (Washington Association of Sheriffs and Police Chiefs 2019, 2020, 2021).

**Table L4.14-1. 2019, 2020, and 2021 Violent and Property Crime Rates by Jurisdiction**

Jurisdiction	Year	Part 1 Offenses (Violent and Property Crimes)	Violent Crime Rate (per 1,000 people)	Property Crime Rate (per 1,000 people)
City of Seattle	2019	49,168	4.6	61.2
	2020	63,217	5.0	78.3
	2021	61,335	8.2	70.6
State of Washington	2019	337,402	2.7	41.9
	2020	388,433	2.6	48.0
	2021	394,490	3.8	47.0

Source: Washington Association of Sheriffs and Police Chiefs 2019, 2020, 2021.

Information was collected on criminal activity reported near existing Link light rail stations in the city of Seattle. Data were obtained from the Seattle Police Department for a 1-year period in 2022. Table L4.14-2 shows the number of violent and property crimes reported within a 1-block radius of all existing and proposed light rail stations between January and December 2022 (King County Sheriff's Office and Seattle Police Department 2023). It also reports the number of violent and property crimes reported in the neighborhoods where the facilities are located. As shown in the table, the number of crimes that occur near these existing facilities is very low compared to overall crime in the neighborhoods. Most crimes were related to property and motor vehicle theft.

There is no nationally recognized standard for police response time. The Seattle Police Department's priority designations and response times for each dispatched, fielded call in 2022, from the creation of a call event to when the first unit arrives on the scene, are listed in Table L4.14-3.

**Table L4.14-2. Crimes near Link Light Rail Stations in Seattle between January and December 2022**

Location Type	Location Name	Violent Crimes	Property Crimes	Percent of Total Neighborhood Crime <sup>a</sup>
<b>Neighborhood</b>	<b>Northgate</b>	<b>330</b>	<b>2,461</b>	<b>Not applicable</b>
Link Light Rail Station	Northgate Station	6	16	<0.0
<b>Neighborhood</b>	<b>Roosevelt/Ravenna</b>	<b>126</b>	<b>2,256</b>	<b>Not applicable</b>
Link Light Rail Station	Roosevelt Station	2	3	<0.0
<b>Neighborhood</b>	<b>University</b>	<b>209</b>	<b>1,966</b>	<b>Not applicable</b>
Link Light Rail Station	U-District Station	3	1	<0.0
Link Light Rail Station	University of Washington Station	1	7	<0.0
<b>Neighborhood</b>	<b>Downtown</b>	<b>471</b>	<b>2,123</b>	<b>Not applicable</b>
Link Light Rail Station	Westlake Station	12	5	0.7
Link Light Rail Station	University Street Station	3	4	0.3
<b>Neighborhood</b>	<b>Capitol Hill</b>	<b>452</b>	<b>2,385</b>	<b>Not applicable</b>
Link Light Rail Station	Capitol Hill Station	1	1	0.1
<b>Neighborhood</b>	<b>Pioneer Square</b>	<b>134</b>	<b>376</b>	<b>Not applicable</b>
Link Light Rail Station	Pioneer Square Station	30	1	6.0
<b>Neighborhood</b>	<b>Chinatown-International District</b>	<b>286</b>	<b>808</b>	<b>Not applicable</b>
Link Light Rail Station	International District/Chinatown Station and King Street Station	6	7	1.2
Link Light Rail Station	Stadium Station	8	16	2.2
<b>Neighborhood</b>	<b>SODO</b>	<b>131</b>	<b>932</b>	<b>Not applicable</b>
Link Light Rail Station	SODO Station	6	3	0.8
<b>Neighborhood</b>	<b>North Beacon Hill</b>	<b>132</b>	<b>904</b>	<b>Not applicable</b>
Link Light Rail Station	Beacon Hill Station	2	1	<0.0
<b>Neighborhood</b>	<b>Mount Baker</b>	<b>88</b>	<b>857</b>	<b>Not applicable</b>
Link Light Rail Station	Mount Baker Station	0	2	<0.0
<b>Neighborhood</b>	<b>Columbia City</b>	<b>27</b>	<b>266</b>	<b>Not applicable</b>
Link Light Rail Station	Columbia City Station	2	0	<0.0
<b>Neighborhood</b>	<b>Brighton/Dunlap</b>	<b>120</b>	<b>464</b>	<b>Not applicable</b>
Link Light Rail Station	Othello Station	1	2	<0.0
<b>Neighborhood</b>	<b>Rainier Beach</b>	<b>106</b>	<b>323</b>	<b>Not applicable</b>
Link Light Rail Station	Rainier Beach Station	1	0	<0.0

Note: Percentages are rounded to the nearest whole number.

<sup>a</sup> Total crime is a combination of violent and property crimes.



**Table L4.14-3. 2022 Response Times by Priority**

Priority	Priority Evaluation	Median Response Time (minutes)
1	Any incident which poses obvious danger to the life of a citizen or officer. Life-threatening crimes in progress such as shootings, stabbings, helping the officer. Major disturbances, including those with weapons, serious injury accidents, robbery alarms, and prowlers.	7.2
2	Altercations or actions which, if not policed quickly, would or could develop into more serious or major incidents wherein there is a threat of violence, injury, or damage to property; unknown injury/minor injury accidents; shoplifters in custody.	25.3
3 and 4	Investigations or minor incident type complaints in which response time is not a critical issue.	60.1

Source: Seattle Police Department 2023.

## L4.14.1 References

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## **Appendix L4.15 Utilities**

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## Appendix L4.15 Utilities

### L4.15.1 Planned Utility Upgrades and New Projects

Sound Transit contacted utility providers to identify the following planned upgrades or new projects in the West Seattle Link Extension Project (the project) study area:

- The King County Wastewater Treatment Division has been conducting ongoing work to control combined sewer overflows, which carry sewage and stormwater to the nearest body of water during periods of heavy rain to prevent sewer backups into homes and streets (King County 2018, 2019). Ongoing King County Wastewater Treatment Division projects estimated for completion in 2030 include the Chelan Avenue and Harbor Avenue Regulator Station Overflows, which would be just north of the West Seattle Bridge (King County 2017).
- The Hanford #2-Lander Street-King Street-Kingdome Combined Sewer Overflow Treatment Facility is undergoing development planning and is scheduled for completion in 2030 (King County 2019).

Table L4.15-1 and Figures L4.15-1 through L4.15-22 summarize major utility conflicts with the project alternatives. Where utilities would be directly under or above the project limits, the approximate length of the relocation is provided. Where utilities would intersect with an alternative, the number of crossings is identified because the length of the relocation has not yet been determined. Sound Transit would determine relocation lengths and specific location during final design in coordination with utility providers.

**Table L4.15-1. Major Utility Conflict Summary – Approximate Length of Relocations and Number of Crossings**

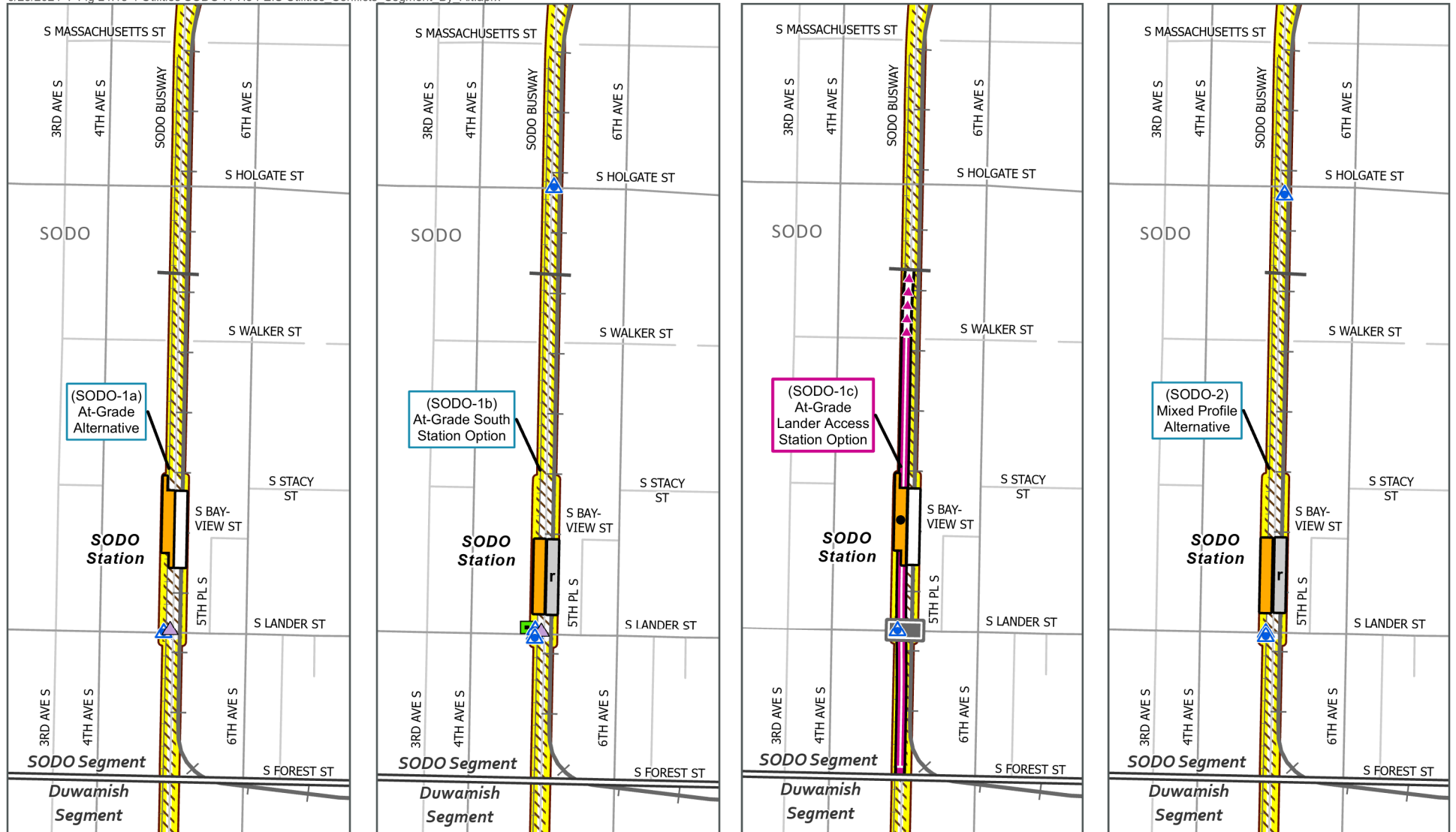
Alternative	Power Line	Water Line	Sewer Line	Gas Line	Telecommunications <sup>a</sup>	Storm Drain	Steam
<b>Preferred At-Grade Lander Access Station Option (SODO-1c)</b>	<b>3,100 feet <sup>b</sup></b>	<b>1 crossing</b>	<b>Not applicable</b>	<b>Not applicable</b>	<b>Not applicable</b>	<b>400 feet</b>	<b>Not applicable</b>
At-Grade Alternative (SODO-1a)	3,100 feet <sup>b</sup>	3 crossings	Not applicable	Not applicable	Not applicable	1 crossing, 400 feet	Not applicable
At-Grade South Station Option (SODO-1b)	3,100 feet <sup>b</sup>	4 crossings	1 crossing	Not applicable	Not Applicable	1 crossing, 400 feet	Not applicable
Mixed Profile Alternative (SODO-2)	3,100 feet <sup>b</sup>	2 crossings	Not applicable	Not applicable	Not Applicable	400 feet	Not applicable
<b>Preferred South Crossing Alternative (DUW-1a)</b>	<b>1 crossing, 800 feet</b>	<b>1 crossing, 100 feet</b>	<b>2 crossings, 500 feet</b>	<b>2 crossings, 200 feet</b>	<b>2 crossings, 3,100 feet</b>	<b>600 feet</b>	<b>Not applicable</b>
South Crossing South Edge Crossing Alignment Option (DUW-1b)	1 crossing, 800 feet	2 crossings, 100 feet	2 crossings, 100 feet	2 crossings, 700 feet	2 crossings, 4,100 feet	1 crossing 600 feet	Not applicable
North Crossing Alternative (DUW-2) <sup>c</sup>	1 crossing, 800 feet	2 crossings, 800 feet	3 crossings, 400 feet	200 feet	4 crossings, 500 feet	1 crossing, 600 feet	Not applicable
<b>Preferred Andover Street Station Lower Height South Alignment Option (DEL-6b)</b>	<b>2 crossings</b>	<b>Not applicable</b>	<b>3 crossings</b>	<b>1 crossing</b>	<b>1 crossing, 200 feet</b>	<b>1 crossing</b>	<b>Not applicable</b>
Dakota Street Station Alternative (DEL-1a)	Not applicable	Not applicable	1 crossing	2 crossings, 100 feet	1 crossing, 1,600 feet	Not applicable	Not applicable
Dakota Street Station North Alignment Option (DEL-1b)	Not applicable	Not applicable	1 crossing	2 crossings, 100 feet	1,200 feet	Not applicable	Not applicable
Dakota Street Station Lower Height Alternative (DEL-2a)	Not applicable	Not applicable	1 crossing	2 crossings, 400 feet	1 crossing, 2,700 feet	1 crossing	Not applicable
Dakota Street Station Lower Height North Alignment Option (DEL-2b)	Not applicable	Not applicable	1 crossing	2 crossings, 100 feet	1 crossing, 1,600 feet	Not applicable	Not applicable
Delridge Way Station Alternative (DEL-3)	Not applicable	Not applicable	1 crossing	300 feet	1,600 feet	1 crossing	Not applicable

Alternative	Power Line	Water Line	Sewer Line	Gas Line	Telecommunications <sup>a</sup>	Storm Drain	Steam
Delridge Way Station Lower Height Alternative (DEL-4)	Not applicable	Not applicable	1 crossing	300 feet	2,400 feet	Not applicable	Not applicable
Andover Street Station Alternative (DEL-5)	Not applicable	Not applicable	1 crossing	1 crossing, 900 feet	500 feet	100 feet	Not applicable
Andover Street Station Lower Height Alternative (DEL-6a)	Not applicable	Not applicable	1 crossing	1 crossing, 500 feet	200 feet	1 crossing, 100 feet	Not applicable
Andover Street Station Lower Height No Avalon Station Tunnel Connection Alternative (DEL-7)	2 crossings	Not applicable	3 crossings	1 crossing	200 feet	1 crossing	Not applicable
<b>Preferred Medium Tunnel 41st Avenue Station West Entrance Station Option (WSJ-5b)</b>	<b>Not applicable</b>	<b>1 crossing</b>	<b>1 crossing, 200 feet</b>	<b>300 feet</b>	<b>100 feet</b>	<b>Not applicable</b>	<b>Not applicable</b>
Elevated 41st/42nd Avenue Station Alternative (WSJ-1)	Not applicable	2 crossings	1 crossing, 200 feet	200 feet	400 feet	Not applicable	Not applicable
Elevated Fauntleroy Way Station Alternative (WSJ-2)	Not applicable	2 crossings	Not applicable	500 feet	600 feet	Not applicable	Not applicable
Tunnel 41st Avenue Station Alternative (WSJ-3a)	Not applicable	2 crossings	1 crossing, 200 feet	300 feet	400 feet	Not applicable	Not applicable
Tunnel 42nd Avenue Station Option (WSJ-3b)	Not applicable	2 crossings	1 crossing, 200 feet	300 feet	1 crossing, 400 feet	Not applicable	Not applicable
Short Tunnel 41st Avenue Station Alternative (WSJ-4)	Not applicable	1 crossing	1 crossing, 200 feet	Not applicable	500 feet	Not applicable	Not applicable
Medium Tunnel 41st Avenue Station Alternative (WSJ-5a)	Not applicable	1 crossing	1 crossing, 200 feet	300 feet	100 feet	Not applicable	Not applicable
No Avalon Station Tunnel Alternative (WSJ-6)	Not applicable	Not applicable	1 crossing, 200 feet	Not applicable	Not applicable	Not applicable	Not applicable

<sup>a</sup> Telecommunication utilities include fiber optic telecom.

<sup>b</sup> All SODO Segment Build Alternatives would relocate an overhead 230-kilovolt power line from the SODO Busway to 6th Avenue South between South Massachusetts Street and the substation south of South Spokane Street.

<sup>c</sup> Alternative DUW-2 would conflict with approximately 100 feet of Olympic Pipeline on Harbor Island.



Source: City of Seattle, King County (2023).

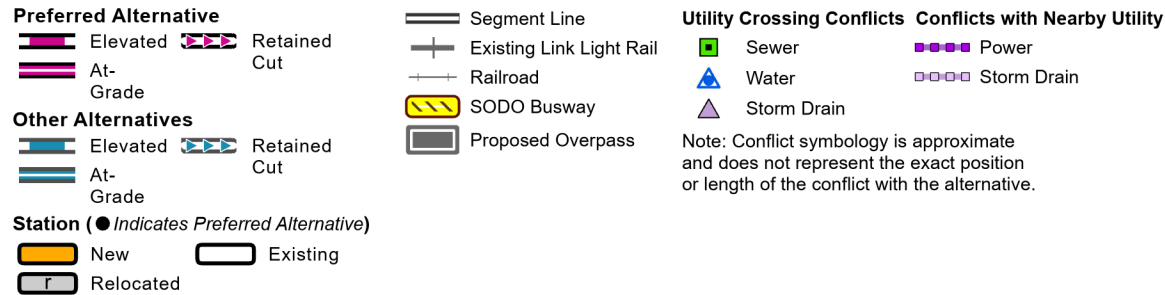
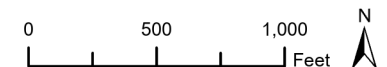
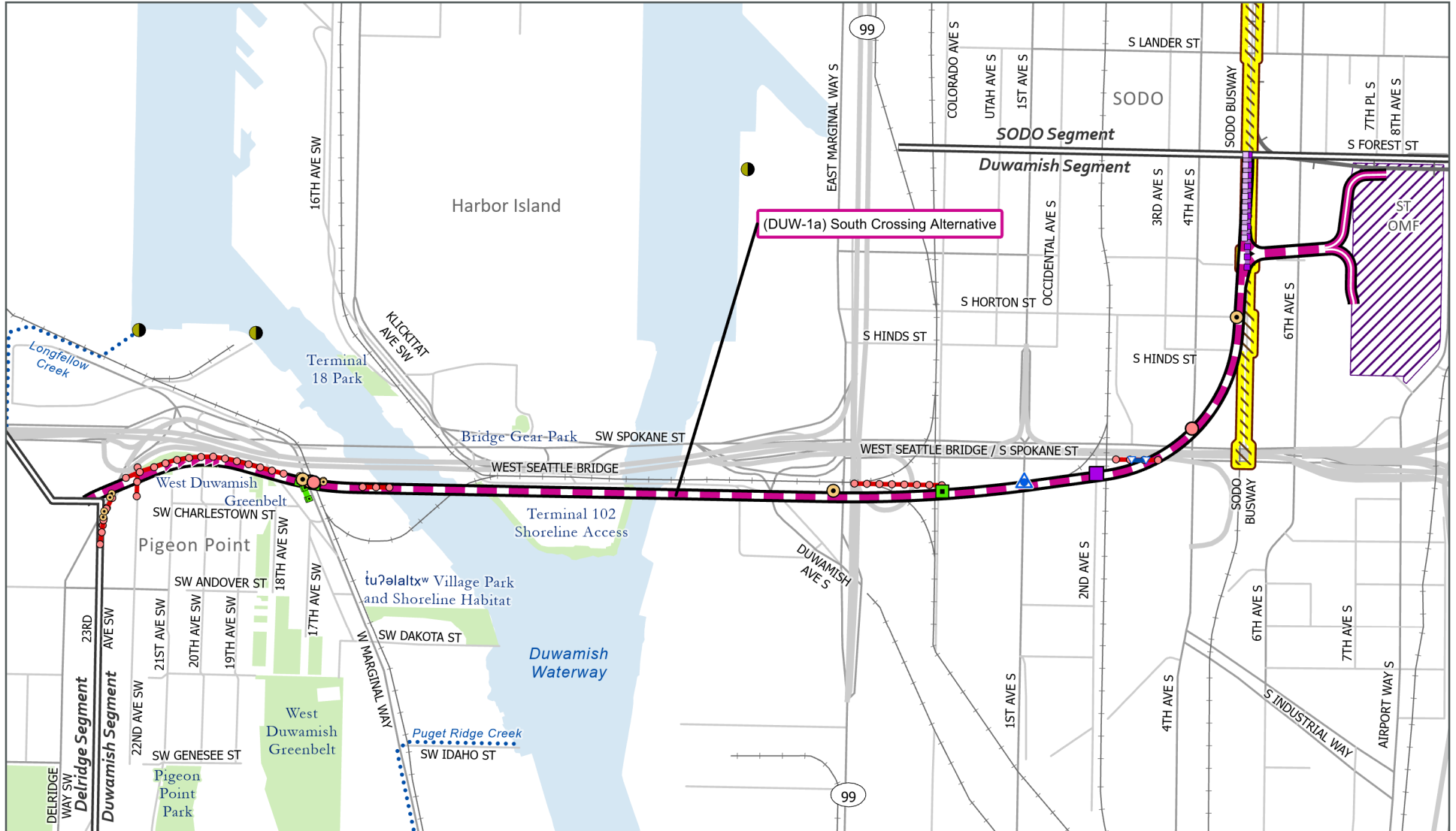


FIGURE L4.15-1  
Conflicts with Major Utilities  
SODO Segment

West Seattle Link Extension







Source: City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Retained Cut
- Segment Line
- Existing Link Light Rail
- Railroad
- SODO Busway
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Piped Stream
- Park
- Combined Sewer Overflow (CSO) Outfall

**Utility Crossing Conflicts**

- Fiber Optic Telecom
- Gas
- Power
- Sewer
- Water

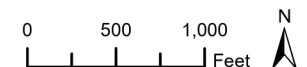
**Conflicts with Nearby Utility**

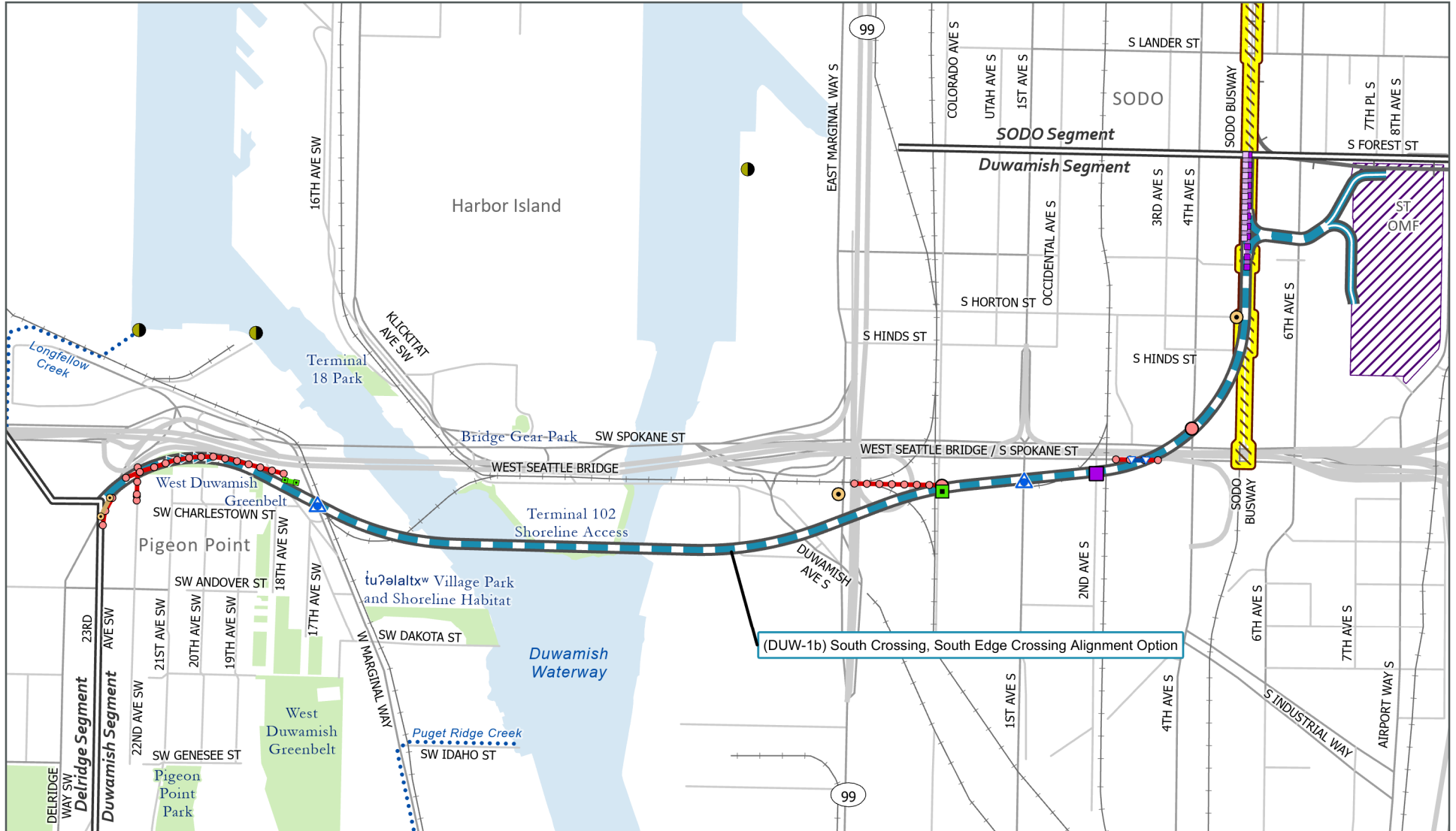
- Fiber Optic Telecom
- Gas
- Power
- Sewer
- Water
- Storm Drain

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-2**  
**Preferred Alternative DUW-1a**  
**Conflicts with Major Utilities**  
**Duwamish Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

#### Other Alternative

- Elevated
- At-Grade
- Retained Cut

#### Segment Line

- Existing Link Light Rail
- Railroad
- SODO Busway
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Piped Stream
- Park
- Combined Sewer Overflow (CSO) Outfall

#### Utility Crossing Conflicts

- Fiber Optic Telecom
- Gas
- Power
- Sewer
- Water

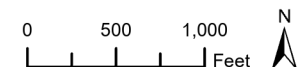
#### Conflicts with Nearby Utility

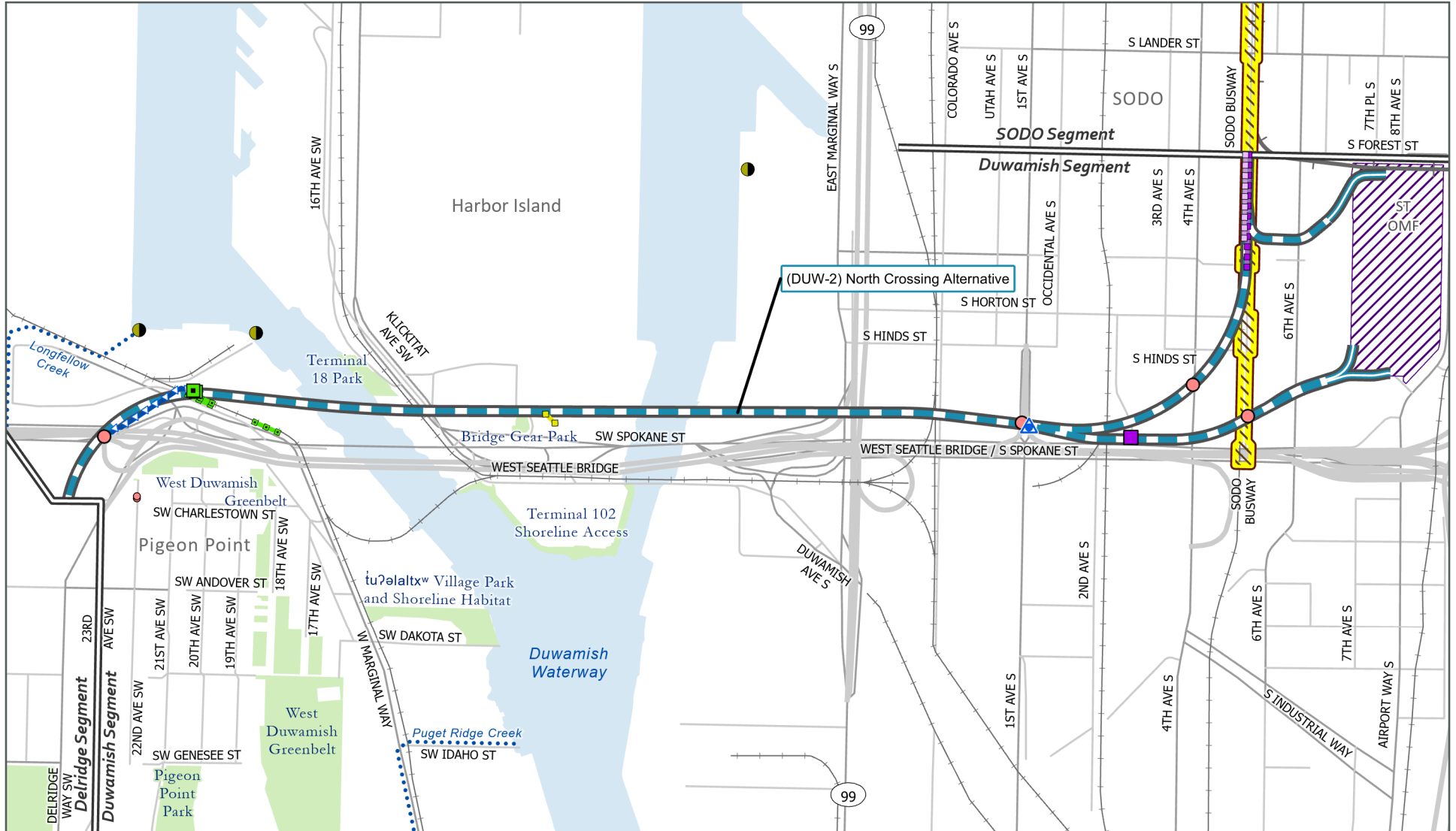
- Fiber Optic Telecom
- Gas
- Power
- Sewer
- Water
- Storm Drain

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-3**  
**Option DUW-1b**  
**Conflicts with Major Utilities**  
**Duwamish Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

#### Other Alternative

- Elevated
- At-Grade

#### Segment Line

- Existing Link Light Rail
- Railroad
- SODO Busway
- Sound Transit Operations and Maintenance Facility (ST OMF)
- Piped Stream
- Park
- Combined Sewer Overflow (CSO) Outfall

#### Utility Crossing Conflicts

- Fiber Optic Telecom
- Power
- Sewer
- Water

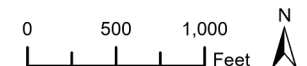
#### Conflicts with Nearby Utility

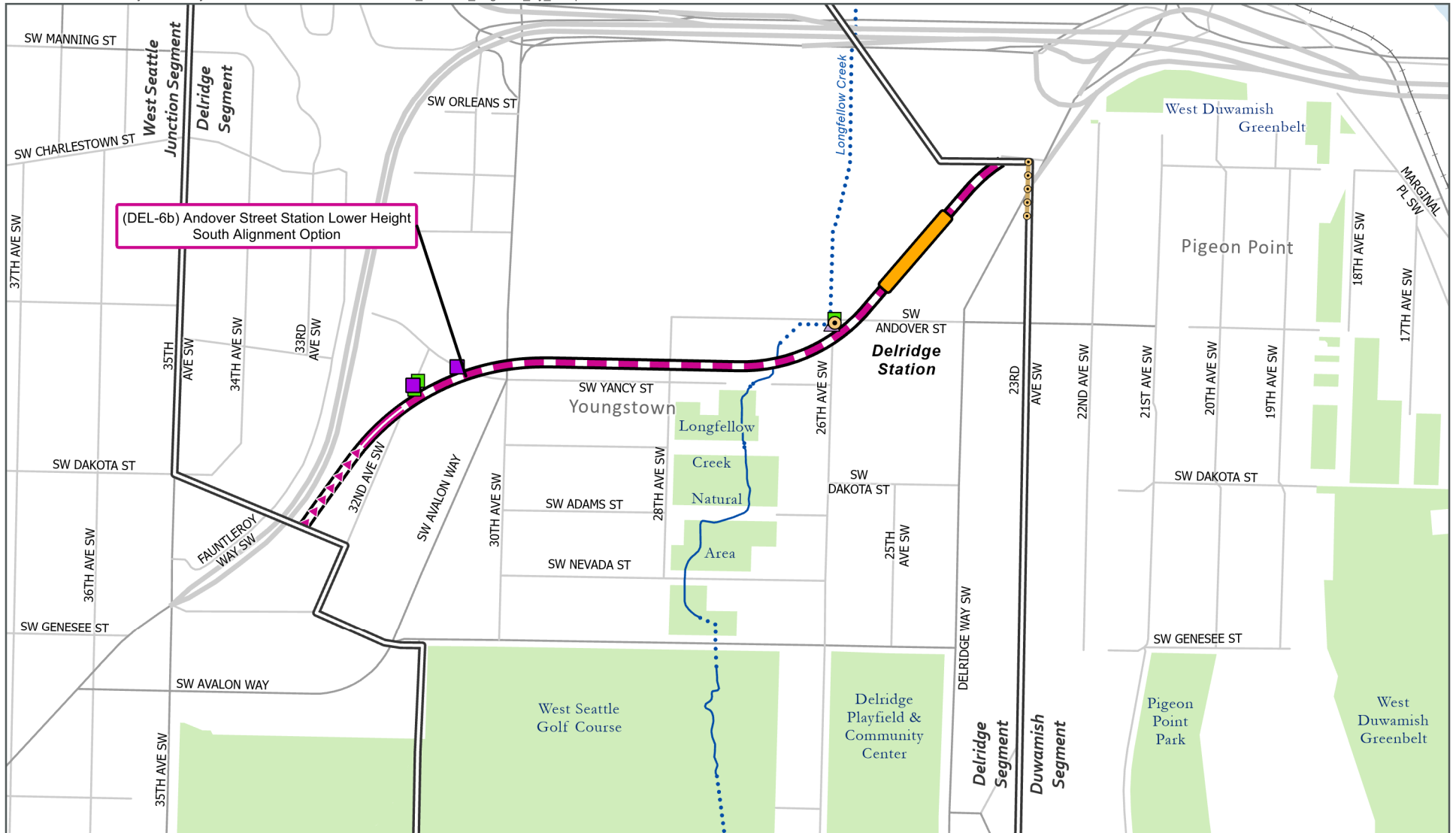
- Fiber Optic Telecom
- Power
- Sewer
- Water
- Storm Drain
- Oil

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-4**  
**Alternative DUW-2**  
**Conflicts with Major Utilities**  
**Duwamish Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Preferred Alternative**

- Elevated
- At-Grade
- Retained Cut

**Station**

- New

**Segment Line**

- Railroad
- Stream
- Piped Stream
- Park

**Utility Crossing Conflicts**

- Gas
- Power
- Sewer
- Storm Drain

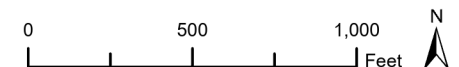
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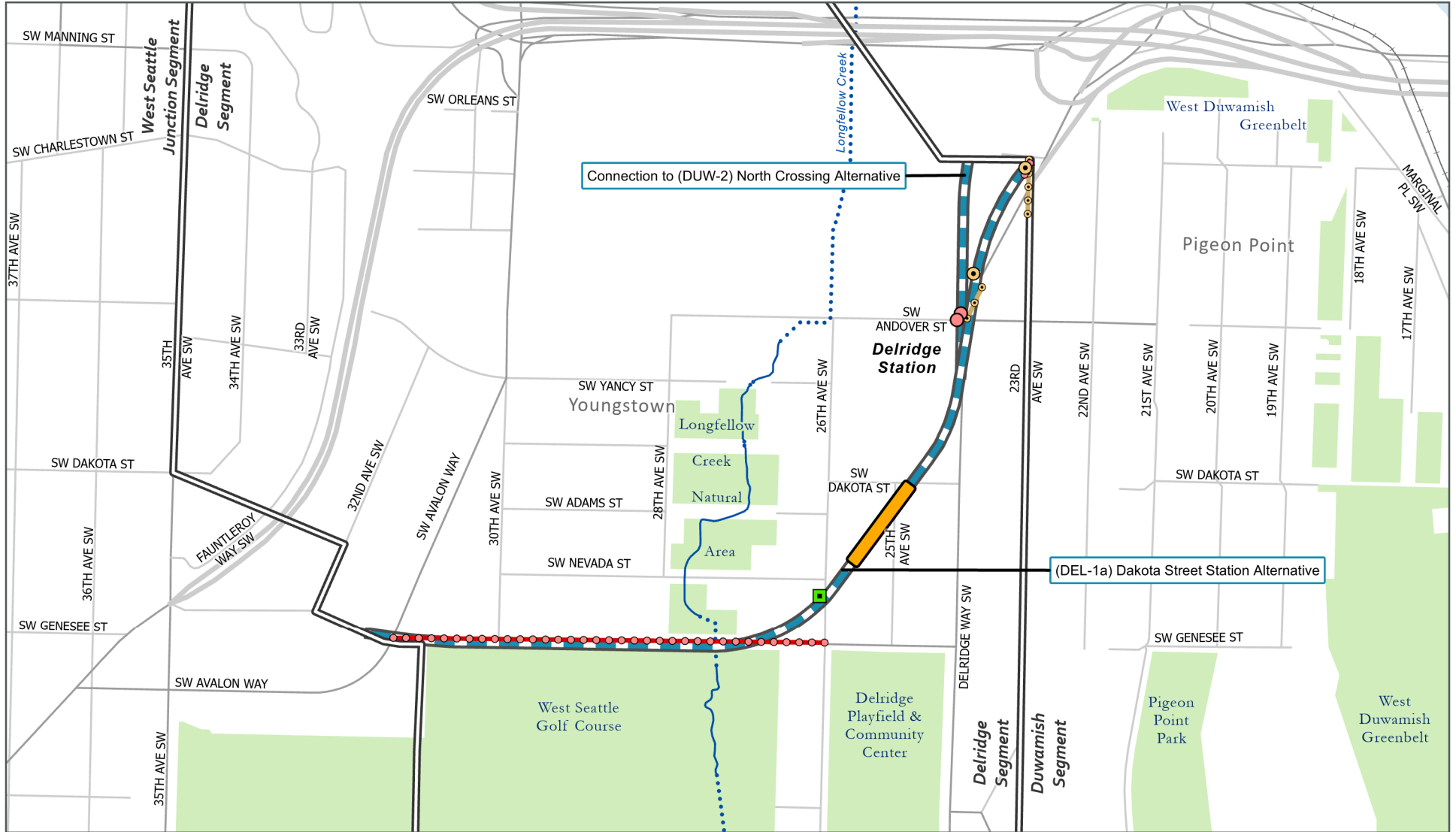
- Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-5**  
**Preferred Option DEL-6b**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

Elevated

**Station**

New

Segment Line

Railroad

Stream

Piped Stream

Park

**Utility Crossing Conflicts**

Fiber Optic Telecom

Gas

Sewer

**Conflicts with Nearby Utility**

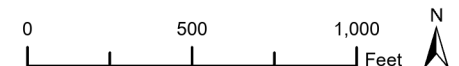
Fiber Optic Telecom

Gas

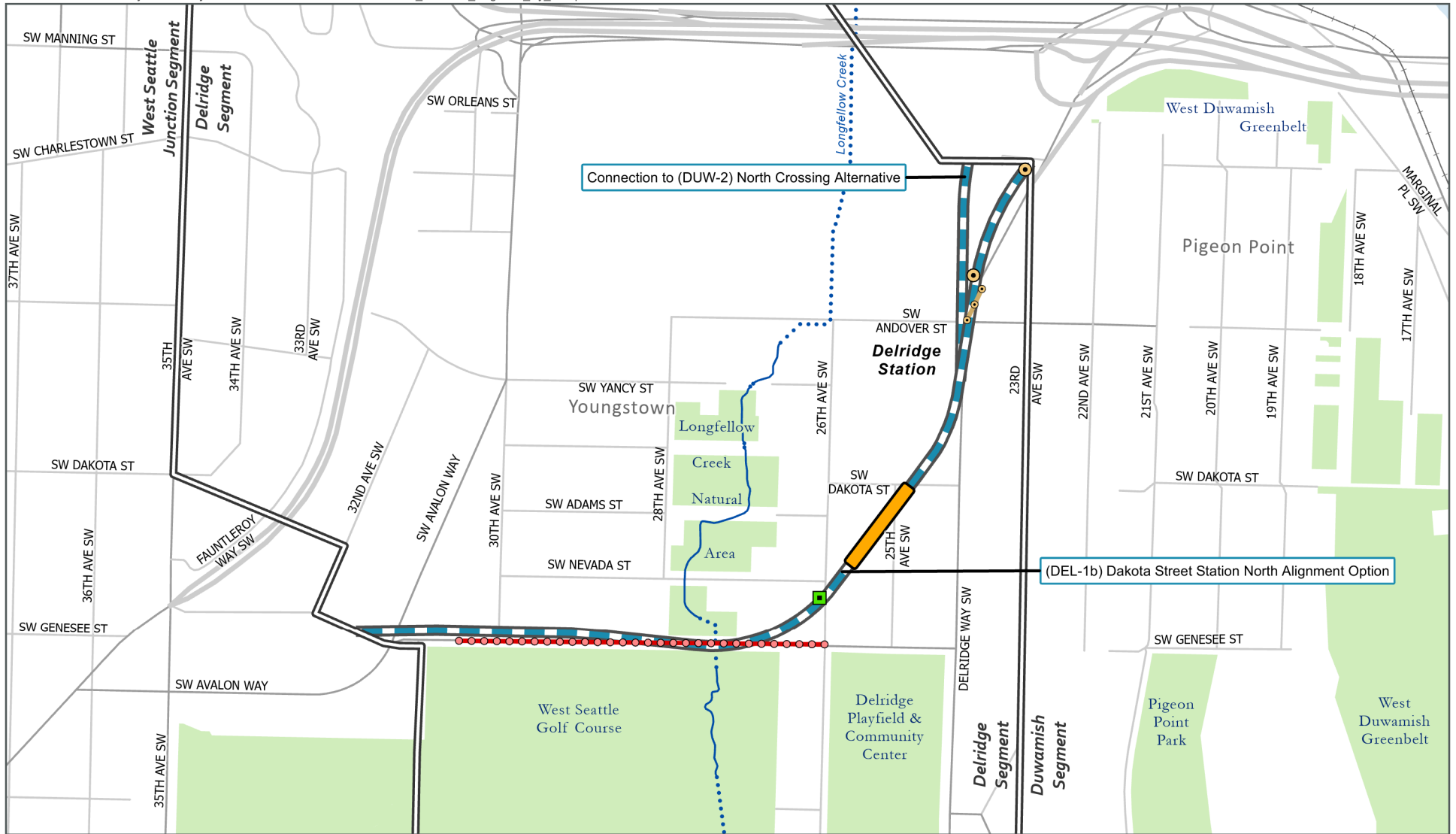
Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-6**  
**Alternative DEL-1a**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*







Source: City of Seattle, King County (2023).

**Other Alternative**

Elevated

**Station**

New

Segment Line

Railroad

Stream

Piped Stream

Park

**Utility Crossing Conflicts**

Gas

Sewer

**Conflicts with Nearby Utility**

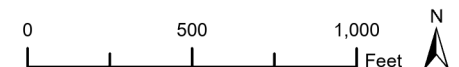
Fiber Optic Telecom

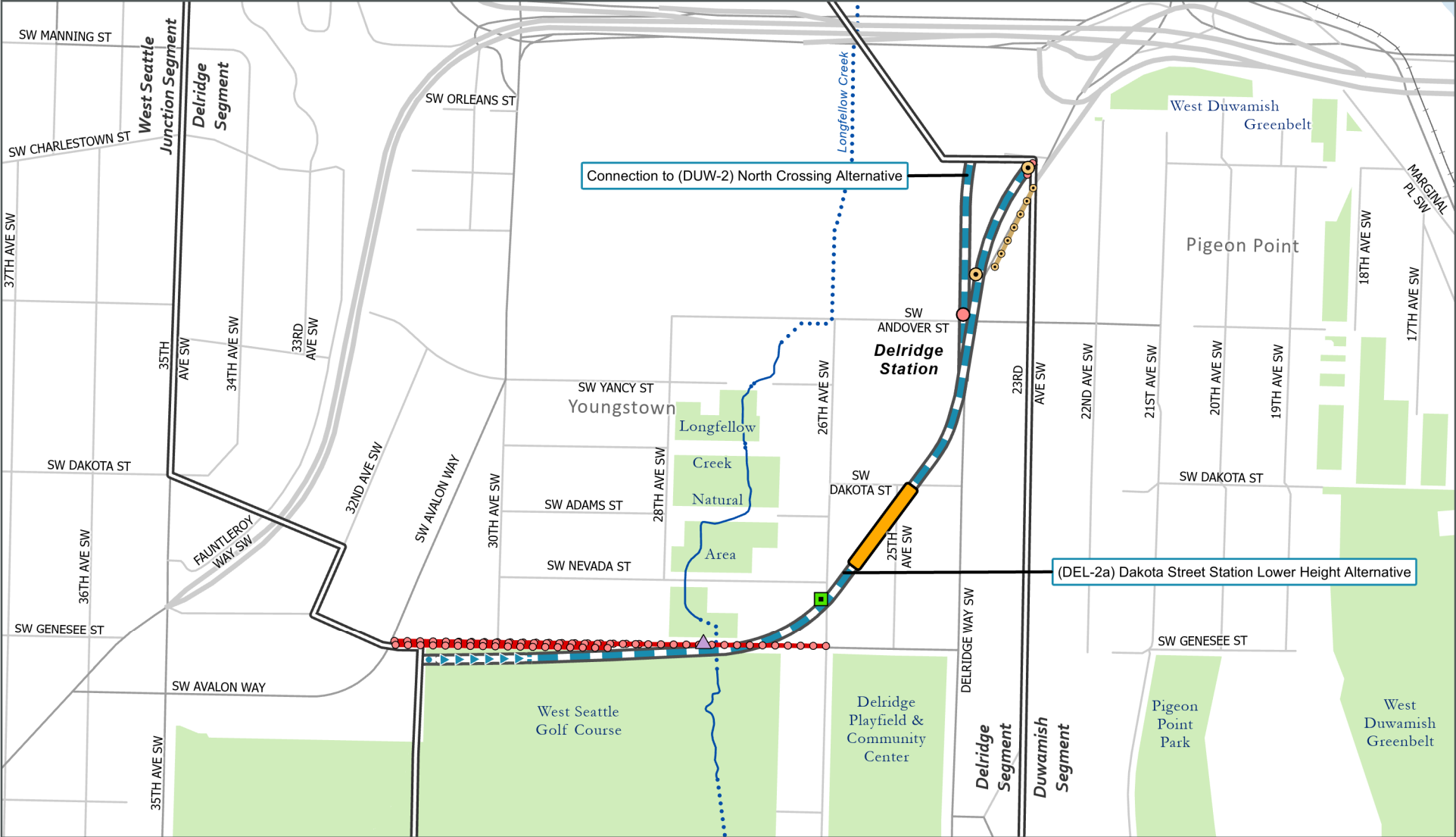
Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-7**  
**Option DEL-1b**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station**

- New

**Segment Line**

- Railroad
- Stream
- Piped Stream
- Park

**Utility Crossing Conflicts**

- Fiber Optic Telecom
- Gas
- Sewer
- Storm Drain

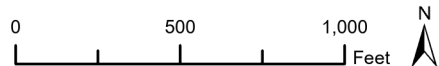
**Conflicts with Nearby Utility**

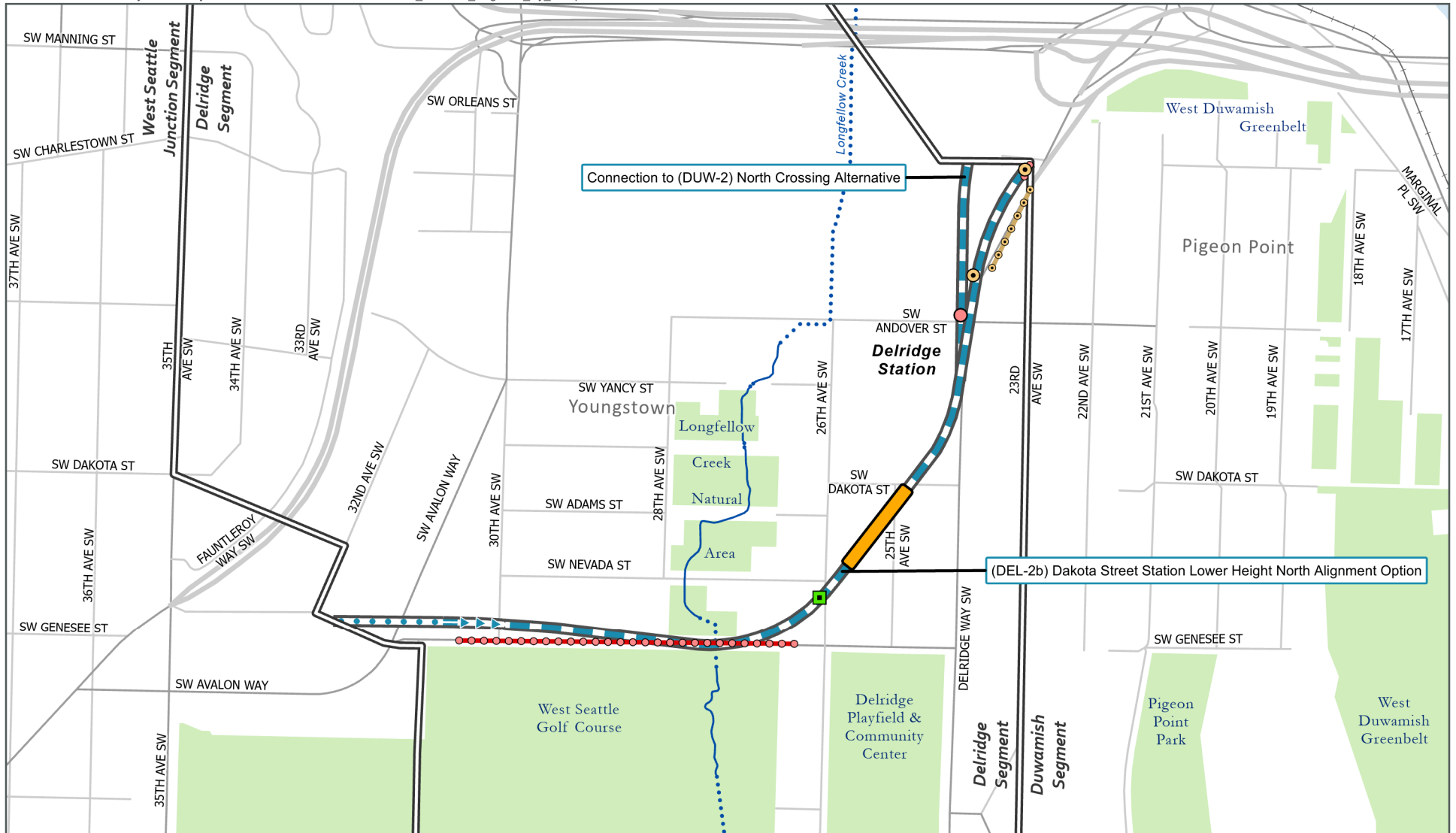
- Fiber Optic Telecom
- Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-8**  
**Alternative DEL-2a**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station**

- New

**Segment Line**

- Railroad
- Stream
- Piped Stream
- Park

**Utility Crossing Conflicts**

- Fiber Optic Telecom
- Gas
- Sewer

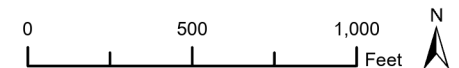
**Conflicts with Nearby Utility**

- Fiber Optic Telecom
- Gas

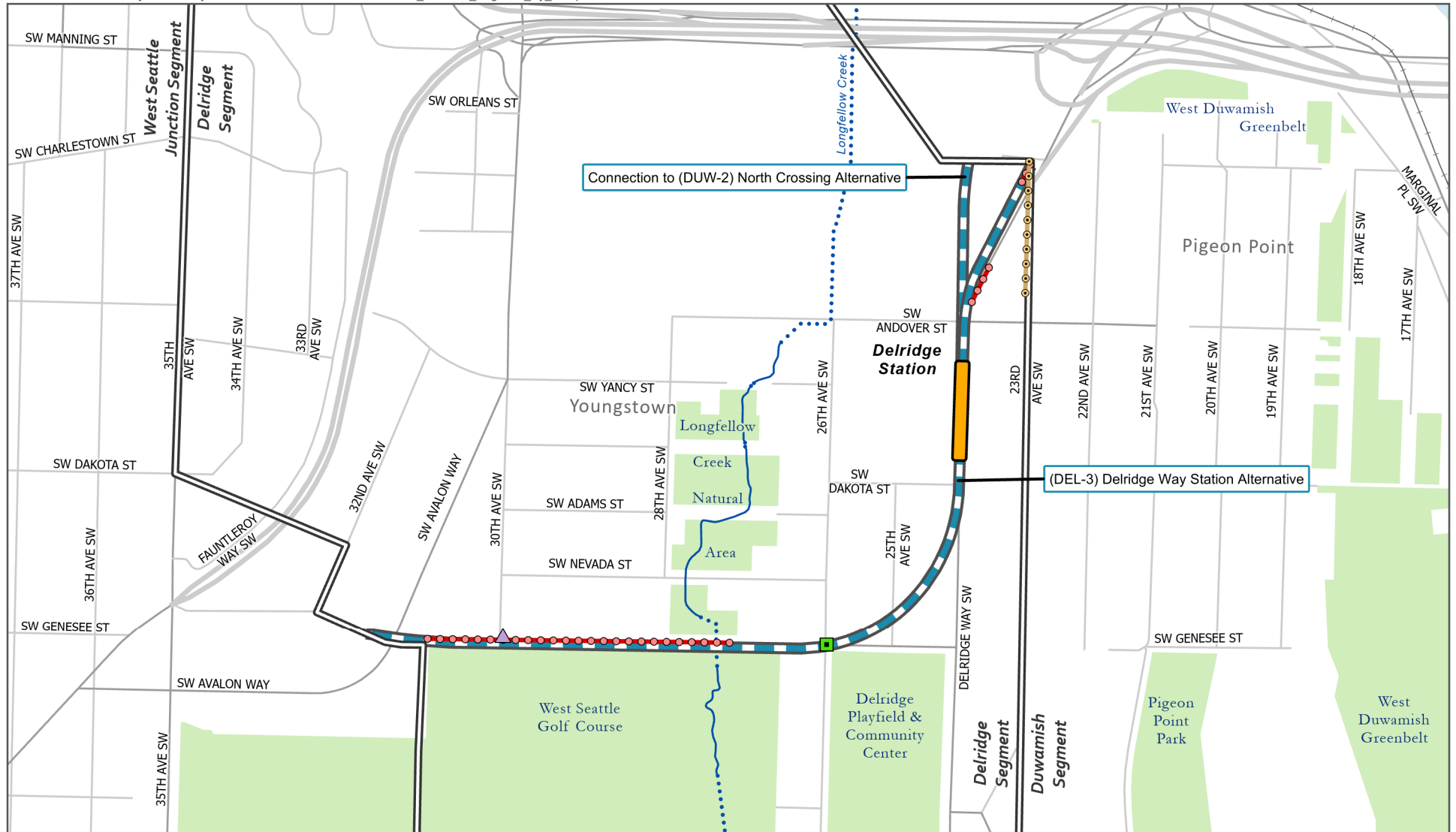
Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-9**  
**Option DEL-2b**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*







Source: City of Seattle, King County (2023).

#### Other Alternative

Elevated

#### Station

New

Segment Line

Railroad

Stream

Piped Stream

Park

#### Utility Crossing Conflicts

Sewer

Storm Drain

#### Conflicts with Nearby Utility

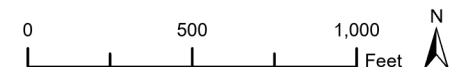
Fiber Optic Telecom

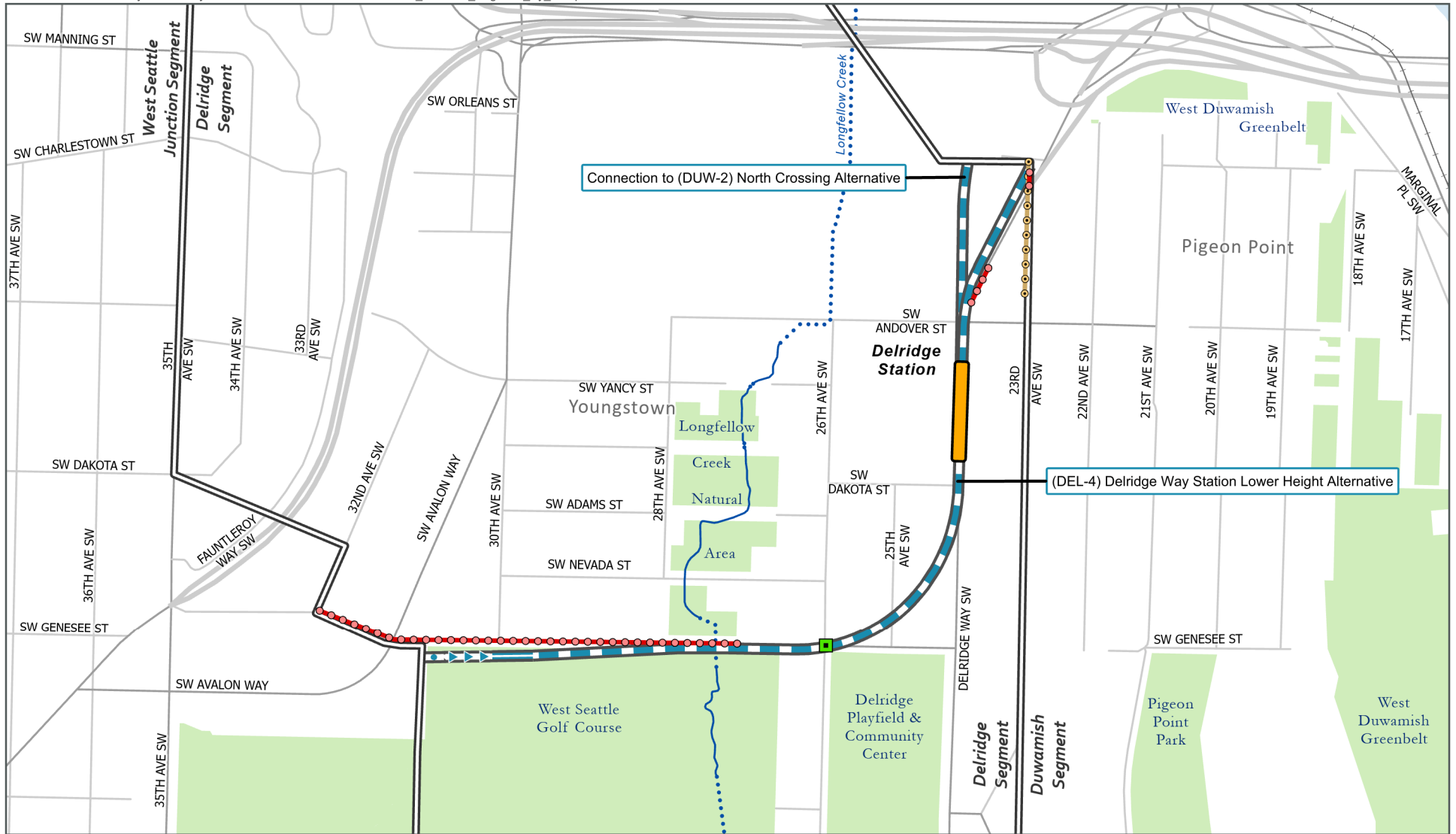
Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-10**  
**Alternative DEL-3**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

- Elevated
- At-Grade
- Tunnel
- Retained Cut

**Station**

- New

**Segment Line**

- Railroad
- Stream
- Piped Stream
- Park

**Utility Crossing Conflicts**

- Sewer

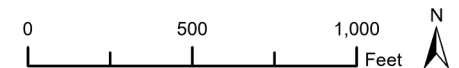
**Conflicts with Nearby Utility**

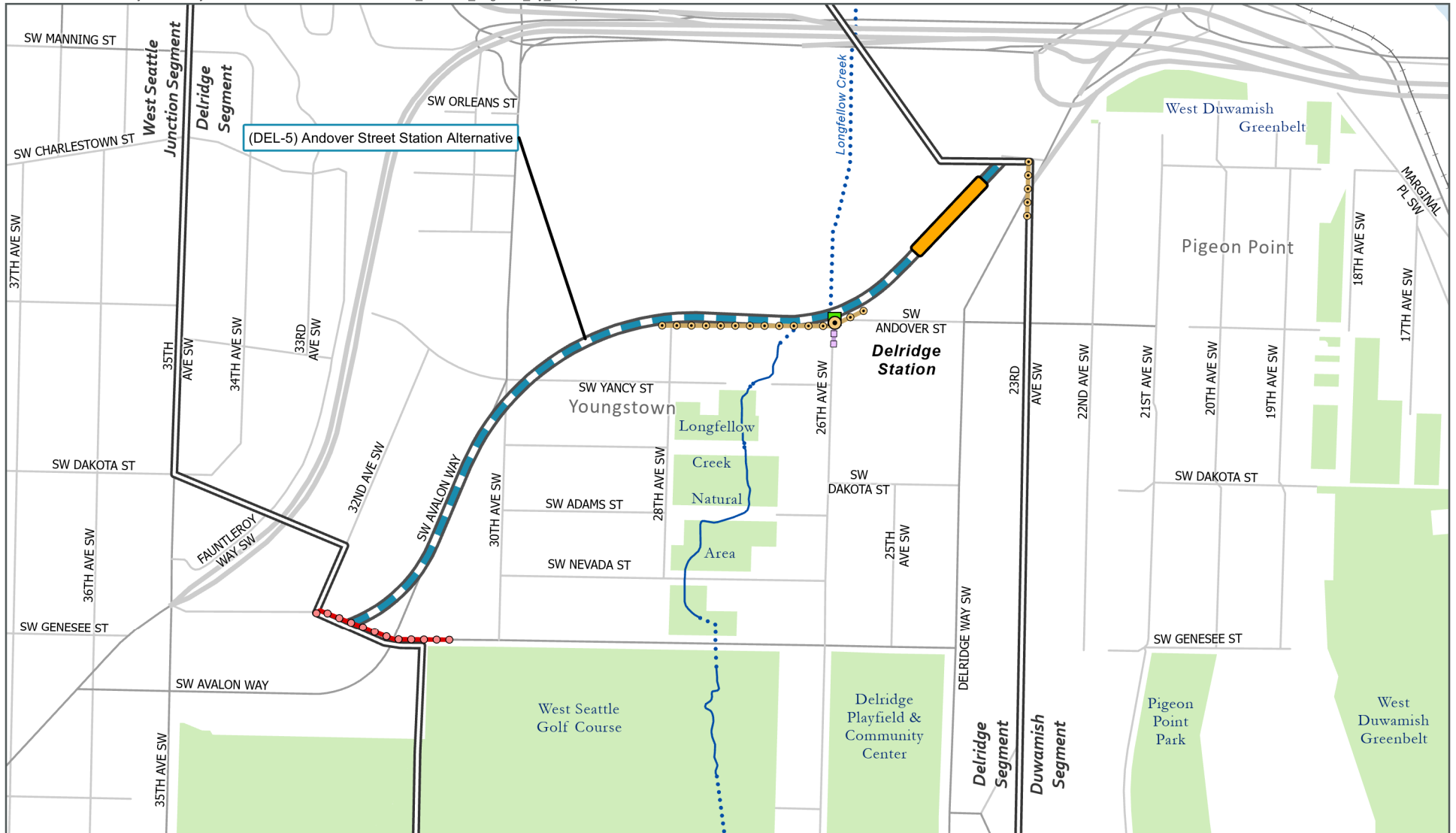
- Fiber Optic Telecom
- Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-11**  
**Alternative DEL-4**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

— Elevated

**Station**

— New

— Segment Line

— Railroad

— Stream

— Piped Stream

— Park

**Utility Crossing Conflicts**

— Gas

— Sewer

**Conflicts with Nearby Utility**

— Fiber Optic Telecom

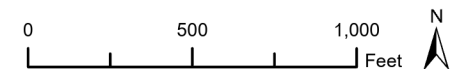
— Gas

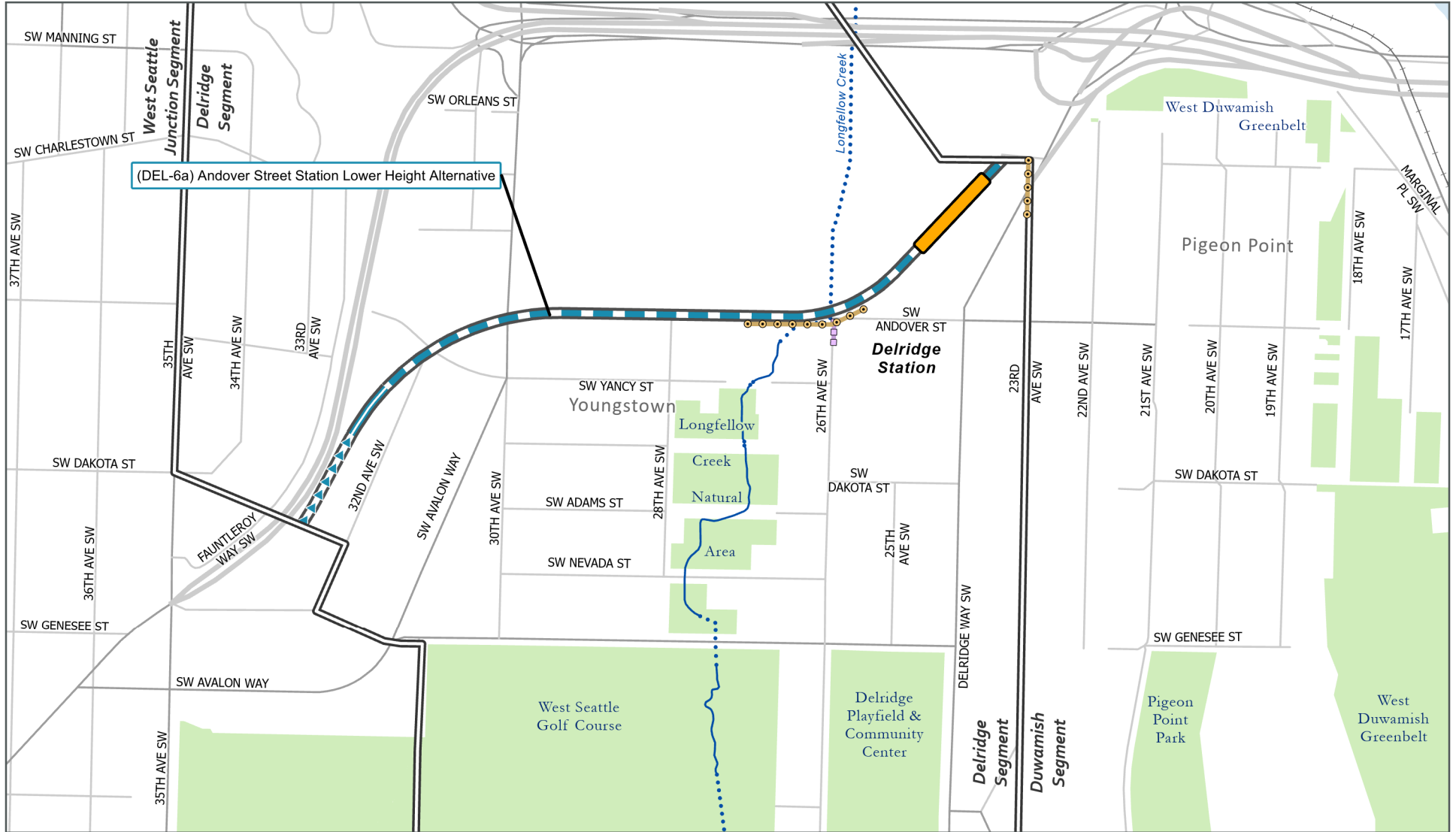
— Storm Drain

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-12**  
**Alternative DEL-5**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

- Elevated
- At-Grade
- Retained Cut

**Station**

- New

**Segment Line**

- Railroad
- Stream
- Piped Stream
- Park

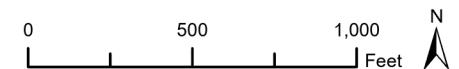
**Conflicts with Nearby Utility**

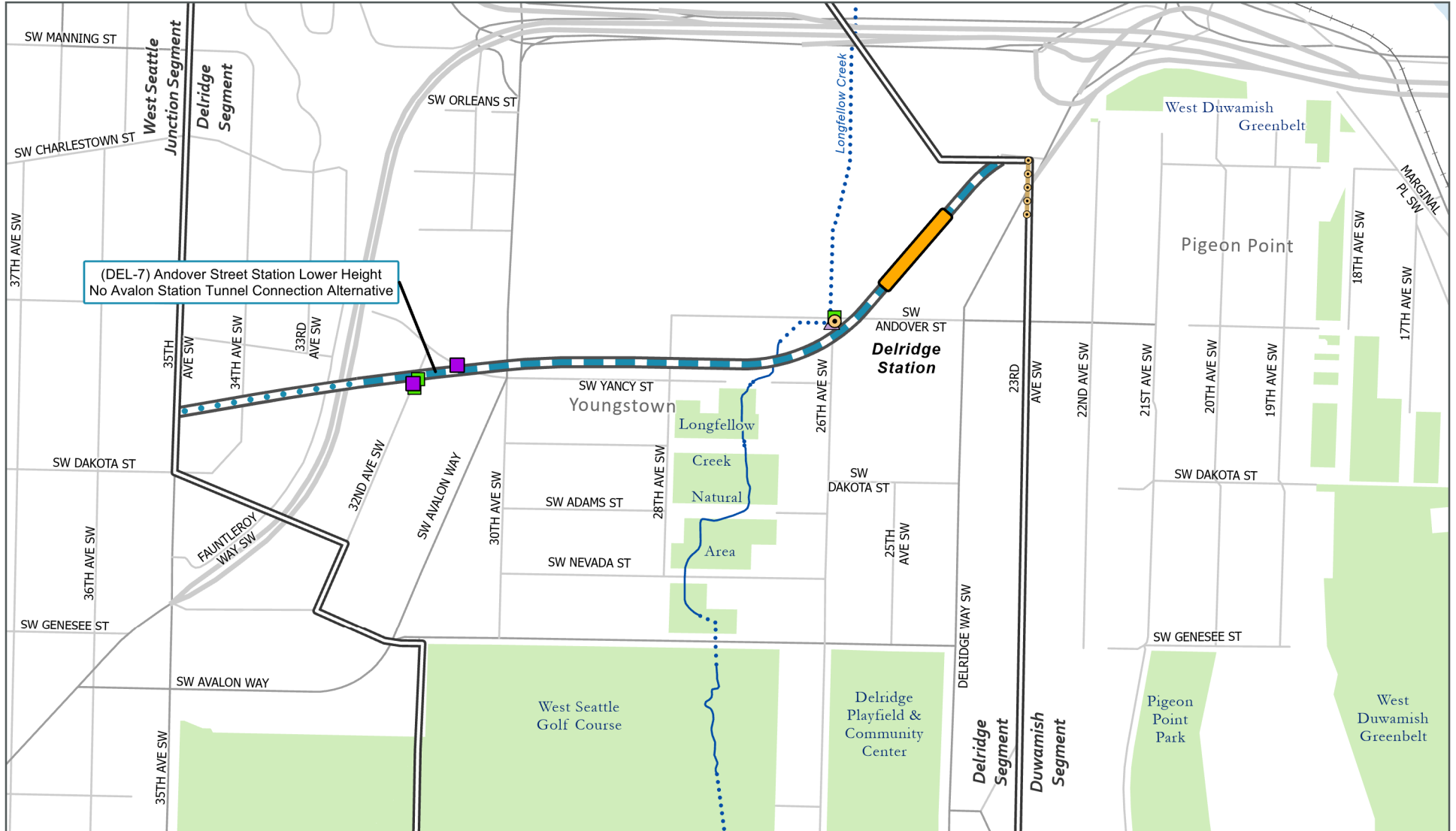
- Gas
- Storm Drain

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-13**  
**Alternative DEL-6a**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

- Elevated
- Tunnel

**Station**

- New

**Segment Line**

- Railroad
- Stream
- Piped Stream
- Park

**Utility Crossing Conflicts**

- Gas
- Power
- Sewer
- Storm Drain

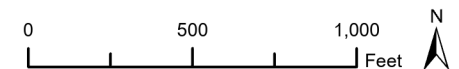
**Conflicts with Nearby Utility**

- Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

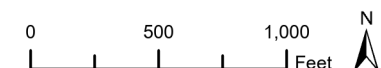
**FIGURE L4.15-14**  
**Alternative DEL-7**  
**Conflicts with Major Utilities**  
**Delridge Segment**

*West Seattle Link Extension*



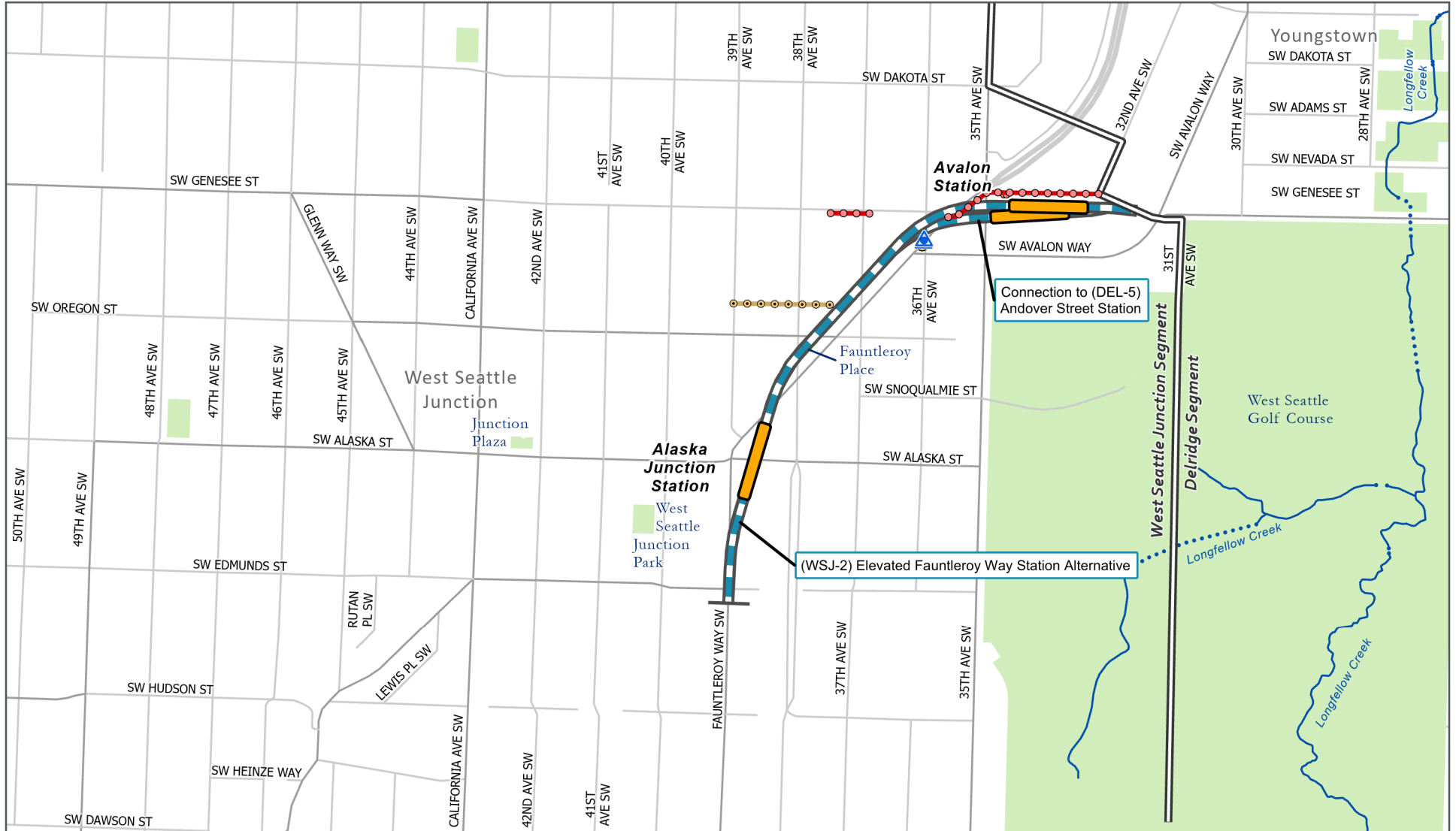
Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

West Seattle Link Extension









Source: City of Seattle, King County (2023).

**Other Alternative**

— Elevated

**Station**

— New

— Segment Line

— Stream

— Piped Stream

— Park

**Utility Crossing Conflicts**

— Gas

— Water

**Conflicts with Nearby Utility**

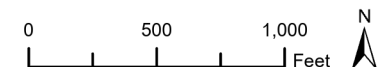
— Fiber Optic Telecom

— Gas

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-17**  
**Alternative WSJ-2**  
**Conflicts with Major Utilities**  
**West Seattle Junction Segment**

*West Seattle Link Extension*







Source: City of Seattle, King County (2023).

**Other Alternative**

Tunnel

**Station**

New

Segment Line

Stream

Piped Stream

Park

**Utility Crossing Conflicts**

Water

**Conflicts with Nearby Utility**

Fiber Optic Telecom

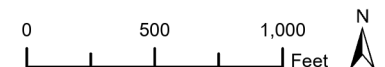
Gas

Sewer

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-18**  
**Alternative WSJ-3a**  
**Conflicts with Major Utilities**  
**West Seattle Junction Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

— Tunnel

**Station**

— New

— Segment Line

— Stream

— Piped Stream

— Park

**Utility Crossing Conflicts**

— Fiber Optic Telecom

— Water

**Conflicts with Nearby Utility**

— Fiber Optic Telecom

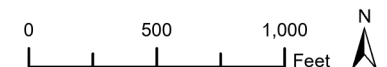
— Gas

— Sewer

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-19**  
**Option WSJ-3b**  
**Conflicts with Major Utilities**  
**West Seattle Junction Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

#### Other Alternative

- Elevated
- At-Grade
- Tunnel
- Retained Cut

#### Station

- New

#### Segment Line

- Stream
- Piped Stream
- Park

#### Utility Crossing Conflicts

- Water

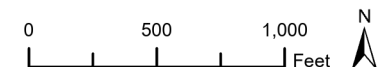
#### Conflicts with Nearby Utility

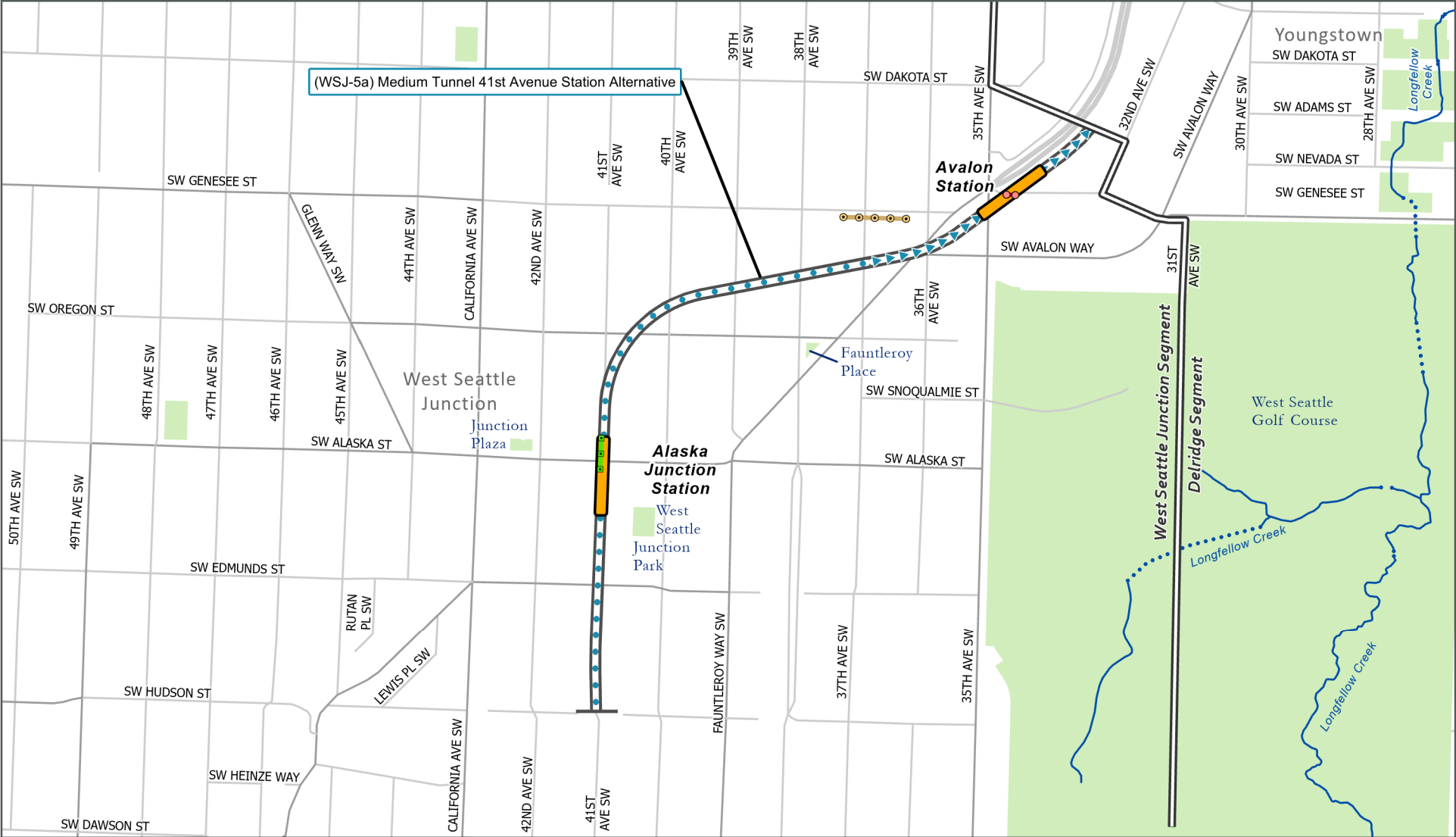
- Fiber Optic Telecom
- Sewer

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-20**  
**Alternative WSJ-4**  
**Conflicts with Major Utilities**  
**West Seattle Junction Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

- Other Alternative**
- Tunnel
  - Retained Cut
  - Station**
  - New

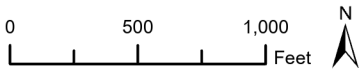
- Segment Line
- Stream
- Piped Stream
- Park

- Conflicts with Nearby Utility**
- Fiber Optic Telecom
  - Gas
  - Sewer

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-21**  
**Alternative WSJ-5a**  
**Conflicts with Major Utilities**  
**West Seattle Junction Segment**

*West Seattle Link Extension*





Source: City of Seattle, King County (2023).

**Other Alternative**

Tunnel

**Station**

New

Segment Line

Stream

Piped Stream

Park

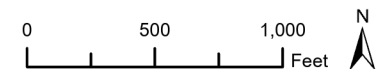
**Conflicts with Nearby Utility**

Sewer

Note: Conflict symbology is approximate and does not represent the exact position or length of the conflict with the alternative.

**FIGURE L4.15-22**  
**Alternative WSJ-6**  
**Conflicts with Major Utilities**  
**West Seattle Junction Segment**

*West Seattle Link Extension*



## L4.15.2 References

King County. 2017. [Chelan Combined Sewer Overflow Control Project Fact Sheet](https://www.kingcounty.gov/~media/depts/dnrp/wtd/capital-projects/ChelanCSO/docs/1703_Chelan-CSO-fact-sheet.ashx?la=en). Wastewater Treatment Division. [https://www.kingcounty.gov/~media/depts/dnrp/wtd/capital-projects/ChelanCSO/docs/1703\\_Chelan-CSO-fact-sheet.ashx?la=en](https://www.kingcounty.gov/~media/depts/dnrp/wtd/capital-projects/ChelanCSO/docs/1703_Chelan-CSO-fact-sheet.ashx?la=en).

King County. 2018. [2018 Combined Sewer Overflow Control Program Update](https://kingcounty.gov/~media/services/environment/wastewater/cso/docs/program-updates/2018_CSO-control-program-update-secure.ashx?la=en). Wastewater Treatment Division. [https://kingcounty.gov/~media/services/environment/wastewater/cso/docs/program-updates/2018\\_CSO-control-program-update-secure.ashx?la=en](https://kingcounty.gov/~media/services/environment/wastewater/cso/docs/program-updates/2018_CSO-control-program-update-secure.ashx?la=en).

King County. 2019. [King County Protecting Our Waters projects to control CSOs](https://kingcounty.gov/services/environment/wastewater/cso/projects/building.aspx). Wastewater Treatment Division. <https://kingcounty.gov/services/environment/wastewater/cso/projects/building.aspx>.

**Appendix L4.17**  
**Parks and Recreational Resources**

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## Appendix L4.17 Parks and Recreational Resources

**Table L4.17-1. Parks and Recreational Resources in the Study Area**

Segment	Resource Name	Primary Access	Ownership/ Maintenance	Size/ Length	Resource Type	Primary Use
SODO	East Duwamish Greenbelt	Between South Dearborn Street and South Lucile Street	Seattle Parks and Recreation	23.6 acres	Greenspace	Conservation
SODO	SODO Trail <sup>a</sup>	South Royal Brougham Way and South Forest Street	Sound Transit; Seattle Department of Transportation	1 mile	Paved connector trail	Non-motorized transportation
SODO	12th Avenue South Viewpoint	12th Avenue South and South McClellan Street	Seattle Parks and Recreation	1.1 acre	Neighborhood park	Viewpoint
Duwamish	22nd Avenue Southwest Street-end	22nd Avenue Southwest and Southwest Andover Street	Seattle Department of Transportation	<0.1 acre	Street-end park	Passive use
Duwamish	Bridge Gear Park	3431 11th Avenue Southwest	Port of Seattle	0.3 acre	Historical context display	Passive use
Duwamish	Duwamish Trail <sup>a</sup>	South Spokane Street Bridge to 1st Avenue South Bridge	Seattle Department of Transportation; Port of Seattle	1.9 miles	On-street trail	Non-motorized transportation
Duwamish	Harbor Marina Corporate Center at Terminal 102	Southwest Klickitat Way	Port of Seattle	2.4 acres	Waterfront park	Public shoreline access
Duwamish	Pigeon Point Park	Southwest Genesee Street	Seattle Parks and Recreation	30.1 acres	Neighborhood park	Passive use/ Leisure activity
Duwamish	ἰṽṽṽṽṽ Village Park and Shoreline Habitat	West Marginal Way Southwest	Port of Seattle	2.9 acres	Waterfront park	Public shoreline access
Duwamish	Terminal 18 Park	Southwest Spokane Street	Port of Seattle	1.3 acres	Waterfront park	Passive use
Duwamish	West Duwamish Greenbelt	West Marginal Way Southwest	Seattle Parks and Recreation	197 acres	Greenspace	Recreation/ Conservation
Duwamish	West Seattle Bridge Trail <sup>a</sup>	Southwest Spokane Street	Seattle Department of Transportation; Port of Seattle	2 miles	Paved multi-modal trail	Non-motorized transportation
Delridge	Alki Trail <sup>a</sup>	Alki Beach to Duwamish Waterway	Seattle Department of Transportation; Seattle Parks and Recreation; Port of Seattle	4.4 miles	Paved multi-modal trail	Non-motorized transportation

## Appendix L4.17 Parks and Recreational Resources

Segment	Resource Name	Primary Access	Ownership/ Maintenance	Size/ Length	Resource Type	Primary Use
Delridge	Delridge Connector Trail <sup>a</sup>	Southwest Andover Street to West Seattle Bridge	Seattle Parks and Recreation	0.4 mile	Paved multi-modal trail	Non-motorized transportation
Delridge	Delridge Playfield	Southwest Alaska Street	Seattle Parks and Recreation	14.0 acres	Playground	Active use
Delridge	Duwamish Head Greenbelt	West Admiral Way	Seattle Parks and Recreation	20.7 acres	Greenspace	Conservation/ Recreation
Delridge	Longfellow Creek Natural Area	28th Avenue West	Seattle Parks and Recreation	5.9 acres	Greenspace	Conservation/ Recreation
Delridge	Longfellow Creek Legacy Trail	Southwest Genesee Street	Seattle Parks and Recreation	4.2 miles	Recreation trail	Recreation
Delridge	West Seattle Golf Course	35th Avenue Southwest	Seattle Parks and Recreation	138.1 acres	Recreation area	Active use
West Seattle Junction	Camp Long	35th Avenue Southwest	Seattle Parks and Recreation	54.5 acres	Large city park	Recreation
West Seattle Junction	Dakota Place Park	Southwest Dakota Street	Seattle Parks and Recreation	0.5 acre	Neighborhood park	Passive use/ Leisure activity
West Seattle Junction	Ercolini Park	48th Avenue Southwest	Seattle Parks and Recreation	0.5 acre	Neighborhood park	Active use
West Seattle Junction	Fairmount Playground	Fauntleroy Way Southwest	Seattle Parks and Recreation	5.3 acres	Playground	Active use
West Seattle Junction	Fauntleroy Place	Fauntleroy Way Southwest	Seattle Parks and Recreation	0.1 acre	Street triangle	Passive use
West Seattle Junction	Junction Plaza	42nd Avenue Southwest	Seattle Parks and Recreation	0.2 acre	Neighborhood park	Passive use
West Seattle Junction	Rotary Viewpoint	35th Avenue Southwest	Seattle Parks and Recreation	2.2 acres	Neighborhood park	Viewpoint
West Seattle Junction	West Seattle Junction Park	40th Avenue Southwest	Seattle Parks and Recreation	0.4 acre	Planned park	Passive use/Leisure activity
West Seattle Junction	West Seattle Stadium	35th Avenue Southwest	Seattle Parks and Recreation	11.6 acres	Recreation area	Active use

<sup>a</sup> For a discussion of potential project effects to paved multi-modal trails in the study area, refer to Section 3.7, Non-motorized Facilities, in Chapter 3, Transportation Environment and Consequences.

**Table L4.17-2 Delridge Segment Visual Impacts to Parks and Recreational Resources**

Resource	Alternative	Change in Visual Quality	Visual Impact Summary
Delridge Playfield	<ul style="list-style-type: none"> <li>Dakota Street Station Alternative (DEL-1a)</li> <li>Dakota Street Station North Alignment Option (DEL-1b)</li> <li>Delridge Way Station Alternative (DEL-3)</li> </ul>	High to Low-average	<ul style="list-style-type: none"> <li>Visible tree removal along Southwest Genesee Street (varies among these alternatives).</li> <li>Visual presence of guideway.</li> <li>Visual character change to transportation.</li> </ul>
Delridge Playfield	<ul style="list-style-type: none"> <li>Dakota Street Station Lower Height Alternative (DEL-2a)</li> <li>Dakota Street Station Lower Height North Alignment Option (DEL-2b)</li> <li>Delridge Way Station Lower Height Alternative (DEL-4)</li> </ul>	High to Average	<ul style="list-style-type: none"> <li>Visual presence of guideway.</li> <li>Visual character change to transportation.</li> </ul>
West Seattle Golf Course	<ul style="list-style-type: none"> <li>Dakota Street Station Alternative (DEL-1a)</li> <li>Dakota Street Station North Alignment Option (DEL-1b)</li> <li>Dakota Street Station Lower Height Alternative (DEL-2a)</li> <li>Delridge Way Station Alternative (DEL-3)</li> <li>Delridge Way Station Lower Height Alternative (DEL-4)</li> </ul>	High to Low-average	<ul style="list-style-type: none"> <li>Visible tree and vegetation removal along edge and/or within the golf course at northern boundary (DEL-3 would remove the most).</li> <li>Visual quality of northern views from within the golf course would be most affected, among the alternatives.</li> <li>Visual character change to transportation.</li> </ul>
West Seattle Golf Course	<ul style="list-style-type: none"> <li>Dakota Street Station Lower Height North Alignment Option (DEL-2b)</li> </ul>	High to Average	<ul style="list-style-type: none"> <li>Visual quality of northern views from within the golf course would be least affected, among the alternatives.</li> <li>Visual presence of lower elevated guideway lower (transitioning in height).</li> <li>Visual character change to transportation.</li> </ul>

Resource	Alternative	Change in Visual Quality	Visual Impact Summary
Longfellow Creek Natural Area/ Longfellow Creek Legacy Trail	<ul style="list-style-type: none"> <li>Dakota Street Station Alternative (DEL-1a)</li> <li>Dakota Street Station North Alignment Option (DEL-1b)</li> </ul>	High-average to Low	<ul style="list-style-type: none"> <li>Some vegetation would be removed from the southern edge of the Longfellow Creek Natural Area. Remaining trees would screen or partially screen views of the elevated guideway from most of the Longfellow Creek Legacy Trail, which follows the creek along the bottom of its ravine.</li> </ul>
Longfellow Creek Natural Area/ Longfellow Creek Legacy Trail	<ul style="list-style-type: none"> <li>Delridge Way Station Alternative (DEL-3)</li> </ul>	High to Average	<ul style="list-style-type: none"> <li>Would not remove vegetation from the edge of the Longfellow Creek Natural Area, although it might be seen from a few points along the Longfellow Creek Legacy Trail. If and where it is seen, it would lower the high average visual quality of views.</li> </ul>
Longfellow Creek Natural Area/ Longfellow Creek Legacy Trail	<ul style="list-style-type: none"> <li>Delridge Way Station Lower Height Alternative (DEL-4)</li> </ul>	High to Low-average	<ul style="list-style-type: none"> <li>Would not remove vegetation from the edge of the Longfellow Creek Natural Area, although it might be seen from a few points along the Longfellow Creek Legacy Trail. If and where it is seen, it would lower the high average visual quality of views.</li> </ul>