



West Seattle and Ballard

Link Extensions

Level 3 Alternatives Evaluation Matrices – Draft

January 2018

Table of Contents

Appendices

Appendix A..... Level 3 Alternative Maps

Appendix B.....Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Appendix C.....Level 3 Alternatives Evaluation Summary

Appendix D..... Level 3 Alternatives Evaluation

Figures

Figure A-1Level 3 Alternatives

Figure A-2ST3 Representative Project

Figure A-3 West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated

Figure A-4 West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel



APPENDIX A

Level 3 Alternative Maps



Figure A-1 Level 3 Alternatives



Figure A-2 ST3 Representative Project



Figure A-3 West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated



Figure A-4 West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel



APPENDIX B

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Purpose and Need / Evaluation Criteria	Measure	Methods	Thresholds
Provide high quality rapid, reliable, and efficient peak and off-peak light rail transit service to communities in the project corridors defined in ST3.			
Reliable Service	At-grade crossings	Number of at-grade signalized intersections traversed	Higher = No at-grade signalized intersections traversed Medium = Between 1 and 2 at-grade signalized intersections traversed Lower = More than 2 at-grade signalized intersections traversed
	Potential service interruptions and recoverability	Likelihood of service interruptions during peak and off-peak travel periods (e.g., frequency and duration of movable bridge openings, etc.) and ability to reroute service	Higher = Low likelihood of service interruptions and good ability to reroute service Medium = Limited likelihood of service interruptions and adequate ability to reroute service Lower = High likelihood of service interruptions and/or limited ability to reroute service
Travel Times	LRT travel times	Estimated travel times from Ballard and Alaska Junction to Downtown Seattle based on alignment characteristics (minutes)	Higher = Travel times approximately 15% faster than average of all alternatives Medium = Travel times close to average of all alternatives Lower = Travel times approximately 15% slower than average of all alternatives
	Transit travel time savings	Change in transit travel times during peak compared to No Build Alternative based on select trip pairs	Higher = Evening PM peak travel time savings more than 10 minutes compared to No Build Alternative Medium = Evening PM peak travel time savings between 0 and 10 minutes compared to No Build Alternative Lower = No evening PM peak travel time savings compared to No Build Alternative
Improve regional mobility by increasing connectivity and capacity through downtown Seattle to meet projected transit demand.			
Regional Connectivity	LRT network integration	Ability to connect and integrate West Seattle and Ballard extensions with existing regional Link light rail transit (LRT) system network and operational flexibility to meet future demand through regional spine (i.e., spine segmentation)	Higher = Facilitates additional connectivity and operational flexibility beyond spine segmentation Medium = Facilitates spine segmentation for operational flexibility consistent with ST3 Plan Lower = Does not facilitate connection and integration with existing Link system network through regional spine (i.e., spine segmentation) or has limited operational flexibility on overall Link system network
Transit Capacity	Passenger carrying capacity in downtown	Combined passenger carrying capacity of downtown transit tunnels	Higher = Includes new light rail tunnel through downtown with additional improvements Medium = Includes new light rail tunnel through downtown consistent with ST3 Plan Lower = Does not include new light rail tunnel through downtown consistent with ST3 Plan
Projected Transit Demand	Ridership forecasts	Future forecasted 2042 average weekday trips for West Seattle and Ballard extensions	Higher = Average weekday trips at least 5% more than average of all alternatives Medium = Average weekday trips within 5% of average of all alternatives Lower = Average weekday trips at least 5% less than average of all alternatives
Connect regional centers as described in adopted regional and local land use, transportation, and economic development plans and Sound Transit’s Regional Transit Long-Range Plan.			
Regional Centers Served	Station proximity to PSRC-designated regional growth centers	Number of PSRC-designated regional growth centers served by stations	Higher = Stations located in regional growth centers Medium = Stations located within reasonable walking distance of regional growth centers Lower = Regional growth centers not served
	Population and job densities	Future PSRC-forecasted 2040 population and job densities within 10-minute walkshed of stations	Higher = Population and job densities at least 5% more than average of all alternatives Medium = Population and job densities within 5% of average of all alternatives Lower = Population and job densities at least 5% less than average of all alternatives
Sound Transit Long-Range Plan Consistency	Accommodates future LRT extension beyond ST3	Ability to accommodate expansion potential of future LRT extensions identified in Sound Transit Regional Transit Long-Range Plan	Higher = A future LRT extension per Sound Transit Long-Range Plan more feasible and more direct Medium = A future LRT extension per Sound Transit Long-Range Plan feasible Lower = A future LRT extension per Sound Transit Long-Range Plan would be less feasible and less direct

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Purpose and Need / Evaluation Criteria	Measure	Methods	Thresholds
Implement a system that is consistent with the ST3 Plan that established transit mode, corridor, and station locations and that is technically feasible and financially sustainable to build, operate, and maintain.			
ST3 Consistency	Mode, route and general station locations per ST3	Consistency of mode, route and general station locations per ST3	Higher = Mode, route and general station locations consistent with ST3 Plan Medium = Mode, route and general station locations moderately consistent with ST3 Plan Lower = Mode, route and general station locations not consistent with ST3 Plan
	Potential ST3 implementation schedule effects	Constructability, environmental or other issues/challenges that may cause WSBLE Project schedule risks (e.g., right-of-way [ROW] acquisition needs, in-water work restrictions, regulatory compliance process, etc.)	Higher = Similar implementation schedule for WSBLE Project as included in ST3 Plan Medium = Moderate potential effects to implementation schedule for WSBLE Project as included in ST3 Plan Lower = Major potential effects to implementation schedule for WSBLE Project as included in ST3 Plan
	Potential ST3 operating plan effects	Integration of WSBLE Project into existing LRT spine and overall system (i.e., special trackwork, movable bridge implications, etc.)	Higher = Facilitates special trackwork and/or provides reliable system operations Medium = Facilitates some special trackwork and/or provides moderately reliable system operations Lower = Does not facilitate special trackwork and/or degrades system operations
Technical Feasibility	Engineering constraints	Compliance with Sound Transit Design Criteria Manual, design criteria from agencies with jurisdiction and federal regulations, and engineering obstacles associated with major infrastructure constraints	Higher = Minimal engineering constraints, design meets full standards, likely acceptance by authority having jurisdiction, minimum ROW issues, and/or no unusual design considerations Medium = Moderate engineering constraints, design meets minimums, likely acceptance by authority having jurisdiction, but with additional mitigation and moderate ROW issues, and/or unusual design considerations that could be mitigated Lower = Substantial engineering constraints, deviations to standards, authority having jurisdiction’s acceptance requires substantial mitigation, substantial ROW issues, and/or unique design considerations
	Constructability issues	Constructability issues based on potential conflicts and technical challenges (e.g., utility conflicts, existing infrastructure, geotechnical, tunnel portals, etc.)	Higher = Lower construction complexity and construction risks (e.g., minimal utility conflicts, building impacts, impacts to existing infrastructure, etc.) Medium = Moderate construction complexity and construction risks Lower = Higher construction complexity requiring special mitigation and construction risks
	Operational constraints	Assessment of operational constraints (e.g., access to maintenance facility, vertical grade, horizontal curvature, movable bridge, etc.)	Higher = Optimum operational characteristics (e.g., operating efficiency and flexibility) Medium = Meets minimum operational goals for design speed and operations and maintenance facility (OMF) connection Lower = Poor operational characteristics, with certain operational goals compromised for design speed and OMF connection
Financial Sustainability	Conceptual capital cost comparison	ST3 cost consistency and conceptual capital costs based on conceptual design quantities and Sound Transit unit pricing (2018\$)	Higher = Conceptual capital cost estimates less than ST3 Representative Project Medium = Conceptual capital cost estimates 0% to 10% more than ST3 Representative Project Lower = Conceptual capital cost estimates 10% or more than ST3 Representative Project
	Operations and maintenance (O&M) costs	Annual O&M costs based on operating and maintenance characteristics and Sound Transit unit pricing (2018\$)	Higher = Annual O&M costs at least 5% more than average of all alternatives Medium = Annual O&M costs within 5% of average of all alternatives Lower = Annual O&M costs at least 5% less than average of all alternatives

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Purpose and Need / Evaluation Criteria	Measure	Methods	Thresholds
Expand mobility for the corridor and region’s residents, which include transit dependent, low income, and minority populations.			
Historically Underserved Populations	Opportunities for low-income and minority populations	Assessment of improved access to opportunities (activity nodes served, as described below under Station Area Land Use Plan Consistency) for low-income and minority populations within station areas; includes assessment of how project would improve access for low-income and minority populations along the system to these nodes, as well as to major regional employment and educational destinations	Higher = Would improve access to activity nodes for areas with minority and low-income populations higher than city average Medium = Would not affect access to activity nodes for areas with minority and low-income populations higher than city average Lower = Would worsen access to activity nodes for areas with minority and low-income populations higher than city average
		Percentage of rent-restricted or subsidized rental units within 10-minute walkshed of stations	Higher = Percentage of rent-restricted or subsidized rental units within 10-minute walkshed of stations is more than 40% Medium = Percentage of rent-restricted or subsidized rental units within 10-minute walkshed of stations is 20% to 40% Lower = Percentage of rent-restricted or subsidized rental units within 10-minute walkshed of stations is less than 20%
	Low-income population	Low-income population percentage (i.e., households below 2 times the federal poverty level) within 10-minute walkshed and 15-minute ride on connecting high frequency transit	Higher = Low-income population within analysis area is more than 6% higher than city average Medium = Low-income population within analysis area is within 6% (+/-) of city average Lower = Low-income population within analysis area is more than 6% below city average
	Minority population	Minority population percentage within 10-minute walkshed and 15-minute ride on connecting high frequency transit	Higher = Minority population within analysis area is more than 6% higher than city average Medium = Minority population within analysis area is within 6% (+/-) of city average Lower = Minority population within analysis area is more than 6% below city average
	Youth population (under 18)	Youth population (under 18) percentage within 10-minute walkshed and 15-minute ride on connecting high frequency transit	Higher = Youth population within analysis area is more than 6% higher than city average Medium = Youth population within analysis area is within 6% (+/-) of city average Lower = Youth population within analysis area is more than 6% below city average
	Elderly population (65 and over)	Elderly population (65 and over) percentage within 10-minute walkshed and 15-minute ride on connecting high frequency transit	Higher = Elderly population within analysis area is more than 6% higher than city average Medium = Elderly population within analysis area is within 6% (+/-) of city average Lower = Elderly population within analysis area is more than 6% below city average
	Limited English Proficiency (LEP) population	LEP population percentage within 10-minute walkshed and 15-minute ride on connecting high frequency transit (predominant languages spoken by LEP populations will be noted)	Higher = LEP population within analysis area is more than 6% higher than city average Medium = LEP population within analysis area is within 6% (+/-) of city average Lower = LEP population within analysis area is more than 6% below city average
	Disabled population	Disabled population (includes those with hearing, vision, or ambulatory disability) percentage within 10-minute walkshed and 15-minute ride on connecting high frequency transit	Higher = Disabled population within analysis area is more than 6% higher than city average Medium = Disabled population within analysis area is within 6% (+/-) of city average Lower = Disabled population within analysis area is more than 6% below city average
Encourage equitable and sustainable urban growth in station areas through support of transit-oriented development, station access, and modal integration in a manner that is consistent with local land use plans and policies.			
Station Area Land Use Plan Consistency	Proximity to Seattle-designated Urban Centers and Villages	Percent of 10-minute station walkshed land area located within Seattle-designated Urban Centers and/or Villages	Higher = More than 50% of station walkshed within Urban Centers and Villages Medium = Between 30% and 50% of station walkshed within Urban Centers and Villages Lower = Less than 30% of station walkshed within Urban Centers and Villages
	Station locations consistent with current local land use plans	Compatibility and consistency of station locations with current local land use plans	Higher = Station locations have greater consistency with local land use plans Medium = Station locations have moderate consistency with local land use plans Lower = Station locations have less consistency with local land use plans
	Activity nodes served	Number of activity nodes (e.g., points of interest, gathering spaces, food banks, educational institutions, parks and recreational resources) within 10-minute walkshed of stations	Higher = More than 275 activity nodes within 10-minute walkshed of stations Medium = Between 250 and 275 activity nodes within 10-minute walkshed of stations Lower = Fewer than 250 activity nodes within 10-minute walkshed of stations

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Purpose and Need / Evaluation Criteria	Measure	Methods	Thresholds
Modal Integration	Passenger transfers	Assessment of ease of passenger transfer for riders transferring between light rail lines, and between light rail and other motorized modes (i.e., bus, paratransit, drop-off/pick-up, taxi or other ride-hailing services) at stations	Higher = More convenient passenger transfers at stations Medium = Adequate passenger transfers at stations Lower = Less convenient passenger transfers at stations
	Bus/rail and rail/rail integration	Assessment of transportation facility integration between the station and adjacent transit stops that serve other modes	Higher = Above average transportation facility integration at stations Medium = Adequate transportation facility integration at stations Lower = Below average transportation facility integration at stations
	Bicycle infrastructure and accessibility	Assessment of the quality of bicycle infrastructure and percent of bicycle facility miles (i.e., neighborhood greenways, bicycle lanes, protected bicycle lanes, and trails) to total roadway miles within 10-minute bikeshed of stations	Higher = Greatest quality of bicycle facilities and bicycle facility miles greater than 25 percent of total roadway miles within bikeshed area Medium = Moderate quality of bicycle facilities and bicycle facility miles between 15 and 25 percent of total roadway miles within bikeshed area Lower = Lower quality of bicycle facilities and bicycle facility miles lower than 15 percent of total roadway miles within bikeshed area
	Pedestrian and persons with limited mobility accessibility	Assessment of number of intersections, percent of sidewalk/trail miles to total roadway miles, and impediments to pedestrian and American with Disabilities Act (ADA) access (i.e., large intersections with signal delay, adjacency to freight corridors/industrial uses, and substantial topography or grade challenges) within 10-minute walkshed of stations	Higher = Higher number of intersections and sidewalk coverage, good to excellent pedestrian access and few impediments Medium = Moderate number of intersections and sidewalk coverage, average to good pedestrian access and average impediments Lower = Limited number of intersections and sidewalk coverage, poor to fair pedestrian access and greatest impediments
Station Area Development Opportunities	Development potential	Percent of properties with development potential based on zoned capacity and market conditions within 10-minute walkshed of stations (5-minute walkshed in downtown)	Higher = Greater than 20 percent of properties with development potential Medium = Between 10 and 20 percent of properties with development potential Lower = Less than 10 percent of properties with development potential
	Equitable development opportunities	Assessment of unique opportunities for equitable development enabled by station location and/or conceptual configuration	Higher = Greatest opportunities for equitable development that would accommodate future residential and employment growth based on station location and configuration Medium = Opportunities for equitable development that would accommodate future residential and employment growth based on station location and configuration Lower = Limited opportunities for equitable development that would accommodate future residential and employment growth based on station location and configuration
Preserve and promote a healthy environment and economy by minimizing adverse impacts on the natural, built and social environments through sustainable practices.			
Environmental Effects	National Register of Historic Places (NRHP) listed or eligible historic properties and Seattle Landmarks	Number of intersected or adjacent NRHP-listed, NRHP-eligible, and Seattle Landmark properties based on Department of Archaeology and Historic Preservation (DAHP) data and Seattle Landmark data	Higher = Less than 20 historic properties potentially affected Medium = Between 20 and 40 historic properties potentially affected Lower = More than 40 historic properties potentially affected
	Potential archaeological resources	Percent of alternative length within previously identified archaeologically sensitive areas that are 500 feet (or 0.5 miles at water crossings) from alignment	Higher = Less than 25 percent of alternative length within Very High Risk or High Risk probability areas Medium = Between 25 and 75 percent of alternative length within Very High Risk or High Risk probability areas Lower = More than 75 percent of alternative length within Very High Risk or High Risk probability areas
	Parks and recreational resources	Number of and estimated acres of potential permanent impacts to parks and recreational resources	Higher = Less than 1 acre of potential permanent impacts to parks Medium = Between 1 and 4 acres of potential permanent impacts to parks Lower = More than 4 acres of potential permanent impacts to parks
	Water resources	Estimated acres of potential permanent in-water impacts	Higher = Less than 0.1 acre of potential permanent in-water impacts for both water bodies Medium = Up to 0.5 acre of potential permanent in-water impacts in each water body Lower = More than 0.5 acre of potential permanent in-water impacts in one or more water bodies

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Purpose and Need / Evaluation Criteria	Measure	Methods	Thresholds
Environmental Effects (continued)	Fish and wildlife habitats	Estimated acres of potential permanent impacts to fish and wildlife habitats using city of Seattle environmentally critical areas	Higher = Less than 5 acres of potential permanent fish and wildlife habitat impacts Medium = Between 5 and 10 acres of potential permanent fish and wildlife habitat impacts Lower = More than 10 acres of potential permanent fish and wildlife habitat impacts
	Hazardous materials	Number of contaminated hazardous materials sites of high concern potentially affected, including Superfund sites	Higher = Less than 25 hazardous materials sites potentially affected Medium = Between 25 and 50 hazardous sites potentially affected Lower = More than 50 hazardous materials sites potentially affected
	Visual	Assessment of length of elevated guideway adjacent to residential or other visually sensitive areas, including parks and historic properties and assessment of scale of elevated guideway in visually sensitive areas and potential impacts to State Environmental Policy Act (SEPA) Scenic Routes	Higher = Less than 1 mile adjacent to visually sensitive viewers, most elevated guideway not more than 75 feet high, and low potential to affect SEPA Scenic Routes Medium = Between 1 and 2 miles adjacent to visually sensitive viewers, some elevated guideway more than 75 feet high, and/or moderate potential to affect SEPA Scenic Routes Lower = More than 2 miles potentially adjacent to visually sensitive viewers, extensive elevated guideway more than 75 feet high, and/or high potential to affect SEPA Scenic Routes
	Noise and vibration	Assessment of the number of potentially affected noise and vibration sensitive receivers, including residences, libraries, performance halls, schools, churches, and selected parks within 350 feet of alignment; presence of known noise and vibration sensitive facilities will be noted	Higher = Less than 700 noise and vibration sensitive receivers potentially affected Medium = Between 700 and 900 noise and vibration sensitive receivers potentially affected Lower = More than 900 noise and vibration sensitive receivers potentially affected
	Property acquisitions and displacements	Number of properties potentially affected; does not include potential permanent or temporary easements or area for construction staging, traction power substations (TPSS) or underground station entrances (except station entrances in downtown)	Higher = Less than approximately 30% of range of values of all alternatives Medium = Between approximately 30% and 70% of range of values of all alternatives Lower = More than approximately 70% of range of values of all alternatives
		Number of potential residential unit displacements; does not include potential permanent or temporary easements or area for construction staging, TPSS or underground station entrances (except station entrances in downtown)	Higher = Less than approximately 30% of range of values of all alternatives Medium = Between approximately 30% and 70% of range of values of all alternatives Lower = More than approximately 70% of range of values of all alternatives
		Square feet of potential business displacements (including maritime businesses); does not include potential permanent or temporary easements or area for construction staging, TPSS or underground station entrances (except station entrances in downtown)	Higher = Less than approximately 30% of range of values of all alternatives Medium = Between approximately 30% and 70% of range of values of all alternatives Lower = More than approximately 70% of range of values of all alternatives
	Community construction impacts	Assessment of temporary construction impacts to communities, including potential for transportation, access, noise, vibration, and visual effects that could disrupt the community (e.g., existing residents, businesses, social service providers), and relative duration of construction and impacts to high volume traffic areas; potential construction impacts that affect freight and business/commerce are addressed in other criteria below	Higher = Lower potential for impacts to community relative to other alternatives Medium = Moderate potential for impacts to community relative to other alternatives Lower = More substantial potential for impacts to community relative to other alternatives
	Burden on minority and low-income populations	Assessment of how potential acquisitions and displacements (residential and business) and visual, noise and construction impacts would affect minority and low-income populations relative to other communities	Higher = Little to no potential impact to minority or low-income communities relative to other alternatives Medium = Moderate potential for impacts to minority or low-income communities relative to other alternatives Lower = Substantial potential for impacts to minority or low-income communities relative to other alternatives

Level 3 Screening Evaluation Criteria, Measures, Methods and Thresholds

Purpose and Need / Evaluation Criteria	Measure	Methods	Thresholds
Traffic Operations	Traffic circulation and access	Effects on traffic and transit (i.e., bus and streetcar) operations, including potential for lane restrictions, lane eliminations, turn restrictions, driveways impacted, and parking taken	Higher = Most of alignment is outside of roadway, with few to no changes in traffic patterns or access Medium = Potential for changes in traffic patterns or access to some properties; could be mitigated with local circulation modifications Lower = Substantial impacts to traffic circulation and/or access to many properties; mitigation likely requires substantial roadway improvements
	Transportation facilities	Effects on existing transportation facilities, including bicycle lanes, sidewalks, traffic interchanges and other transportation infrastructure as warranted, and compatibility with planned facilities	Higher = Minor changes to transportation facilities, and/or moderate changes with opportunities to improve infrastructure Medium = Moderate changes to transportation facilities, with more limited opportunities to improve infrastructure Lower = Substantial changes to transportation facilities, with no or limited opportunities to improve infrastructure
Economic Effects	Freight movement and access on land and water	Effects on existing freight and future capacity expansion opportunities, including truck, rail and water freight; includes potential impacts during construction and operations	Higher = No or less than substantial effects on both land and water freight mobility and capacity expansion Medium = Substantial effects on either land or water freight mobility and capacity expansion Lower = Substantial effects on both land and water freight mobility and capacity expansion
	Business and commerce effects	Effects on existing businesses, commercial areas and designated industrial centers, as well as future expansion opportunities; includes potential impacts during construction and operations	Higher = Minimal effects on local businesses, as well as commercial areas and designated industrial zones Medium = Moderate effects on local businesses, as well as commercial areas and designated industrial zones Lower = Substantial effects on local businesses, as well as commercial areas and designated industrial zones

- NOTES:
- 1. Based on preliminary Purpose and Need Statement, with revisions incorporated from feedback received during the Level 1 evaluation.
 - 2. Criteria are subject to change as alternatives are refined and screened at each level, as well as to incorporate stakeholder input.
 - 3. Screening criteria and associated measures get progressively more detailed and quantitative as the alternatives are screened through Level 1, Level 2 and Level 3.
 - 4. Agency and stakeholder input will be considered in the overall alternatives evaluation and screening process.
 - 5. Qualitative measures ranked from high to low based on anticipated ability to achieve evaluation measure; “Higher” = higher ability to achieve measure, “Medium” = moderate ability to achieve measure, “Lower” = lower ability to achieve measure; no weighting will be applied.
 - 6. Minority population is defined in US Department of Transportation Updated Environmental Justice Order 5610.2(a) as persons belonging to any of the following groups: Black, Hispanic, Asian American, and American Indian and Alaska Native.



APPENDIX C

Level 3 Evaluation Alternatives Evaluation Summary

Level 3 Alternatives Evaluation Summary

Purpose and Need / Evaluation Measures	Level 3 Alternatives							
	ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel				
	Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard	42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Provide high quality rapid, reliable, and efficient peak and off-peak light rail transit service to communities in the project corridors defined in ST3.								
At-grade crossings	3	1	1	1	1	1	1	1
Potential service interruptions and recoverability	Lower	Medium	Medium	Medium	Medium	Medium	Lower	Medium
LRT travel times on West Seattle / Ballard extensions (minutes)	6 to 7 / 13 to 14	6 to 7 / 13 to 14	6 to 7 / 13 to 14	6 to 7 / 13 to 14	6 to 7 / 13 to 14	6 to 7 / 13 to 14	6 to 7 / 13 to 14	6 to 7 / 13 to 14
Transit travel time savings (minutes)	12 to 20	12 to 20	12 to 20	12 to 20	12 to 20	12 to 20	12 to 20	12 to 20
Improve regional mobility by increasing connectivity and capacity through downtown Seattle to meet projected transit demand.								
LRT network integration	Lower	Medium	Medium	Higher	Higher	Higher	Medium	Higher
Passenger carrying capacity in downtown	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Average weekday trips on West Seattle / Ballard extensions (year 2042)	35,000 to 40,000 / 123,000 to 163,000	35,000 to 39,000 / 120,000 to 158,000	35,000 to 39,000 / 120,000 to 158,000	35,000 to 40,000 / 125,000 to 165,000	35,000 to 40,000 / 125,000 to 165,000	36,000 to 41,000 / 125,000 to 165,000	35,000 to 40,000 / 125,000 to 165,000	35,000 to 40,000 / 125,000 to 165,000
Connect regional centers as described in adopted regional and local land use, transportation, and economic development plans and Sound Transit’s Regional Transit Long-Range Plan.								
PSRC-designated growth centers served	5	5	5	5	5	5	5	5
Population / job densities served (persons per acre, year 2040)	38 / 39	39 / 39	39 / 39	37 / 39	37 / 39	37 / 38	37 / 39	37 / 39
Accommodates future LRT extension beyond ST3	Lower	Medium	Medium	Higher	Higher	Medium	Higher	Higher
Implement a system that is consistent with the ST3 Plan that established transit mode, corridor, and station locations and that is technically feasible and financially sustainable to build, operate, and maintain.								
Mode, route and general station locations per ST3	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher
Potential ST3 implementation schedule effects	Higher	Higher	Medium	Lower	Lower	Lower	Lower	Lower
Potential ST3 operating plan effects	Lower	Higher	Higher	Higher	Higher	Higher	Medium	Higher
Engineering constraints	Lower	Medium	Medium	Lower	Lower	Lower	Lower	Lower
Constructability issues	Lower	Medium	Medium	Lower	Lower	Lower	Lower	Lower
Operational constraints	Lower	Medium	Lower	Higher	Higher	Higher	Lower	Higher
Conceptual capital cost comparison (2018\$ in millions)	--	\$400 million increase	\$500 million increase	\$1,900 million increase	\$1,900 million increase	\$1,900 million increase	\$2,100 million increase	\$1,900 million increase
Annual O&M costs on West Seattle / Ballard extensions (2018\$ in millions)	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

The Level 3 Alternatives Evaluation is based on limited conceptual design and intended to inform comparison of potential benefits and impacts between alternatives. Sound Transit will evaluate the potential effects of alternatives carried forward for environmental review in an Environmental Impact Statement.

Level 3 Alternatives Evaluation Summary

Purpose and Need / Evaluation Measures	Level 3 Alternatives							
	ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel				
	Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard	42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Expand mobility for the corridor and region’s residents, which include transit dependent, low income, and minority populations.								
Opportunities for low-income and minority populations (activity nodes/subsidized rental units)	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	23%	22%	22%	23%	23%	23%	23%	23%
Low-income population	32% / 31%	32% / 32%	32% / 32%	32% / 31%	32% / 31%	32% / 31%	32% / 31%	32% / 31%
Minority population	34% / 34%	34% / 35%	34% / 35%	34% / 35%	34% / 35%	34% / 35%	34% / 35%	34% / 34%
Youth population (under 18)	7% / 10%	7% / 9%	7% / 9%	7% / 9%	7% / 9%	7% / 10%	7% / 9%	7% / 10%
Elderly population (65 and over)	14% / 11%	14% / 12%	14% / 12%	14% / 12%	14% / 12%	14% / 12%	14% / 12%	14% / 11%
Limited English Proficiency (LEP) population	7% / 8%	7% / 8%	7% / 8%	7% / 8%	7% / 8%	7% / 8%	7% / 8%	7% / 7%
Disabled population	12% / 11%	12% / 11%	12% / 11%	12% / 11%	12% / 11%	12% / 11%	12% / 11%	12% / 11%
Encourage equitable and sustainable urban growth in station areas through support of transit-oriented development, station access, and modal integration in a manner that is consistent with local land use plans and policies.								
Proximity to Seattle-designated Urban Centers and Villages	58%	56%	56%	57%	56%	55%	57%	58%
Station locations consistent with current local land use plans	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher
Activity nodes served	302	298	298	300	301	302	300	303
Passenger transfers	Higher	Higher	Medium	Higher	Higher	Higher	Medium	Higher
Bus/rail and rail/rail integration	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Bicycle infrastructure and accessibility	19%	19%	19%	18%	18%	18%	18%	19%
Pedestrian and persons with limited mobility accessibility	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher
Development potential	14%	14%	14%	14%	13%	13%	14%	14%
Equitable development opportunities	Lower	Medium	Medium	Higher	Higher	Higher	Higher	Higher

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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	ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel				
	Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard	42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Preserve and promote a healthy environment and economy by minimizing adverse impacts on the natural, built and social environments through sustainable practices.								
National Register of Historic Places (NRHP) listed or eligible historic properties and Seattle Landmarks	40	20	20	40	40	40	40	40
Potential archaeological resources	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower
Parks and recreational resources (acres)	1.4	5.3	5.3	5.7	5.7	5.7	5.7	5.7
Water resources (acres)	0.9	0.6	0.6	<0.1	<0.1	<0.1	<0.1	<0.1
Fish and wildlife habitats (acres)	15	6	6	15	15	15	15	15
Hazardous materials sites	50	60	60	40	40	40	40	40
Visual effects (miles of sensitive viewers)	2.5	1.7	1.7	1.2	1.2	1.2	1.2	1.2
Noise and vibration effects	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Properties potentially affected	Medium	Lower	Lower	Higher	Higher	Higher	Higher	Higher
Potential residential unit displacements	Medium	Lower	Lower	Higher	Higher	Higher	Higher	Higher
Potential business displacements	Higher	Lower	Lower	Higher	Higher	Higher	Higher	Higher
Community construction impacts	Lower	Lower	Medium	Medium	Medium	Medium	Lower	Medium
Burden on minority and low-income populations	Lower	Medium	Medium	Lower	Lower	Lower	Lower	Lower
Traffic circulation and access effects	Lower	Medium	Medium	Higher	Higher	Higher	Higher	Higher
Effects on transportation facilities	Lower	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Effects on freight movement	Lower	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Business and commerce effects	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium

NOTES:
1. Minority population is defined in US Department of Transportation Updated Environmental Justice Order 5610.2(a) as persons belonging to any of the following groups: Black, Hispanic, Asian American, and American Indian and Alaska Native

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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APPENDIX D

Level 3 Alternatives Evaluation

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Provide high quality rapid, reliable, and efficient peak and off-peak light rail transit service to communities in the project corridors defined in ST3.					
Reliable Service	At-grade crossings	3 <ul style="list-style-type: none">WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have at-grade crossings at S Royal Brougham Way, S Holgate Street and S Lander Street in SODO	1 <ul style="list-style-type: none">WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham WayProposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line	1 <ul style="list-style-type: none">WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham WayProposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line	1 <ul style="list-style-type: none">WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham WayProposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line
	Potential service interruptions and recoverability	Lower <ul style="list-style-type: none">Movable bridge over Salmon Bay would result in periodic LRT service interruptionsRestrictions to limit bridge openings during peak travel hours could be implemented, but the bridge could still be opened for certain large ships; it is unclear when and how often this could occur and recoverability of LRT operations after peak period bridge openings could be challengingFully dedicated guideway with no at-grade crossings would minimize service interruptions elsewhere along WSBLE Project corridorNo connection between West Seattle and Ballard lines in SODO limits operational flexibility and recoverabilityShorter downtown tunnel results in greater flexibility for crossover locations	Medium <ul style="list-style-type: none">Fixed bridge over Salmon Bay would maintain system reliability compared to a movable bridgeFully dedicated guideway with no at-grade crossings would minimize service interruptionsAccommodates connection between West Seattle and Ballard lines in SODOPocket tracks on the West Seattle and Ballard lines in SODO accommodate operational flexibility and recoverabilityLonger downtown tunnel limits flexibility for crossovers	Medium <ul style="list-style-type: none">Fixed bridge over Salmon Bay would maintain system reliability compared to a movable bridgeFully dedicated guideway with no at-grade crossings would minimize service interruptionsAccommodates connection between West Seattle and Ballard lines in SODOPocket tracks on the West Seattle and Ballard lines in SODO accommodate operational flexibility and recoverabilityLonger downtown tunnel limits flexibility for crossovers	Medium <ul style="list-style-type: none">Tunnel under Salmon Bay would maintain system reliability compared to a movable bridgeFully dedicated guideway with no at-grade crossings would minimize service interruptionsAccommodates connection between West Seattle and Ballard lines in SODOShared pocket track between West Seattle and Ballard lines in SODO accommodates operational flexibility and recoverabilityLonger downtown tunnel limits flexibility for crossovers
Travel Times	LRT travel times on West Seattle / Ballard extensions (minutes)	6 to 7 / 13 to 14 <ul style="list-style-type: none">Travel time results are similar to other alternativesTravel time from Alaska Junction Station to SODO Station is 6 to 7 minutesTravel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes	6 to 7 / 13 to 14 <ul style="list-style-type: none">Travel time results are similar to other alternativesTravel time from Alaska Junction Station to SODO Station is 6 to 7 minutesTravel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes	6 to 7 / 13 to 14 <ul style="list-style-type: none">Travel time results are similar to other alternativesTravel time from Alaska Junction Station to SODO Station is 6 to 7 minutesTravel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes	6 to 7 / 13 to 14 <ul style="list-style-type: none">Travel time results are similar to other alternativesTravel time from Alaska Junction Station to SODO Station is 6 to 7 minutesTravel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes
	Transit travel time savings (minutes)	12 to 20 <ul style="list-style-type: none">PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C LinePM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line	12 to 20 <ul style="list-style-type: none">PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C LinePM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line	12 to 20 <ul style="list-style-type: none">PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C LinePM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line	12 to 20 <ul style="list-style-type: none">PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C LinePM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Provide high quality rapid, reliable, and efficient peak and off-peak light rail transit service to communities in the project corridors defined in ST3.					
Reliable Service	At-grade crossings	1 <ul style="list-style-type: none">• WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham Way• Proposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line	1 <ul style="list-style-type: none">• WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham Way• Proposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line	1 <ul style="list-style-type: none">• WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham Way• Proposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line	1 <ul style="list-style-type: none">• WSBLE Project would have no at-grade crossings; however, the existing Link light rail line would continue to have an at-grade crossing at S Royal Brougham Way• Proposed new overpasses at S Lander and S Holgate streets in SODO would improve Link light rail reliability by removing at-grade intersections on both the new and existing light rail line
	Potential service interruptions and recoverability	Medium <ul style="list-style-type: none">• Tunnel under Salmon Bay would maintain system reliability compared to a movable bridge• Fully dedicated guideway with no at-grade crossings would minimize service interruptions• Accommodates connection between West Seattle and Ballard lines in SODO• Shared pocket track between West Seattle and Ballard lines in SODO accommodates operational flexibility and recoverability• Longer downtown tunnel limits flexibility for crossovers	Medium <ul style="list-style-type: none">• Tunnel under Salmon Bay would maintain system reliability compared to a movable bridge• Fully dedicated guideway with no at-grade crossings would minimize service interruptions• Accommodates connection between West Seattle and Ballard lines in SODO• Shared pocket track between West Seattle and Ballard lines in SODO accommodates operational flexibility and recoverability• Longer downtown tunnel limits flexibility for crossovers	Lower <ul style="list-style-type: none">• Tunnel under Salmon Bay would maintain system reliability compared to a movable bridge• Fully dedicated guideway with no at-grade crossings would minimize service interruptions• Accommodates connection between West Seattle and Ballard lines in SODO• Alignment associated with deeper 4th Avenue Mined International District/Chinatown Station does not accommodate a pocket track on the Ballard line in SODO, which reduces operational flexibility and recoverability• Longer downtown tunnel limits flexibility for crossovers	Medium <ul style="list-style-type: none">• Tunnel under Salmon Bay would maintain system reliability compared to a movable bridge• Fully dedicated guideway with no at-grade crossings would minimize service interruptions• Accommodates connection between West Seattle and Ballard lines in SODO• Shared pocket track between West Seattle and Ballard lines in SODO accommodates operational flexibility and recoverability• Longer downtown tunnel limits flexibility for crossovers
Travel Times	LRT travel times on West Seattle / Ballard extensions (minutes)	6 to 7 / 13 to 14 <ul style="list-style-type: none">• Travel time results are similar to other alternatives• Travel time from Alaska Junction Station to SODO Station is 6 to 7 minutes• Travel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes	6 to 7 / 13 to 14 <ul style="list-style-type: none">• Travel time results are similar to other alternatives• Travel time from Alaska Junction Station to SODO Station is 6 to 7 minutes• Travel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes	6 to 7 / 13 to 14 <ul style="list-style-type: none">• Travel time results are similar to other alternatives• Travel time from Alaska Junction Station to SODO Station is 6 to 7 minutes• Travel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes	6 to 7 / 13 to 14 <ul style="list-style-type: none">• Travel time results are similar to other alternatives• Travel time from Alaska Junction Station to SODO Station is 6 to 7 minutes• Travel time from Ballard Station to International District/Chinatown Station is 13 to 14 minutes
	Transit travel time savings (minutes)	12 to 20 <ul style="list-style-type: none">• PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C Line• PM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line	12 to 20 <ul style="list-style-type: none">• PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C Line• PM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line	12 to 20 <ul style="list-style-type: none">• PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C Line• PM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line	12 to 20 <ul style="list-style-type: none">• PM peak hour travel time from Westlake Station to Alaska Junction Station is 12 to 13 minutes less than existing bus travel time on C Line• PM peak hour travel time from Westlake Station to Ballard Station is 18 to 20 minutes less than existing bus travel time on D Line

Key to Rating	Alternative Performance		
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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Improve regional mobility by increasing connectivity and capacity through downtown Seattle to meet projected transit demand.					
Regional Connectivity	LRT network integration	Lower	Medium	Medium	Higher
		<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Limited operational flexibility on overall Link system due to lack of connection between West Seattle and Ballard lines	<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, but some train movements require out-of-direction travel	<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, but some train movements require out-of-direction travel	<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, with train movements in all directions possible
Transit Capacity	Passenger carrying capacity in downtown	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">Includes new light rail tunnel through downtown	<ul style="list-style-type: none">Includes new light rail tunnel through downtown	<ul style="list-style-type: none">Includes new light rail tunnel through downtown	<ul style="list-style-type: none">Includes new light rail tunnel through downtown
Projected Transit Demand	Average weekday trips on West Seattle / Ballard extensions (year 2042)	35,000 to 40,000 / 123,000 to 163,000	35,000 to 39,000 / 120,000 to 158,000	35,000 to 39,000 / 120,000 to 158,000	35,000 to 40,000 / 125,000 to 165,000
		<ul style="list-style-type: none">35,000 to 40,000 average weekday trips on the West Seattle extension123,000 to 163,000 average weekday trips on the Ballard extension, including the new downtown tunnel	<ul style="list-style-type: none">35,000 to 39,000 average weekday trips on the West Seattle extension120,000 to 158,000 average weekday trips on the Ballard extension, including the new downtown tunnel	<ul style="list-style-type: none">35,000 to 39,000 average weekday trips on the West Seattle extension120,000 to 158,000 average weekday trips on the Ballard extension, including the new downtown tunnel	<ul style="list-style-type: none">35,000 to 40,000 average weekday trips on the West Seattle extension125,000 to 165,000 average weekday trips on the Ballard extension, including the new downtown tunnelSlightly more trips on the Ballard extension due to better pedestrian access and transit connections at South Lake Union Station
Connect regional centers as described in adopted regional and local land use, transportation, and economic development plans and Sound Transit’s Regional Transit Long-Range Plan.					
Regional Centers Served	PSRC-designated growth centers served	5	5	5	5
		<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle Central Business District [CBD], South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)	<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)	<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)	<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)
	Population / job densities served (persons per acre, year 2040)	38 / 39	39 / 39	39 / 39	37 / 39
		<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (38 persons per acre) within 10-minute walkshed of stations similar to average of all alternativesForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations similar to average of all alternatives	<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (39 persons per acre) within 10-minute walkshed of stations 4% above average of all alternatives due to serving slightly larger area of high population density in downtown Seattle and South Lake UnionForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations similar to average of all alternatives	<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (39 persons per acre) within 10-minute walkshed of stations 4% above average of all alternatives due to serving slightly larger area of high population density in downtown Seattle and South Lake UnionForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations similar to average of all alternatives	<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (37 persons per acre) within 10-minute walkshed of stations 1% below average of all alternativesForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations similar to average of all alternatives

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Improve regional mobility by increasing connectivity and capacity through downtown Seattle to meet projected transit demand.					
Regional Connectivity	LRT network integration	Higher	Higher	Medium	Higher
		<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, with train movements in all directions possible	<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, with train movements in all directions possible	<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, but some train movements require out-of-direction travel	<ul style="list-style-type: none">Facilitates connectivity and integration of West Seattle and Ballard extensions with regional spine of existing Link system network; extensions would operate on two separate lines through the regional spine (i.e., spine segmentation)Accommodates connections between West Seattle and Ballard lines in SODO, with train movements in all directions possible
Transit Capacity	Passenger carrying capacity in downtown	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">Includes new light rail tunnel through downtown	<ul style="list-style-type: none">Includes new light rail tunnel through downtown	<ul style="list-style-type: none">Includes new light rail tunnel through downtown	<ul style="list-style-type: none">Includes new light rail tunnel through downtown
Projected Transit Demand	Average weekday trips on West Seattle / Ballard extensions (year 2042)	35,000 to 40,000 / 125,000 to 165,000	36,000 to 41,000 / 125,000 to 165,000	35,000 to 40,000 / 125,000 to 165,000	35,000 to 40,000 / 125,000 to 165,000
		<ul style="list-style-type: none">35,000 to 40,000 average weekday trips on the West Seattle extension125,000 to 165,000 average weekday trips on the Ballard extension, including the new downtown tunnelSlightly more trips on the Ballard extension due to better pedestrian access and transit connections at South Lake Union Station	<ul style="list-style-type: none">36,000 to 41,000 average weekday trips on the West Seattle extension125,000 to 165,000 average weekday trips on the Ballard extension, including the new downtown tunnelSlightly more trips on the Ballard extension due to better pedestrian access and transit connections at South Lake Union Station	<ul style="list-style-type: none">35,000 to 40,000 average weekday trips on the West Seattle extension125,000 to 165,000 average weekday trips on the Ballard extension, including the new downtown tunnelSlightly more trips on the Ballard extension due to better pedestrian access and transit connections at South Lake Union Station	<ul style="list-style-type: none">35,000 to 40,000 average weekday trips on the West Seattle extension125,000 to 165,000 average weekday trips on the Ballard extension, including the new downtown tunnelSlightly more trips on the Ballard extension due to better pedestrian access and transit connections at South Lake Union Station
Connect regional centers as described in adopted regional and local land use, transportation, and economic development plans and Sound Transit’s Regional Transit Long-Range Plan.					
Regional Centers Served	PSRC-designated growth centers served	5	5	5	5
		<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)	<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)	<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)	<ul style="list-style-type: none">3 out of 3 regional growth centers served (Seattle CBD, South Lake Union, Uptown Queen Anne)2 out of 2 manufacturing/industrial centers served (Duwamish and Ballard-Interbay)
	Population / job densities served (persons per acre, year 2040)	37 / 39	37 / 38	37 / 39	37 / 39
		<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (37 persons per acre) within 10-minute walkshed of stations 1.8% below average of all alternatives, slightly lower than 41st Avenue Alaska Junction StationForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations 0.9% below average of all alternatives	<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (37 persons per acre) within 10-minute walkshed of stations 2.8% below average of all alternatives, slightly lower than 41st Avenue Alaska Junction StationForecasted employment density (38 jobs per acre) within 10-minute walkshed of stations 2.1% below average of all alternatives	<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (37 persons per acre) within 10-minute walkshed of stations 1% below average of all alternativesForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations similar to average of all alternatives	<ul style="list-style-type: none">Areas of highest existing population density include downtown Seattle and the terminus station areas in West Seattle and Ballard; greatest employment densities are found in downtown SeattleForecasted population density (37 persons per acre) within 10-minute walkshed of stations 1% below average of all alternativesForecasted employment density (39 jobs per acre) within 10-minute walkshed of stations similar to average of all alternatives

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Sound Transit Long-Range Plan Consistency	Accommodates future LRT extension beyond ST3	Lower	Medium	Medium	Higher
		<ul style="list-style-type: none">Elevated Alaska Junction Station oriented east-west on SW Alaska Street would be a less direct route for a future LRT extension to the south per Sound Transit's Long-Range PlanElevated Ballard Station oriented north-south along 15th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives	<ul style="list-style-type: none">Elevated Alaska Junction Station oriented north-south on 41st Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative ProjectElevated Ballard Station oriented north-south along 14th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives	<ul style="list-style-type: none">Elevated Alaska Junction Station oriented north-south on 41st Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative ProjectElevated Ballard Station oriented north-south along 14th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives	<ul style="list-style-type: none">Tunnel Alaska Junction Station oriented north-south on 41st Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative ProjectTunnel Ballard Station oriented north-south along 14th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives
Implement a system that is consistent with the ST3 Plan that established transit mode, corridor, and station locations and that is technically feasible and financially sustainable to build, operate, and maintain.					
ST3 Consistency	Mode, route and general station locations per ST3	Higher	Higher	Higher	Higher
	Potential ST3 implementation schedule effects	Higher	Higher	Medium	Lower
		<ul style="list-style-type: none">Mode, route and general station locations consistent with ST3 Plan	<ul style="list-style-type: none">Mode, route and general station locations consistent with ST3 Plan	<ul style="list-style-type: none">Mode, route and general station locations consistent with ST3 Plan	<ul style="list-style-type: none">Mode, route and general station locations consistent with ST3 Plan
		<ul style="list-style-type: none">Implementation schedule anticipated to be similar to ST3 Plan	<ul style="list-style-type: none">Implementation schedule anticipated to be similar to ST3 Plan	<ul style="list-style-type: none">Very deep mined International District/Chinatown Station could lengthen implementation schedule of Ballard extension	<ul style="list-style-type: none">Inclusion of tunnel in West Seattle could lengthen implementation schedule of West Seattle extension4th Avenue viaduct rebuild in Chinatown/International District could lengthen implementation schedule of Ballard extensionInclusion of tunnel under Salmon Bay is not anticipated to lengthen implementation schedule because the Ballard extension would be implemented 5 years later than the West Seattle extension and already includes the downtown tunnel

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Sound Transit Long-Range Plan Consistency	Accommodates future LRT extension beyond ST3	Higher	Medium	Higher	Higher
		<ul style="list-style-type: none">Tunnel Alaska Junction Station oriented north-south on 42nd Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative ProjectTunnel Ballard Station oriented north-south along 14th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives	<ul style="list-style-type: none">Tunnel Alaska Junction Station oriented north-south on 44th Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative Project, but less direct than 41st or 42nd avenues SWTunnel Ballard Station oriented north-south along 14th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives	<ul style="list-style-type: none">Tunnel Alaska Junction Station oriented north-south on 41st Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative ProjectTunnel Ballard Station oriented north-south along 14th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives	<ul style="list-style-type: none">Tunnel Alaska Junction Station oriented north-south on 41st Avenue SW would accommodate a more direct route for a future LRT extension to the south per Sound Transit's Long-Range Plan than the ST3 Representative ProjectTunnel Ballard Station oriented north-south along 15th Avenue NW would accommodate a future extension to the north or east, similar to all alternatives
Implement a system that is consistent with the ST3 Plan that established transit mode, corridor, and station locations and that is technically feasible and financially sustainable to build, operate, and maintain.					
ST3 Consistency	Mode, route and general station locations per ST3	Higher	Higher	Higher	Higher
	Potential ST3 implementation schedule effects	Lower	Lower	Lower	Lower
		<ul style="list-style-type: none">Inclusion of tunnel in West Seattle could lengthen implementation schedule of West Seattle extension4th Avenue viaduct rebuild in Chinatown/International District could lengthen implementation schedule of Ballard extensionInclusion of tunnel under Salmon Bay is not anticipated to lengthen implementation schedule because the Ballard extension would be implemented 5 years later than the West Seattle extension and already includes the downtown tunnel	<ul style="list-style-type: none">Inclusion of tunnel in West Seattle could lengthen implementation schedule of West Seattle extension4th Avenue viaduct rebuild in Chinatown/International District could lengthen implementation schedule of Ballard extensionInclusion of tunnel under Salmon Bay is not anticipated to lengthen implementation schedule because the Ballard extension would be implemented 5 years later than the West Seattle extension and already includes the downtown tunnel	<ul style="list-style-type: none">Inclusion of tunnel in West Seattle could lengthen implementation schedule of West Seattle extensionPartial 4th Avenue viaduct rebuild in Chinatown/International District and very deep mined International District/Chinatown Station could lengthen implementation schedule of Ballard extensionInclusion of tunnel under Salmon Bay is not anticipated to lengthen implementation schedule because the Ballard extension would be implemented 5 years later than the West Seattle extension and already includes the downtown tunnel	<ul style="list-style-type: none">Inclusion of tunnel in West Seattle could lengthen implementation schedule of West Seattle extension4th Avenue viaduct rebuild in Chinatown/International District could lengthen implementation schedule of Ballard extensionInclusion of tunnel under Salmon Bay is not anticipated to lengthen implementation schedule because the Ballard extension would be implemented 5 years later than the West Seattle extension and already includes the downtown tunnel

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
ST3 Consistency (continued)	Potential ST3 operating plan effects	Lower	Higher	Higher	Higher
		<ul style="list-style-type: none">Does not facilitate track interconnections in SODO and Chinatown/International District needed for reliable system operationsMovable bridge over Salmon Bay would degrade system operations due to system reliability effects compared to other alternatives, but is consistent with ST3 Plan	<ul style="list-style-type: none">Facilitates all pocket tracks and crossovers needed to provide reliable system operationsFixed bridge over Salmon Bay would maintain system reliability compared to a movable bridge	<ul style="list-style-type: none">Facilitates all pocket tracks and crossovers needed to provide reliable system operationsFixed bridge over Salmon Bay would maintain system reliability compared to a movable bridge	<ul style="list-style-type: none">Facilitates all pocket tracks and crossovers needed to provide reliable system operationsTunnel under Salmon Bay would maintain system reliability compared to a movable bridge
Technical Feasibility	Engineering constraints	Lower	Medium	Medium	Lower
		<ul style="list-style-type: none">Duwamish Waterway crossing south of West Seattle Bridge potentially requires special design for steep and unstable slope at Pigeon Point in West SeattleDuwamish Waterway crossing south of West Seattle Bridge would require column placements in Duwamish Waterway and coordination with Port of Seattle and Northwest Seaport Alliance <p>-----</p> <ul style="list-style-type: none">Alignment in SODO could require Washington State Department of Transportation (WSDOT)/East Link structure modificationsEngineering constraints with cut-and-cover tunnel from S Royal Brougham Way to S Main Street in Chinatown/International District <p>-----</p> <ul style="list-style-type: none">Complex tunnel design work due to tieback conflicts in downtownLikely settlement control for tunneling under older sensitive buildings in downtownTunneling may affect major sewer tunnels in South Lake UnionLandslide hazard along steep hillside west of Queen Anne Hill may require walls with tiebacks <p>-----</p> <ul style="list-style-type: none">Straddle bents likely required to minimize roadway impacts along Elliott Avenue W and 15th Avenue W in Interbay, as well as NW Market Street in BallardMovable bridge would require column placements in Fishermen's Terminal at Salmon Bay and coordination with Port of SeattleComplex movable bridge over Salmon Bay in a high seismic zone	<ul style="list-style-type: none">Duwamish Waterway crossing south of West Seattle Bridge potentially requires special design for steep and unstable slope at Pigeon Point in West SeattleDuwamish Waterway crossing south of West Seattle Bridge would require column placements in Duwamish Waterway and coordination with Port of Seattle and Northwest Seaport Alliance <p>-----</p> <ul style="list-style-type: none">Stacked International District/Chinatown Station potentially reduces cut-and-cover construction on 5th Avenue S from S Jackson Street to S Weller Street <p>-----</p> <ul style="list-style-type: none">Tunneling under buildings near Denny Station would likely require greater design and analysis than other alternatives <p>-----</p> <ul style="list-style-type: none">Potential relocation of existing King County Pump Station in InterbayPotential reconstruction of portion of existing Magnolia Bridge between BNSF railroad and King County Pump Station in InterbayLong section of at-grade guideway in poor soil conditions in Interbay creates engineering complexityPotential need for ground improvements along guideway between Magnolia Bridge and W Dravus Street bridge in InterbayPotential need for ground improvements along guideway between W Dravus Street and 15th Avenue W in InterbayFixed bridge would require column placements in Salmon Bay and coordination with maritime properties and vessel movements	<ul style="list-style-type: none">Bored tunnel and mined International District/Chinatown Station, with station access shaft off-street would likely minimize impacts to 5th Avenue SVertical profile beneath 5th Avenue S would result in deeper Midtown and International District/Chinatown stationsEngineering constraints for the 5th Avenue Mined International District/Chinatown Station elsewhere along the WSBL Project corridor would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">Duwamish Waterway crossing north of West Seattle Bridge likely avoids steep and unstable slope design at Pigeon Point in West SeattleDuwamish Waterway crossing north of West Seattle Bridge would require column placement in Duwamish Waterway and coordination with Port of Seattle and Northwest Seaport Alliance; north crossing could have less in-water impacts than south crossing <p>-----</p> <ul style="list-style-type: none">Would require 4th Avenue S viaduct and retaining wall reconstruction S Washington Street to Seattle Boulevard S, construction on high volume arterial and in close proximity to BNSF active trackwayThree tunnels in close proximity of S Washington Street -- Ballard line bored tunnel, BNSF tunnel and Downtown Seattle Transit Tunnel (DSTT) -- would create engineering constraints <p>-----</p> <ul style="list-style-type: none">Tunneling under buildings in downtown would likely require measures to control ground settlementsNorth tunnel portal and adjacent trenches would likely be located in landslide prone topography on west side of Queen Anne Hill with potentially unstable hill slopes <p>-----</p> <ul style="list-style-type: none">Smith Cove Station and bus layover would likely require walls with tiebacks along landslide hazard area in InterbayPotential ground improvements needed in the retained cut section along the west side of Interbay Golf Center, along guideway between W Dravus Street and 15th Avenue W in Interbay, and for tunnel boring under Nickerson Street bridge in Interbay

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
ST3 Consistency (continued)	Potential ST3 operating plan effects	Higher	Higher	Medium	Higher
		<ul style="list-style-type: none">Facilitates all pocket tracks and crossovers needed to provide reliable system operationsTunnel under Salmon Bay would maintain system reliability compared to a movable bridge	<ul style="list-style-type: none">Facilitates all pocket tracks and crossovers needed to provide reliable system operationsTunnel under Salmon Bay would maintain system reliability compared to a movable bridge	<ul style="list-style-type: none">4th Avenue Mined International District/Chinatown Station does not facilitate all pocket tracks and crossovers needed to provide reliable system operationsTunnel under Salmon Bay would maintain system reliability compared to a movable bridge	<ul style="list-style-type: none">Facilitates all pocket tracks and crossovers needed to provide reliable system operationsTunnel under Salmon Bay would maintain system reliability compared to a movable bridge
Technical Feasibility	Engineering constraints	Lower	Lower	Lower	Lower
		<ul style="list-style-type: none">Engineering constraints for alternative with Alaska Junction Station at 42nd Avenue SW would be similar to alternative with station at 41st Avenue SW	<ul style="list-style-type: none">Engineering constraints for alternative with Alaska Junction Station at 44th Avenue SW would be similar to alternative with station at 41st Avenue SW	<ul style="list-style-type: none">Would require 4th Avenue S viaduct and retaining wall reconstruction S Jackson Street to Seattle Boulevard S to construct mined station cavern, likely requiring long-term closure of 4th Avenue S, a high volume arterial, and work in close proximity to BNSF active trackwayVertical profile beneath 4th Avenue S would result in deeper Midtown and International District/Chinatown stationsEngineering constraints for the 4th Avenue Mined International District/Chinatown Station elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">Tunnel Ballard Station at 15th Avenue NW would require a deeper tunnel under Salmon Bay than alternatives with a Ballard Station at 14th Avenue NW to avoid a large diameter planned Seattle Public Utilities (SPU) storage tunnel under Shilshole AvenueEngineering constraints with 15th Avenue NW Ballard Station elsewhere along the WSBLE Project corridor would be similar to alternative with 14th Avenue Ballard Station

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Technical Feasibility (continued)	Constructability issues	Lower	Medium	Medium	Lower
		<ul style="list-style-type: none">• Duwamish Waterway crossing south of West Seattle Bridge potentially requires soil stabilization at Pigeon Point in West Seattle• Requires coordination with Port of Seattle and Northwest Seaport Alliance for construction access, staging and ground improvements at Harbor Marina Corporate Center (Terminal 102) and Terminal 104• Duwamish Waterway crossing south of West Seattle Bridge would require coordination with BNSF Railroad• Duwamish Waterway crossing south of West Seattle Bridge would require in-water construction activities for piers in Duwamish Waterway and need to take into account vessel traffic in the navigation channel, fish windows and tribal treaty fishing <p>-----</p> <ul style="list-style-type: none">• Alignment in SODO could require WSDOT/East Link structure modifications• Limited construction access between East Link ramps and S development• Bored tunnel portal in Chinatown/International District would likely result in constrained work area• Likely greatest extent of 5th Avenue S surface disruptions (length and width) in Chinatown/International District <p>-----</p> <ul style="list-style-type: none">• Potential construction complexity, interferences and instabilities of abandoned UPRR tunnel in downtown• Mined stations in downtown would likely result in constructability challenges, including increased cost and schedule• Potential conflict with deep sewers in proximity to tunnel and station in South Lake Union may require re-routing of conflicting sewers and tunnel boring controls and monitoring• Potentially difficult construction on steep hillside along west side of Queen Anne Hill prone to sliding <p>-----</p> <ul style="list-style-type: none">• Potential maintenance-of-traffic challenges during construction along Elliott Avenue W and 15th Avenue W/NW in Interbay and Ballard• Movable bridge would require in-water construction activities for multiple piers in Salmon Bay and take into account vessel traffic in the navigation channel, fish windows and tribal treaty fishing	<ul style="list-style-type: none">• Duwamish Waterway crossing south of West Seattle Bridge potentially requires soil stabilization at Pigeon Point in West Seattle• Requires coordination with Port of Seattle and Northwest Seaport Alliance for construction access, staging and ground improvements at Harbor Marina Corporate Center (Terminal 102) and Terminal 104• Duwamish Waterway crossing south of West Seattle Bridge would require coordination with BNSF Railroad• Duwamish Waterway crossing south of West Seattle Bridge would require in-water construction activities for piers in Duwamish Waterway and need to take into account vessel traffic in the navigation channel, fish windows and tribal treaty fishing <p>-----</p> <ul style="list-style-type: none">• Construction of S Lander Street and S Holgate Street overcrossings above active light rail tracks• Ground treatment would likely be required to construct tunnels and portals in poor soil conditions in SODO area and in close proximity to D-2 and I-90 ramp foundations crossing S Royal Brougham Way• Potentially reduces extent of 5th Avenue S surface disruptions (length and width) in Chinatown/International District compared to ST3 Representative Project <p>-----</p> <ul style="list-style-type: none">• Mined stations in downtown would likely result in constructability challenges, including increased cost and schedule <p>-----</p> <ul style="list-style-type: none">• At-grade guideway construction in Interbay potentially less challenging, but would need to address poor soil conditions• Coordination likely required with King County Wastewater for relocation of existing Pump Station in Interbay• Coordination likely required with BNSF Railroad in Interbay• Fixed bridge would require in-water construction activities for piers in Salmon Bay and take into account vessel traffic in the navigation channel, fish windows, and tribal treaty fishing	<ul style="list-style-type: none">• Deeper bored tunnel and mined International District/Chinatown Station would likely avoid impacting 5th Avenue S wall pile foundation, but would result in greater complexity and constructability challenges• Access shaft for International District/Chinatown Station would require a large diameter complex structure in poor soil conditions• Constructability issues for 5th Avenue Mined International District/Chinatown Station elsewhere along the WSBLE Project corridor would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Duwamish Waterway crossing north of West Seattle Bridge likely avoids challenges of construction in Pigeon Point area in West Seattle• Requires coordination with Port of Seattle and Northwest Seaport Alliance for construction access, staging and ground improvements at Terminal 18 on Harbor Island and near access road and tracks leading to Terminal 5• Duwamish Waterway crossing north of West Seattle Bridge would require coordination with BNSF Railroad• Duwamish Waterway crossing north of West Seattle Bridge would require in-water construction activities for piers in Duwamish Waterway and need to take into account vessel traffic in the navigation channel, fish windows and tribal treaty fishing <p>-----</p> <ul style="list-style-type: none">• Construction of S Lander Street and S Holgate Street overcrossings above active light rail tracks• South tunnel portal in SODO would likely require WSDOT I-90 structure modifications• Potential constructability issues related to cut-and-cover tunnel below 4th Avenue S in Chinatown/International District, including reconstruction of 4th Avenue S viaduct and work in close proximity to BNSF mainline tracks• Requires closures of 4th Avenue S in Chinatown/International District, a high volume arterial; potential for sequenced construction to reduce closures and maintain traffic <p>-----</p> <ul style="list-style-type: none">• Mined stations in downtown would likely result in constructability challenges, including increased cost and schedule• Likely complex construction along steep slope on west side of Queen Anne Hill <p>-----</p> <ul style="list-style-type: none">• Coordination likely required with BNSF Railroad in Interbay• Construction under the Nickerson Street bridge in Interbay creates potential challenges for maintenance of traffic• Potential challenges identifying muck hauling routes for Salmon Bay tunnel construction and constructing cross passages under Salmon Bay

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
		Lower	Lower	Lower	Lower
Technical Feasibility (continued)	Constructability issues	• Constructability issues for alternative with Alaska Junction Station at 42nd Avenue SW would be similar to alternative with station at 41st Avenue SW	• Constructability issues for alternative with Alaska Junction Station at 44th Avenue SW would be similar to alternative with station at 41st Avenue SW	• Constructability issues related to bored tunnel and mined station below 4th Avenue S in Chinatown/International District, including reconstruction of 4th Avenue S viaduct and work in close proximity to BNSF mainline tracks • Requires long-term closure of 4th Avenue S in Chinatown/International District, a high volume arterial, and long-term detours • Constructability issues for 4th Avenue Mined International District/Chinatown Station elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	• Constructability issues for alternative with Ballard Station at 15th Avenue NW would be similar to alternative with station at 14th Avenue NW

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Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Technical Feasibility (continued)	Operational constraints	Lower	Medium	Lower	Higher
		<ul style="list-style-type: none">• Steeper track grades for elevated guideway in West Seattle limit train acceleration and flexibility for crossovers compared to a tunnel in West Seattle• No connection between West Seattle and Ballard extension lines in SODO creates operational constraints• Likely provides crossover adjacent to International District/Chinatown Station, which improves operational flexibility• Movable bridge openings over Salmon Bay would result in periodic service interruptions, which would impact systemwide operations	<ul style="list-style-type: none">• Steeper track grades for elevated guideway in West Seattle limit train acceleration and flexibility for crossovers compared to a tunnel in West Seattle• Reduced flexibility for crossover at International District/Chinatown Station results in crossovers closer to Midtown Station and south of Denny Station, which reduces operational flexibility• Fixed bridge over Salmon Bay would not require openings for vessel traffic associated with a movable bridge	<ul style="list-style-type: none">• Likely steeper track grades with 5th Avenue Mined International District/Chinatown Station limit train acceleration and flexibility for crossovers compared to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station• Operational constraints for 5th Avenue Mined International District/Chinatown Station elsewhere along the WSBLE Project corridor would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Less steep track grades for tunnel in West Seattle improves train acceleration and flexibility for crossovers compared to an elevated guideway in West Seattle• Larger radius curves crossing West Seattle Bridge and avoiding Pigeon Point would likely result in higher speeds• Tunnel under Salmon Bay would not require openings for vessel traffic associated with a movable bridge
Financial Sustainability	Conceptual capital cost comparison (2018\$ in millions)	--	\$400 million increase	\$500 million increase	\$1,900 million increase
		<ul style="list-style-type: none">• Baseline for capital cost comparison to other alternatives	<ul style="list-style-type: none">• Approximately \$400 million more than the ST3 Representative Project• Lower cost in SODO due to at-grade guideway and station• Lower cost in Chinatown/International District due to reduced cut-and-cover construction• Additional cost in downtown for mined crossover and South Lake Union tunnel station outside of public right-of-way• Additional cost for elevated guideway outside of public right-of-way compared to ST3 Representative Project	<ul style="list-style-type: none">• Approximately \$500 million more than the ST3 Representative Project• Lower cost in SODO due to at-grade guideway and station• Cost for 5th Avenue Mined International District/Chinatown Station higher than 5th Avenue Cut-and-Cover International District/Chinatown Station, but similar to ST3 Representative Project• Additional cost in downtown for mined crossover and South Lake Union tunnel station outside of public right-of-way• Additional cost for elevated guideway outside of public right-of-way compared to ST3 Representative Project	<ul style="list-style-type: none">• Approximately \$1,900 million more than the ST3 Representative Project• Higher cost for additional tunnel construction and reconstruction of 4th Avenue S viaduct in Chinatown/International District compared to ST3 Representative Project• Cost of additional tunnels not included in ST3 financial plan or evaluation methodology
	Annual O&M costs on West Seattle / Ballard extensions (2018\$ in millions)	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million
		<ul style="list-style-type: none">• \$20 to \$25 million for the West Seattle extension• \$45 to \$50 million for the Ballard extension, including the new downtown tunnel• Movable bridge results in slightly higher O&M costs	<ul style="list-style-type: none">• \$20 to \$25 million for the West Seattle extension• \$45 to \$50 million for the Ballard extension, including the new downtown tunnel	<ul style="list-style-type: none">• \$20 to \$25 million for the West Seattle extension• \$45 to \$50 million for the Ballard extension, including the new downtown tunnel	<ul style="list-style-type: none">• \$20 to \$25 million for the West Seattle extension• \$45 to \$50 million for the Ballard extension, including the new downtown tunnel• Additional tunnel stations result in slightly higher O&M costs

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Technical Feasibility (continued)	Operational constraints	Higher	Higher	Lower	Higher
		<ul style="list-style-type: none">Operational constraints for alternative with Alaska Junction Station at 42nd Avenue SW would be similar to alternative with station at 41st Avenue SW	<ul style="list-style-type: none">Operational constraints for alternative with Alaska Junction Station at 44th Avenue SW would be similar to alternative with station at 41st Avenue SW	<ul style="list-style-type: none">Likely steeper track grades with 4th Avenue Mined International District/Chinatown Station limit train acceleration and flexibility for crossovers compared to alternative with 4th Avenue Cut-and-Cover International District/Chinatown StationAlignment associated with 4th Avenue Mined International District/Chinatown Station does not accommodate a pocket track in SODO, which creates operational constraintsOperational constraints with 4th Avenue Mined International District/Chinatown Station elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">Operational constraints for alternative with Ballard Station at 15th Avenue NW would be similar to alternative with station at 14th Avenue NW
Financial Sustainability	Conceptual capital cost comparison (2018\$ in millions)	\$1,900 million increase	\$1,900 million increase	\$2,100 million increase	\$1,900 million increase
		<ul style="list-style-type: none">Approximately \$1,900 million more than the ST3 Representative ProjectHigher cost for additional tunnel construction and reconstruction of 4th Avenue S viaduct in Chinatown/International District compared to ST3 Representative ProjectCost of additional tunnels not included in ST3 financial plan or evaluation methodology	<ul style="list-style-type: none">Approximately \$1,900 million more than the ST3 Representative ProjectHigher cost for additional tunnel construction and reconstruction of 4th Avenue S viaduct in Chinatown/International District compared to ST3 Representative ProjectCost of additional tunnels not included in ST3 financial plan or evaluation methodology	<ul style="list-style-type: none">Approximately \$2,100 million more than the ST3 Representative ProjectHigher cost for additional tunnel construction and reconstruction of 4th Avenue S viaduct in Chinatown/International District compared to ST3 Representative ProjectAdditional cost for 4th Avenue mined International District/Chinatown Station compared to 4th Avenue cut-and-cover International District/Chinatown StationCost of additional tunnels not included in ST3 financial plan or evaluation methodology	<ul style="list-style-type: none">Approximately \$1,900 million more than the ST3 Representative ProjectHigher cost for additional tunnel construction and reconstruction of 4th Avenue S viaduct in Chinatown/International District compared to ST3 Representative ProjectCost of additional tunnels not included in ST3 financial plan or evaluation methodology
	Annual O&M costs on West Seattle / Ballard extensions (2018\$ in millions)	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million	\$20 to \$25 million / \$45 to \$50 million
		<ul style="list-style-type: none">\$20 to \$25 million for the West Seattle extension\$45 to \$50 million for the Ballard extension, including the new downtown tunnelAdditional tunnel stations result in slightly higher O&M costs	<ul style="list-style-type: none">\$20 to \$25 million for the West Seattle extension\$45 to \$50 million for the Ballard extension, including the new downtown tunnelAdditional tunnel stations result in slightly higher O&M costs	<ul style="list-style-type: none">\$20 to \$25 million for the West Seattle extension\$45 to \$50 million for the Ballard extension, including the new downtown tunnelAdditional tunnel stations result in slightly higher O&M costs	<ul style="list-style-type: none">\$20 to \$25 million for the West Seattle extension\$45 to \$50 million for the Ballard extension, including the new downtown tunnelAdditional tunnel stations result in slightly higher O&M costs

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Expand mobility for the corridor and region’s residents, which include transit dependent, low income, and minority populations.					
Historically Underserved Populations	Opportunities for low-income and minority populations (activity nodes/subsidized rental units)	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 40 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 180 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County	<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 30 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 150 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County	<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 30 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 150 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County	<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 30 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 170 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County
		23%	22%	22%	23%
		<ul style="list-style-type: none">23% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle	<ul style="list-style-type: none">22% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle	<ul style="list-style-type: none">22% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle	<ul style="list-style-type: none">23% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle
	Low-income population	32% / 31%	32% / 32%	32% / 32%	32% / 31%
		<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 7 percent above city averageAverage household income for walksheds is approximately \$72,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)	<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 7 percent above city averageAverage household income for walksheds is approximately \$71,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)	<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 8 percent above city averageAverage household income for walksheds is approximately \$71,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)	<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 8 percent above city averageAverage household income for walksheds is approximately \$73,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)
	Minority population	34% / 34%	34% / 35%	34% / 35%	34% / 35%
		<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is the same as the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)	<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is the same as the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)	<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is similar to the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)	<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is similar to the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Expand mobility for the corridor and region’s residents, which include transit dependent, low income, and minority populations.					
Historically Underserved Populations	Opportunities for low-income and minority populations (activity nodes/subsidized rental units)	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 30 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 170 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County	<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 30 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 170 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County	<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 30 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 170 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County	<ul style="list-style-type: none">International District/Chinatown Station would be located in area with higher than average minority and LEP population (approximately 90% / 45%) and average household income below 2 times the federal poverty level for a 2-person household; access for this population would improve to approximately 40 activity nodes in West Seattle and 40 activity nodes in Interbay/BallardOther stations are not located in areas of higher than average minority or low-income populationsBetter access would be provided to about 180 activity nodes within 10-minute walkshed for historically underserved populations on the greater Link system, specifically for minority and low-income populations in South Seattle and South King County
		23%	23%	23%	23%
		<ul style="list-style-type: none">23% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle	<ul style="list-style-type: none">23% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle	<ul style="list-style-type: none">23% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle	<ul style="list-style-type: none">23% of housing units within 10-minute walkshed of stations are rent-restricted or subsidized rental units; greatest concentrations in downtown Seattle
	Low-income population	32% / 31%	32% / 31%	32% / 31%	32% / 31%
		<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 7 percent above city averageAverage household income for walksheds is approximately \$75,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)	<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 7 percent above city averageAverage household income for walksheds is approximately \$76,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)	<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 7 percent above city averageAverage household income for walksheds is approximately \$73,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)	<ul style="list-style-type: none">City average is 24%Low-income population within 10-minute walkshed is 8 percent above city averageLow-income population within 15-minute rideshed is 7 percent above city averageAverage household income for walksheds is approximately \$72,000, which is greater than 80% of the Seattle Area Median Income for a 2-person household (\$64,200)Average household size for walksheds is 1.8Higher than city average population in Chinatown/International District neighborhood (approximately 60 percent)
	Minority population	34% / 35%	34% / 35%	34% / 35%	34% / 34%
		<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is similar to the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)	<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is similar to the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)	<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is similar to the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)	<ul style="list-style-type: none">City average is 34%Minority population within 10-minute walkshed is the same as the city averageMinority population within 15-minute rideshed is the same as the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 90 percent)

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Historically Underserved Populations (continued)	Youth population (under 18)	7% / 10%	7% / 9%	7% / 9%	7% / 9%
		<ul style="list-style-type: none">• City average is 15%• Youth population within 10-minute walkshed is 8 percent below city average• Youth population within 15-minute rideshed is 5 percent below city average	<ul style="list-style-type: none">• City average is 15%• Youth population within 10-minute walkshed is 8 percent below city average• Youth population within 15-minute rideshed is 6 percent below city average	<ul style="list-style-type: none">• City average is 15%• Youth population within 10-minute walkshed is 8 percent below city average• Youth population within 15-minute rideshed is 6 percent below city average	<ul style="list-style-type: none">• City average is 15%• Youth population within 10-minute walkshed is 8 percent below city average• Youth population within 15-minute rideshed is 6 percent below city average
	Elderly population (65 and over)	14% / 11%	14% / 12%	14% / 12%	14% / 12%
		<ul style="list-style-type: none">• City average is 12%• Elderly population within 10-minute walkshed is 2% greater than the city average• Elderly population within 15-minute rideshed is similar to the city average	<ul style="list-style-type: none">• City average is 12%• Elderly population within 10-minute walkshed is 2% greater than the city average• Elderly population within 15-minute rideshed is the same as the city average	<ul style="list-style-type: none">• City average is 12%• Elderly population within 10-minute walkshed is 2% greater than the city average• Elderly population within 15-minute rideshed is the same as the city average	<ul style="list-style-type: none">• City average is 12%• Elderly population within 10-minute walkshed is 2% greater than the city average• Elderly population within 15-minute rideshed is the same as the city average
	Limited English Proficiency (LEP) population	7% / 8%	7% / 8%	7% / 8%	7% / 8%
		<ul style="list-style-type: none">• City average is 8%• LEP population within 10-minute walkshed is similar to the city average• LEP population within 15-minute rideshed is the same as the city average• Higher than city average population in Chinatown/International District neighborhood (approximately 45 percent)	<ul style="list-style-type: none">• City average is 8%• LEP population within 10-minute walkshed is similar to the city average• LEP population within 15-minute rideshed is the same as the city average• Higher than city average population in Chinatown/International District neighborhood (approximately 45 percent)	<ul style="list-style-type: none">• City average is 8%• LEP population within 10-minute walkshed is similar to the city average• LEP population within 15-minute rideshed is the same as the city average• Higher than city average population in Chinatown/International District neighborhood (approximately 45 percent)	<ul style="list-style-type: none">• City average is 8%• LEP population within 10-minute walkshed is similar to the city average• LEP population within 15-minute rideshed is the same as the city average• Higher than city average population in Chinatown/International District neighborhood (approximately 45 percent)
	Disabled population	12% / 11%	12% / 11%	12% / 11%	12% / 11%
		<ul style="list-style-type: none">• City average is 9%• Disabled population within 10-minute walkshed is 3% above city average• Disabled population within 15-minute rideshed is 2% above city average	<ul style="list-style-type: none">• City average is 9%• Disabled population within 10-minute walkshed is 3% above city average• Disabled population within 15-minute rideshed is 2% above city average	<ul style="list-style-type: none">• City average is 9%• Disabled population within 10-minute walkshed is 3% above city average• Disabled population within 15-minute rideshed is 2% above city average	<ul style="list-style-type: none">• City average is 9%• Disabled population within 10-minute walkshed is 3% above city average• Disabled population within 15-minute rideshed is 2% above city average

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

The Level 3 Alternatives Evaluation is based on limited conceptual design and intended to inform comparison of potential benefits and impacts between alternatives. Sound Transit will evaluate the potential effects of alternatives carried forward for environmental review in an Environmental Impact Statement.

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Historically Underserved Populations (continued)	Youth population (under 18)	7% / 9%	7% / 10%	7% / 9%	7% / 10%
		<ul style="list-style-type: none">City average is 15%Youth population within 10-minute walkshed is 8 percent below city averageYouth population within 15-minute rideshed is 6 percent below city average	<ul style="list-style-type: none">City average is 15%Youth population within 10-minute walkshed is 8 percent below city averageYouth population within 15-minute rideshed is 5 percent below city average	<ul style="list-style-type: none">City average is 15%Youth population within 10-minute walkshed is 8 percent below city averageYouth population within 15-minute rideshed is 6 percent below city average	<ul style="list-style-type: none">City average is 15%Youth population within 10-minute walkshed is 8 percent below city averageYouth population within 15-minute rideshed is 5 percent below city average
	Elderly population (65 and over)	14% / 12%	14% / 12%	14% / 12%	14% / 11%
		<ul style="list-style-type: none">City average is 12%Elderly population within 10-minute walkshed is 2% greater than the city averageElderly population within 15-minute rideshed is the same as the city average	<ul style="list-style-type: none">City average is 12%Elderly population within 10-minute walkshed is 2% greater than the city averageElderly population within 15-minute rideshed is the same as the city average	<ul style="list-style-type: none">City average is 12%Elderly population within 10-minute walkshed is 2% greater than the city averageElderly population within 15-minute rideshed is the same as the city average	<ul style="list-style-type: none">City average is 12%Elderly population within 10-minute walkshed is 2% greater than the city averageElderly population within 15-minute rideshed is similar to the city average
	Limited English Proficiency (LEP) population	7% / 8%	7% / 8%	7% / 8%	7% / 7%
		<ul style="list-style-type: none">City average is 8%LEP population within 10-minute walkshed is similar to the city averageLEP population within 15-minute rideshed is the same as the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 45 percent)	<ul style="list-style-type: none">City average is 8%LEP population within 10-minute walkshed is similar to the city averageLEP population within 15-minute rideshed is the same as the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 45 percent)	<ul style="list-style-type: none">City average is 8%LEP population within 10-minute walkshed is similar to the city averageLEP population within 15-minute rideshed is the same as the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 45 percent)	<ul style="list-style-type: none">City average is 8%LEP population within 10-minute walkshed is similar to the city averageLEP population within 15-minute rideshed is similar to the city averageHigher than city average population in Chinatown/International District neighborhood (approximately 45 percent)
	Disabled population	12% / 11%	12% / 11%	12% / 11%	12% / 11%
		<ul style="list-style-type: none">City average is 9%Disabled population within 10-minute walkshed is 3% above city averageDisabled population within 15-minute rideshed is 2% above city average	<ul style="list-style-type: none">City average is 9%Disabled population within 10-minute walkshed is 3% above city averageDisabled population within 15-minute rideshed is 2% above city average	<ul style="list-style-type: none">City average is 9%Disabled population within 10-minute walkshed is 3% above city averageDisabled population within 15-minute rideshed is 2% above city average	<ul style="list-style-type: none">City average is 9%Disabled population within 10-minute walkshed is 3% above city averageDisabled population within 15-minute rideshed is 2% above city average

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Encourage equitable and sustainable urban growth in station areas through support of transit-oriented development, station access, and modal integration in a manner that is consistent with local land use plans and policies.					
Station Area Land Use Plan Consistency	Proximity to Seattle-designated Urban Centers and Villages	58% <ul style="list-style-type: none">Alaska Junction Station on 41st Avenue SW is near the center of West Seattle Junction Hub Urban VillageSouth Lake Union Station is located east of SR 99, but with poor pedestrian access between Uptown and South Lake Union Urban CentersSeattle Center Station is located further south than other alternatives, closer to center of Uptown Urban CenterSmith Cove Station is near the edge of Uptown Urban CenterBallard Station located on 15th Avenue NW is one block closer to the center of the Ballard Hub Urban Village than the station alternatives on 14th Avenue NW	56% <ul style="list-style-type: none">Alaska Junction Station on 41st Avenue SW is near the center of West Seattle Junction Hub Urban VillageSouth Lake Union Station is located west of SR 99 and further north than other alternatives and more of its walkshed falls outside the Uptown and South Lake Union Urban CentersSeattle Center Station is further north than other alternatives, closer to the edge of the Uptown Urban CenterSmith Cove Station is located further north than other alternatives and its walkshed is not within any Urban Centers or VillagesBallard Station located on 14th Avenue NW is one block further from the center of the Ballard Hub Urban Village than the ST3 Representative Project	56% <ul style="list-style-type: none">Alternative with 5th Avenue Mined International District/Chinatown Station provides similar compatibility with Seattle-designated Urban Centers and Villages as alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	57% <ul style="list-style-type: none">Alaska Junction Station on 41st Avenue SW is near the center of West Seattle Junction Hub Urban VillageSouth Lake Union Station is located east of SR 99 and further south than other alternatives, closer to the center South Lake Union Urban Center with good pedestrian access between South Lake Union and Uptown Urban CentersSeattle Center Station is located further south than other alternatives, closer to center of Uptown Urban CenterSmith Cove Station is near the edge of Uptown Urban CenterBallard Station located on 14th Avenue NW is one block further from the center of the Ballard Hub Urban Village than the ST3 Representative Project
	Station locations consistent with current local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans
	Activity nodes served	302 <ul style="list-style-type: none">302 activity nodes served (23 churches/religious institutions, 40 community facilities, 35 emergency/medical facilities, 39 government facilities, 8 museums, 76 parks/recreational facilities, 18 schools, 46 social services, and 17 theaters/performance venues)	298 <ul style="list-style-type: none">298 activity nodes served (24 churches/religious institutions, 35 community facilities, 38 emergency/medical facilities, 39 government facilities, 8 museums, 74 parks/recreational facilities, 18 schools, 45 social services, and 17 theaters/performance venues)	298 <ul style="list-style-type: none">298 activity nodes served; no difference with 5th Avenue Mined International District/Chinatown Station compared to 5th Avenue Cut-and-Cover International District/Chinatown Station since they are in the same location	300 <ul style="list-style-type: none">300 activity nodes served (23 churches/religious institutions, 37 community facilities, 35 emergency/medical facilities, 38 government facilities, 8 museums, 78 parks/recreational facilities, 18 schools, 46 social services, and 17 theaters/performance venues)

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

The Level 3 Alternatives Evaluation is based on limited conceptual design and intended to inform comparison of potential benefits and impacts between alternatives. Sound Transit will evaluate the potential effects of alternatives carried forward for environmental review in an Environmental Impact Statement.

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Encourage equitable and sustainable urban growth in station areas through support of transit-oriented development, station access, and modal integration in a manner that is consistent with local land use plans and policies.					
Station Area Land Use Plan Consistency	Proximity to Seattle-designated Urban Centers and Villages	56% <ul style="list-style-type: none">Alaska Junction Station on 42nd Avenue SW is near the center of West Seattle Junction Hub Urban Village, similar to 41st Avenue SW Alaska Junction StationProximity to Urban Centers and Villages elsewhere along the WSBLE Project corridor would be similar to alternative with 41st Avenue SW Alaska Junction Station	55% <ul style="list-style-type: none">Alaska Junction Station on 44th Avenue SW is on west edge of West Seattle Junction Hub Urban VillageProximity to Urban Centers and Villages elsewhere along the WSBLE Project corridor would be similar to alternative with 41st Avenue SW Alaska Junction Station	57% <ul style="list-style-type: none">Alternative with 4th Avenue Mined International District/Chinatown Station provides similar compatibility with Seattle-designated Urban Centers and Villages as alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	58% <ul style="list-style-type: none">Ballard Station located on 15th Avenue NW is one block closer to the center of the Ballard Hub Urban Village than the station alternatives on 14th Avenue NWProximity to Urban Centers and Villages elsewhere along the WSBLE Project corridor would be similar to alternative with 14th Avenue NW Ballard Station
	Station locations consistent with current local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans	Higher <ul style="list-style-type: none">Station locations in West Seattle have transit-supportive local land use plansSODO and Stadium stations are within the Manufacturing and Industrial areas with less transit-supportive development and usesStation locations in Chinatown/International District and downtown have transit-supportive local land use planSmith Cove and Interbay stations are in locations with less transit-supportive development and usesStation location in Ballard has transit-supportive local land use plans
	Activity nodes served	301 <ul style="list-style-type: none">301 activity nodes served; Alaska Junction Station at 42nd Avenue SW serves 1 additional activity node compared to an Alaska Junction Station at 41st Avenue SW (park/recreational facility)	302 <ul style="list-style-type: none">302 activity nodes served; Alaska Junction Station at 44th Avenue SW serves 2 additional activity nodes compared to an Alaska Junction Station at 41st Avenue SW (1 church/religious institution and 1 park/recreational facility)	300 <ul style="list-style-type: none">300 activity nodes served; no difference with 4th Avenue Mined International District/Chinatown Station compared to 4th Avenue Cut-and-Cover International District/Chinatown Station	303 <ul style="list-style-type: none">303 activity nodes served; Ballard Station at 15th Avenue NW serves 3 additional activity nodes compared to a Ballard Station at 14th Avenue NW (2 community facilities and 1 emergency/medical service)

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Modal Integration	Passenger transfers	Higher	Higher	Medium	Higher
		<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at Delridge may constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators• Station location at South Lake Union may constrain passenger drop-off/pick-up areas and is located in area with a more challenging pedestrian environment	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at Delridge may constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators• Station location at South Lake Union may constrain passenger drop-off/pick-up areas and is located in area with a more challenging pedestrian environment	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at Delridge may constrain passenger drop-off/pick-up areas• Deep mined International District/Chinatown Station on 5th Avenue S requires high-speed elevators and creates less convenient transfers to existing Link station• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators• Station location at South Lake Union may constrain passenger drop-off/pick-up areas and is located in area with a more challenging pedestrian environment	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at International District/Chinatown may constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators• South Lake Union Station is located in area with a good pedestrian environment
	Bus/rail and rail/rail integration	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• Avalon Station in West Seattle is farther from major bus zones• Delridge and Denny stations have bus zones adjacent to the station• South Lake Union Station is adjacent to SR 99 ramps with limited space for adjacent bus zones• Interbay Station has bus zones adjacent to the station• Ballard station is adjacent to north/south bus routes on 15th Avenue NW	<ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• Alaska Junction and Avalon stations are farther from major bus zones• Delridge Station straddling the street provides good integration with buses on both sides of the street• Seattle Center Station is closer to major bus routes on Mercer Street• Smith Cove Station includes off-street bus loop with stops at the station• Interbay Station is farther from major bus zones• Ballard Station straddling NW Market Street provides good integration with buses on both sides of the street	<ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• 5th Avenue Mined International District/Chinatown Station would have similar transportation integration opportunities compared to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station• Similar transportation integration opportunities elsewhere along the WSBLE Project corridor compared to other West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated alternatives	<ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• Alaska Junction Station on 41st Avenue SW is farther from the major bus zone• Avalon Station straddling 35th Avenue SW and Fauntleroy Way SW provides good integration with buses on both sides of the street• SODO Station shifted further south is closer to bus connections on S Lander Street• International District/Chinatown Station on 4th Avenue S is closer to Union Station and connections to Sounder and Amtrak• Denny Station is closer to bus routes on Denny or Westlake• South Lake Union Station is closer to Harrison and Dexter bus routes• Ballard Station straddling NW Market Street provides good integration with buses on both sides of the street
	Bicycle infrastructure and accessibility	19%	19%	19%	18%
		<ul style="list-style-type: none">• 19% of bicycle facility miles to roadway miles within bikeshed of stations• Existing multi-use bike facilities within a 10-minute ride from stations include Burke Gilman Trail, Ship Canal Trail, Elliott Bay Trail, Portside Trail, SODO Trail, Mountains to Sound Trail (I-90 Trail), West Seattle Bridge Trail, Alki Trail and Duwamish River Trail• There are existing in-street, separated bike facilities within a 10-minute ride from stations, particularly International District/Chinatown, downtown and Interbay stations	<ul style="list-style-type: none">• 19% of bicycle facility miles to roadway miles within bikeshed of stations• Existing multi-use bike facilities within a 10-minute ride from stations include Burke Gilman Trail, Ship Canal Trail, Elliott Bay Trail, Portside Trail, SODO Trail, Mountains to Sound Trail (I-90 Trail), West Seattle Bridge Trail, Alki Trail and Duwamish River Trail• There are existing in-street, separated bike facilities within a 10-minute ride from stations, particularly International District/Chinatown, downtown and Interbay stations	<ul style="list-style-type: none">• 19% of bicycle facility miles to roadway miles within bikeshed of stations• Alternative with 5th Avenue Mined International District/Chinatown Station provides similar access to bicycle facilities as alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• 18% of bicycle facility miles to roadway miles within bikeshed of stations• Existing multi-use bike facilities within a 10-minute ride from stations include Burke Gilman Trail, Ship Canal Trail, Elliott Bay Trail, Portside Trail, SODO Trail, Mountains to Sound Trail (I-90 Trail), West Seattle Bridge Trail, Alki Trail and Duwamish River Trail• There are existing in-street, separated bike facilities within a 10-minute ride from stations, particularly International District/Chinatown, downtown and Interbay stations
Key to Rating	Alternative Performance			The Level 3 Alternatives Evaluation is based on limited conceptual design and intended to inform comparison of potential benefits and impacts between alternatives. Sound Transit will evaluate the potential effects of alternatives carried forward for environmental review in an Environmental Impact Statement.	
	Lower Performing	Medium Performing	Higher Performing		

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
		Higher	Higher	Medium	Higher
Modal Integration	Passenger transfers	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at International District/Chinatown may constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at International District/Chinatown may constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Deep mined International District/Chinatown Station on 4th Avenue S requires high-speed elevators and creates less convenient transfers to existing Link station; station location at International District/Chinatown may also constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators	<ul style="list-style-type: none">• Good to excellent passenger transfer environment at most stations• Station location at International District/Chinatown may constrain passenger drop-off/pick-up areas• Deep mined station at Midtown has fewer access options than shallower stations and requires high-speed elevators
	Bus/rail and rail/rail integration	<p>Medium</p> <ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• Alaska Junction Station on 42nd Avenue SW is closer to bus routes on California Avenue SW than station on 41st Avenue SW• Similar transportation integration opportunities elsewhere along the WSBLE Project corridor compared to other West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel alternatives	<p>Medium</p> <ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• Alaska Junction Station on 44th Avenue SW is closer to bus routes on California Avenue SW than the stations on 41st and 42nd avenues SW• Similar transportation integration opportunities elsewhere along the WSBLE Project corridor compared to other West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel alternatives	<p>Medium</p> <ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• 4th Avenue Mined International District/Chinatown Station would have similar transportation integration opportunities as 4th Avenue Cut-and-Cover International District/Chinatown Station• Similar transportation integration opportunities elsewhere along the WSBLE Project corridor compared to other West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel alternatives	<p>Medium</p> <ul style="list-style-type: none">• Good transportation integration opportunities for bus/rail and rail/rail connections• Ballard station is adjacent to north/south bus routes on 15th Avenue NW• Ballard Station is on the east side of 15th Avenue NW and does not straddle NW Market Street, reducing integration with buses on both sides of NW Market Street• Similar transportation integration opportunities elsewhere along the WSBLE Project corridor compared to other West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel alternatives
	Bicycle infrastructure and accessibility	<p>18%</p> <ul style="list-style-type: none">• 18% of bicycle facility miles to roadway miles within bikeshed of stations• Alternative with 42nd Avenue SW Alaska Junction Station provides similar access to bicycle facilities as alternative with 41st Avenue SW Alaska Junction Station	<p>18%</p> <ul style="list-style-type: none">• 18% of bicycle facility miles to roadway miles within bikeshed of stations• Alternative with 44th Avenue SW Alaska Junction Station provides similar access to bicycle facilities as alternative with 41st Avenue SW Alaska Junction Station	<p>18%</p> <ul style="list-style-type: none">• 18% of bicycle facility miles to roadway miles within bikeshed of stations• Alternative with 4th Avenue Mined International District/Chinatown Station provides similar access to bicycle facilities as alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<p>19%</p> <ul style="list-style-type: none">• 19% of bicycle facility miles to roadway miles within bikeshed of stations• Alternative with 15th Avenue NW Ballard Station provides similar access to bicycle facilities as alternative with 14th Avenue NW Ballard Station
Key to Rating		Alternative Performance			
		Lower Performing	Medium Performing	Higher Performing	
		The Level 3 Alternatives Evaluation is based on limited conceptual design and intended to inform comparison of potential benefits and impacts between alternatives. Sound Transit will evaluate the potential effects of alternatives carried forward for environmental review in an Environmental Impact Statement.			

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Modal Integration (continued)	Pedestrian and persons with limited mobility accessibility	Higher	Higher	Higher	Higher
		<ul style="list-style-type: none">• 81% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,068 intersections within combined walkshed• Delridge Station located further north than other alternatives, closer to West Seattle Bridge and Pigeon Point, results in fewer intersections and lower percentage of pedestrian facilities• Interbay Station straddling W Dravus Street Bridge has a lower percentage of sidewalks and trails, but more intersections than other alternatives; walkshed for this station does not extend as far west towards Magnolia neighborhood	<ul style="list-style-type: none">• 81% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,059 intersections within combined walkshed• Pedestrian access for 5th Avenue Cut-and-Cover or 5th Avenue Mined International District/Chinatown Station would be similar• Walksheds for the South Lake Union and Seattle Center stations are located further north than other alternatives, resulting in walksheds with steeper hills• Smith Cove Station located adjacent to BNSF Railway tracks has lowest percentage of pedestrian facilities and intersections compared to other alternatives	<ul style="list-style-type: none">• 81% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,059 intersections within combined walkshed• Pedestrian access for 5th Avenue Cut-and-Cover or 5th Avenue Mined International District/Chinatown Station would be similar	<ul style="list-style-type: none">• 82% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,028 intersections within combined walkshed• Pedestrian access for 4th Avenue Cut-and-Cover or 4th Avenue Mined International District/Chinatown Station would be similar
Station Area Development Opportunities	Development potential	13.6%	13.7%	13.7%	13.6%
		<ul style="list-style-type: none">• 14% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential	<ul style="list-style-type: none">• 14% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential	<ul style="list-style-type: none">• 14% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential	<ul style="list-style-type: none">• 14% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential
	Equitable development opportunities	Lower	Medium	Medium	Higher
		<ul style="list-style-type: none">• Limited equitable development opportunities in West Seattle and Ballard compared to other alternatives because elevated alignment in those areas results in fewer large surplus lots	<ul style="list-style-type: none">• Limited equitable development opportunities in West Seattle compared to West Seattle Tunnel Alternatives because elevated alignment results in fewer large surplus lots• Greater equitable development opportunities in SODO than ST3 Representative Project due to larger property acquisitions near the Massachusetts tunnel portal• Similar equitable development opportunities with either 5th Avenue Cut-and-Cover or Mined International District/Chinatown Station	<ul style="list-style-type: none">• Similar equitable development opportunities with either 5th Avenue Cut-and-Cover or Mined International District/Chinatown Station	<ul style="list-style-type: none">• Tunnel in West Seattle provides greater equitable development opportunities due to larger surplus lots compared to other alternatives• Equitable development opportunities at Delridge Station are similar acreage compared to West Seattle Elevated Alternative, but better quality due to location• More surplus land for equitable development opportunities is located in Urban Villages under this alternative
Preserve and promote a healthy environment and economy by minimizing adverse impacts on the natural, built and social environments through sustainable practices.					
Environmental Effects	National Register of Historic Places (NRHP) listed or eligible historic properties and Seattle Landmarks	40	20	20	40
		<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts	<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts	<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts	<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Modal Integration (continued)	Pedestrian and persons with limited mobility accessibility	Higher	Higher	Higher	Higher
		<ul style="list-style-type: none">•82% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,037 intersections within combined walkshed• Alternative with 42nd Avenue SW Alaska Junction Station includes 9 more intersections within combined walkshed than alternative with 41st Avenue SW Alaska Junction Station	<ul style="list-style-type: none">• 82% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,047 intersections within combined walkshed• Alternative with 44th Avenue SW Alaska Junction Station includes 19 more intersections within combined walkshed than alternative with 41st Avenue SW Alaska Junction Station• Alaska Junction Station is located further west than other alternatives, resulting in a walkshed with steeper hills, making it less desirable for pedestrians and persons with limited mobility	<ul style="list-style-type: none">• 82% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,028 intersections within combined walkshed• Pedestrian access for 4th Avenue Cut-and-Cover or 4th Avenue Mined International District/Chinatown Station would be similar	<ul style="list-style-type: none">• 82% of sidewalk/trail miles to total roadway miles within combined walkshed• 1,032 intersections within combined walkshed• Alternative with 15th Avenue NW Ballard Station includes 4 more intersections within combined walkshed than alternatives with 14th Avenue NW Ballard Station
Station Area Development Opportunities	Development potential	13.4%	13.1%	13.6%	13.9%
		<ul style="list-style-type: none">• 13% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential	<ul style="list-style-type: none">• 13% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential	<ul style="list-style-type: none">• 14% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential	<ul style="list-style-type: none">• 14% of the properties within 10-minute walkshed of stations (5-minute walkshed in downtown) have development potential based on zoned capacity and market conditions• All alternatives have similar development potential
	Equitable development opportunities	Higher	Higher	Higher	Higher
		<ul style="list-style-type: none">• Alaska Junction Station at 42nd Avenue SW would have similar equitable development opportunities to station at 41st Avenue SW	<ul style="list-style-type: none">• Alaska Junction Station at 44th Avenue SW would have similar equitable development opportunities to station at 41st Avenue SW	<ul style="list-style-type: none">• 4th Avenue Mined International District/Chinatown Station would have greater equitable development opportunities in SODO than 4th Avenue Cut-and-Cover International District/Chinatown Station due to additional large surplus lots• Equitable development opportunities elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Slightly greater equitable development opportunities with Ballard Station at 15th Avenue NW compared to 14th Avenue NW due to additional large surplus parcels in Ballard• Equitable development opportunities elsewhere along the WSBLE Project corridor would be similar to alternative with 14th Avenue Ballard Station
Preserve and promote a healthy environment and economy by minimizing adverse impacts on the natural, built and social environments through sustainable practices.					
Environmental Effects	National Register of Historic Places (NRHP) listed or eligible historic properties and Seattle Landmarks	40	40	40	40
		<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts	<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts	<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts	<ul style="list-style-type: none">• Between 20 and 40 NRHP-listed, NRHP-eligible, and/or Seattle Landmark properties could be directly affected by the project• Located in Chinatown/International District Historic District and Pioneer Square Historic District, both are also Seattle Landmark Preservation Districts

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Environmental Effects (continued)	Potential archaeological resources	Lower	Lower	Lower	Lower
		<ul style="list-style-type: none">100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sitesFill deposits known to be present in the region may have buried/preserved archaeological sites	<ul style="list-style-type: none">100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sitesFill deposits known to be present in the region may have buried/preserved archaeological sites	<ul style="list-style-type: none">100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sitesFill deposits known to be present in the region may have buried/preserved archaeological sites	<ul style="list-style-type: none">100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sitesFill deposits known to be present in the region may have buried/preserved archaeological sites
	Parks and recreational resources (acres)	1.4	5.3	5.3	5.7
		<ul style="list-style-type: none">Between 1 and 4 acres of permanent impacts to the following parks: West Seattle Golf Course, West Duwamish Greenbelt, Harbor Marina Corporate Center (Terminal 102) and SW Queen Anne Greenbelt; requires avoidance alternativesLeast impacts to parks compared to elevated and tunnel alternatives	<ul style="list-style-type: none">More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, West Duwamish Greenbelt, Harbor Marina Corporate Center (Terminal 102), Interbay Golf Course, Interbay Athletic Field and 14th Ave NW Boat Ramp; requires avoidance alternativesGreatest impacts to parks occur in Interbay	<ul style="list-style-type: none">More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, West Duwamish Greenbelt, Harbor Marina Corporate Center (Terminal 102), Interbay Golf Course, Interbay Athletic Field and 14th Ave NW Boat Ramp; requires avoidance alternativesGreatest impacts to parks occur in Interbay	<ul style="list-style-type: none">More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, SW Queen Anne Greenbelt, Interbay Golf Course and Interbay Athletic Field; requires avoidance alternativesGreatest impacts to parks occur in Interbay, but also has greatest impacts to West Seattle Golf Course of all alternatives
	Water resources (acres)	0.9	0.6	0.6	<0.1
		<ul style="list-style-type: none">More than 0.5 acre of potential permanent in-water impactPotential impacts would occur in both Duwamish Waterway and Salmon Bay from bridge columnsDuwamish Waterway crossing south of West Seattle Bridge could have more potential in-water impacts than north crossingMovable bridge would have more potential in-water impacts in Salmon Bay than fixed bridge or tunnel alternatives	<ul style="list-style-type: none">More than 0.5 acre of potential permanent in-water impactPotential impacts would occur in both Duwamish Waterway and Salmon Bay from bridge columnsDuwamish Waterway crossing south of West Seattle Bridge could have more potential in-water impacts than north crossingFixed bridge would have less potential in-water impacts than movable bridge over Salmon Bay, but more than tunnel alternatives	<ul style="list-style-type: none">Approximately 0.5 acre of potential permanent in-water impactPotential impacts would occur in both Duwamish Waterway and Salmon Bay from bridge columnsDuwamish Waterway crossing south of West Seattle Bridge could have more potential in-water impacts than north crossingFixed bridge would have less potential in-water impacts than movable bridge over Salmon Bay, but more than tunnel alternatives	<ul style="list-style-type: none">Less than 0.1 acre of potential permanent in-water impactPotential impacts would occur in Duwamish Waterway from bridge columnsDuwamish Waterway crossing north of West Seattle Bridge could have less potential in-water impacts than south crossingTunnel avoids permanent in-water impacts in Salmon Bay
	Fish and wildlife habitats (acres)	15	6	6	15
		<ul style="list-style-type: none">More than 10 acres of potential permanent habitat impactsRequires clearing steep slope on Pigeon Point (associated with south bridge crossing of Duwamish Waterway); revegetation with low-growing shrubs is expected to be possibleHeron rookery has been observed in West Duwamish Greenbelt within 250 feet of the alignmentRequires clearing steep slope on SW Queen Anne Greenbelt for construction and slope stabilization	<ul style="list-style-type: none">Between 5 and 10 acres of potential permanent habitat impactsRequires clearing steep slope on Pigeon Point (associated with south bridge crossing of Duwamish Waterway); revegetation with low-growing shrubs is expected to be possibleHeron rookery has been observed in West Duwamish Greenbelt within 250 feet of the alignmentAvoids SW Queen Anne Greenbelt	<ul style="list-style-type: none">Between 5 and 10 acres of potential permanent habitat impactsRequires clearing steep slope on Pigeon Point (associated with south bridge crossing of Duwamish Waterway); revegetation with low-growing shrubs is expected to be possibleHeron rookery has been observed in West Duwamish Greenbelt within 250 feet of the alignmentAvoids SW Queen Anne Greenbelt	<ul style="list-style-type: none">More than 10 acres of potential permanent habitat impactsNorth bridge crossing of Duwamish Waterway avoids Pigeon Point in West SeattlePotential impacts to the proposed Duwamish habitat restoration siteRequires most clearing of steep slope on SW Queen Anne Greenbelt for construction and slope stabilization

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Environmental Effects (continued)	Potential archaeological resources	Lower	Lower	Lower	Lower
		<ul style="list-style-type: none">• 100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sites• Fill deposits known to be present in the region may have buried/preserved archaeological sites	<ul style="list-style-type: none">• 100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sites• Fill deposits known to be present in the region may have buried/preserved archaeological sites	<ul style="list-style-type: none">• 100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sites• Fill deposits known to be present in the region may have buried/preserved archaeological sites	<ul style="list-style-type: none">• 100% of alternative is within Very High Risk or High Risk probability areas due to proximity to shorelines and historic development, and therefore, there is a high probability of encountering buried precontact and historic-era archaeological sites• Fill deposits known to be present in the region may have buried/preserved archaeological sites
	Parks and recreational resources (acres)	5.7	5.7	5.7	5.7
		<ul style="list-style-type: none">• More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, SW Queen Anne Greenbelt, Interbay Golf Course and Interbay Athletic Field; requires avoidance alternatives• Greatest impacts to parks occur in Interbay, but also has greatest impacts to West Seattle Golf Course of all alternatives	<ul style="list-style-type: none">• More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, SW Queen Anne Greenbelt, Interbay Golf Course and Interbay Athletic Field; requires avoidance alternatives• Greatest impacts to parks occur in Interbay, but also has greatest impacts to West Seattle Golf Course of all alternatives	<ul style="list-style-type: none">• More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, SW Queen Anne Greenbelt, Interbay Golf Course and Interbay Athletic Field; requires avoidance alternatives• Greatest impacts occur in Interbay, but also has greatest impacts to West Seattle Golf Course of all alternatives	<ul style="list-style-type: none">• More than 4 acres of permanent impacts to the following parks: West Seattle Golf Course, SW Queen Anne Greenbelt, Interbay Golf Course and Interbay Athletic Field; requires avoidance alternatives• Greatest impacts occur in Interbay, but also has greatest impacts to West Seattle Golf Course of all alternatives
	Water resources (acres)	<0.1	<0.1	<0.1	<0.1
		<ul style="list-style-type: none">• Less than 0.1 acre of potential permanent in-water impact• Potential impacts would occur in Duwamish Waterway from bridge columns• Duwamish Waterway crossing north of West Seattle Bridge could have less potential in-water impacts than south crossing• Tunnel avoids permanent in-water impacts in Salmon Bay	<ul style="list-style-type: none">• Less than 0.1 acre of potential permanent in-water impact• Potential impacts would occur in Duwamish Waterway from bridge columns• Duwamish Waterway crossing north of West Seattle Bridge could have less potential in-water impacts than south crossing• Tunnel avoids permanent in-water impacts in Salmon Bay	<ul style="list-style-type: none">• Less than 0.1 acre of potential permanent in-water impact• Potential impacts would occur in Duwamish Waterway from bridge columns• Duwamish Waterway crossing north of West Seattle Bridge could have less potential in-water impacts than south crossing• Tunnel avoids permanent in-water impacts in Salmon Bay	<ul style="list-style-type: none">• Less than 0.1 acre of potential permanent in-water impact• Potential impacts would occur in Duwamish Waterway from bridge columns• Duwamish Waterway crossing north of West Seattle Bridge could have less potential in-water impacts than south crossing• Tunnel avoids permanent in-water impacts in Salmon Bay
	Fish and wildlife habitats (acres)	15	15	15	15
		<ul style="list-style-type: none">• More than 10 acres of potential permanent habitat impacts• North bridge crossing of Duwamish Waterway avoids Pigeon Point in West Seattle• Potential impacts to the proposed Duwamish habitat restoration site• Requires most clearing of steep slope on SW Queen Anne Greenbelt for construction and slope stabilization	<ul style="list-style-type: none">• More than 10 acres of potential permanent habitat impacts• North bridge crossing of Duwamish Waterway avoids Pigeon Point in West Seattle• Potential impacts to the proposed Duwamish habitat restoration site• Requires most clearing of steep slope on SW Queen Anne Greenbelt for construction and slope stabilization	<ul style="list-style-type: none">• More than 10 acres of potential permanent habitat impacts• North bridge crossing of Duwamish Waterway avoids Pigeon Point in West Seattle• Potential impacts to the proposed Duwamish habitat restoration site• Requires most clearing of steep slope on SW Queen Anne Greenbelt for construction and slope stabilization	<ul style="list-style-type: none">• More than 10 acres of potential permanent habitat impacts• North bridge crossing of Duwamish Waterway avoids Pigeon Point in West Seattle• Potential impacts to the proposed Duwamish habitat restoration site• Requires most clearing of steep slope on SW Queen Anne Greenbelt for construction and slope stabilization

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Environmental Effects (continued)	Hazardous materials sites	50	60	60	40
		<ul style="list-style-type: none">Between 25 and 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)	<ul style="list-style-type: none">More than 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)	<ul style="list-style-type: none">More than 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)	<ul style="list-style-type: none">Between 25 and 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)
	Visual effects (miles of sensitive viewers)	2.5	1.7	1.7	1.2
		<ul style="list-style-type: none">More than 2 miles elevated guideway near visually sensitive viewersAlong SW Genesee Way/West Seattle Golf Course, approximately 2,500 feet of length of elevated guideway would be over 75 feet, with a maximum height of about 160 feetWould cross Fauntleroy Way SW, Elliott Ave W, and 15th Ave NW, designated State Environmental Policy Act (SEPA) Scenic RoutesWould be about 100 feet south of the West Seattle Bridge, a SEPA Scenic RoutePasses over about 1,000 feet of Salmon Bay and would be viewed by water users	<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersAlong SW Genesee Way/West Seattle Golf Course, approximately 2,500 feet of length of elevated guideway would be over 75 feet, with a maximum height of about 160 feetWould cross over Fauntleroy Way SW and Elliott Ave W and under the Magnolia Bridge, designated SEPA Scenic RoutesWould be about 100 feet south of the West Seattle Bridge, a SEPA Scenic RoutePasses over about 700 feet of Salmon Bay and would be viewed by water users	<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersAlong SW Genesee Way/West Seattle Golf Course, approximately 2,500 feet of length of elevated guideway would be over 75 feet, with a maximum height of about 160 feetWould cross over Fauntleroy Way SW and Elliott Ave W and under the Magnolia Bridge, designated SEPA Scenic RoutesWould be about 100 feet south of the West Seattle Bridge, a SEPA Scenic RoutePasses over about 700 feet of Salmon Bay and would be viewed by water users	<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersThere would be no elevated guideway over 75 feet above gradeWould not cross any SEPA Scenic RoutesWould be about 100 feet north of the West Seattle Bridge, a SEPA Scenic Route
	Noise and vibration effects	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers	<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers	<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers	<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers
	Properties potentially affected	Medium	Lower	Lower	Higher
		<ul style="list-style-type: none">Between approximately 190 and 220 parcels affected, including both full and partial acquisitionsST3 Representative Project would have fewer parcels affected than the elevated alternatives due to more guideway in public right-of way, but more than the tunnel alternatives	<ul style="list-style-type: none">More than approximately 220 parcels affected, including both full and partial acquisitionsSections of elevated guideway would affect a greater number of parcels than the ST3 Representative Project and tunnel alternatives	<ul style="list-style-type: none">More than approximately 220 parcels affected, including both full and partial acquisitionsSections of elevated guideway would affect a greater number of parcels than the ST3 Representative Project and tunnel alternatives	<ul style="list-style-type: none">Fewer than approximately 190 parcels affected, including both full and partial acquisitionsTunnel alternatives would have fewer affected parcels than the ST3 Representative Project and elevated alternatives
	Potential residential unit displacements	Medium	Lower	Lower	Higher
		<ul style="list-style-type: none">Between approximately 120 and 180 potential residential unit displacementsDisplacements would occur primarily in the Delridge neighborhood and around Avalon Station in West Seattle, around the north tunnel portal in West Queen Anne and for the elevated guideway on Elliott Avenue W in Interbay	<ul style="list-style-type: none">More than approximately 180 potential residential unit displacementsDisplacements would occur primarily in the Delridge neighborhood and between Avalon and Alaska Junction stations in West Seattle and for the bridge approach on North Queen Anne	<ul style="list-style-type: none">More than approximately 180 potential residential unit displacementsDisplacements would occur primarily in the Delridge neighborhood and between Avalon and Alaska Junction stations in West Seattle and for the bridge approach on North Queen Anne	<ul style="list-style-type: none">Fewer than approximately 120 potential residential unit displacementsDisplacements would occur primarily around Delridge and Avalon stations in West Seattle

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Environmental Effects (continued)	Hazardous materials sites	40	40	40	40
		<ul style="list-style-type: none">Between 25 and 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)	<ul style="list-style-type: none">Between 25 and 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)	<ul style="list-style-type: none">Between 25 and 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)	<ul style="list-style-type: none">Between 25 and 50 contaminated sites of higher concern within the alternative footprint or within an intersecting parcelCrosses the Harbor Island Superfund Site (includes West and East Duwamish Waterways)
	Visual effects (miles of sensitive viewers)	1.2	1.2	1.2	1.2
		<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersThere would be no elevated guideway over 75 feet above gradeWould not cross any SEPA Scenic RoutesWould be about 100 feet north of the West Seattle Bridge, a SEPA Scenic Route	<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersThere would be no elevated guideway over 75 feet above gradeWould not cross any SEPA Scenic RoutesWould be about 100 feet north of the West Seattle Bridge, a SEPA Scenic Route	<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersThere would be no elevated guideway over 75 feet above gradeWould not cross any SEPA Scenic RoutesWould be about 100 feet north of the West Seattle Bridge, a SEPA Scenic Route	<ul style="list-style-type: none">Between 1 and 2 miles elevated guideway near visually sensitive viewersThere would be no elevated guideway over 75 feet above gradeWould not cross any SEPA Scenic RoutesWould be about 100 feet north of the West Seattle Bridge, a SEPA Scenic Route
	Noise and vibration effects	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers	<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers	<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers	<ul style="list-style-type: none">Between 700 and 900 noise and vibration sensitive receivers within 350 feet of the alternativeAll alternatives have similar amount of noise and vibration sensitive receivers
	Properties potentially affected	Higher	Higher	Higher	Higher
		<ul style="list-style-type: none">Fewer than approximately 190 parcels affected, including both full and partial acquisitionsTunnel alternatives would have fewer affected parcels than the ST3 Representative Project and elevated alternatives	<ul style="list-style-type: none">Fewer than approximately 190 parcels affected, including both full and partial acquisitionsTunnel alternatives would have fewer affected parcels than the ST3 Representative Project and elevated alternatives	<ul style="list-style-type: none">Fewer than approximately 190 parcels affected, including both full and partial acquisitionsTunnel alternatives would have fewer affected parcels than the ST3 Representative Project and elevated alternatives	<ul style="list-style-type: none">Fewer than approximately 190 parcels affected, including both full and partial acquisitionsTunnel alternatives would have fewer affected parcels than the ST3 Representative Project and elevated alternatives
	Potential residential unit displacements	Higher	Higher	Higher	Higher
		<ul style="list-style-type: none">Fewer than approximately 120 potential residential unit displacements, similar to 41st Avenue SW Alaska Junction StationDisplacements would occur primarily around Delridge and Avalon stations in West Seattle	<ul style="list-style-type: none">Fewer than approximately 120 potential residential unit displacements, but slightly higher than 41st Avenue SW Alaska Junction Station due to tail track locationDisplacements would occur primarily around Delridge and Avalon stations in West Seattle	<ul style="list-style-type: none">Fewer than approximately 120 potential residential unit displacements, similar to 4th Avenue Cut-and-Cover StationDisplacements would occur primarily around Delridge and Avalon stations in West Seattle	<ul style="list-style-type: none">Fewer than approximately 120 potential residential unit displacements, similar to 14th Avenue NW Ballard StationDisplacements would occur primarily around Delridge and Avalon stations in West Seattle

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Environmental Effects (continued)	Potential business displacements	Higher <ul style="list-style-type: none">• Fewer than approximately 1.4 million square feet of potential business displacements• Displacements would occur primarily along Fauntleroy Way SW and near Avalon Station in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, in downtown for entrances to underground stations, on Elliott Avenue W, in Interbay and along 15th Avenue NW in Ballard	Lower <ul style="list-style-type: none">• More than approximately 1.7 million square feet of potential business displacements• Displacements would occur primarily around Alaska Junction, Avalon, and Delridge stations in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, around the S Massachusetts Street tunnel portal, in downtown for entrances to underground stations, on Elliott Avenue W and in Interbay	Lower <ul style="list-style-type: none">• More than approximately 1.7 million square feet of potential business displacements• Displacements would occur primarily around Alaska Junction, Avalon, and Delridge stations in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, around the S Massachusetts Street tunnel portal, in downtown for entrances to underground stations, on Elliott Avenue W and in Interbay	Higher <ul style="list-style-type: none">• Fewer than approximately 1.4 million square feet of potential business displacements• Displacements would occur primarily around Avalon Station and along the west side of Delridge Way SW in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, along 4th Avenue S for tunnel construction, in downtown for entrances to underground stations, on Elliott Avenue W and in Interbay
	Community construction impacts	Lower <ul style="list-style-type: none">• Potential for visual, noise, and vibration impacts on residences near SW Alaska Street, Fauntleroy Way SW, SW Avalon Way, SW Genesee Street and Delridge Way SW in West Seattle, 5th Avenue S in the Chinatown/International District, Denny Way (near Westlake), Harrison Street (near SR 99), Republican Street (near Key Arena and west of 4th Avenue W), Elliott Avenue W, 15th Avenue W, 15th Avenue NW and NW Market Street• Access to businesses would be maintained throughout the corridor, although the community may experience changes in access to some businesses <div></div> <ul style="list-style-type: none">• Increased congestion on SW Avalon Way, 35th Avenue SW and the West Seattle Bridge due to construction on Delridge Way SW, SW Genesee Street, and Fauntleroy Way SW <div></div> <ul style="list-style-type: none">• Closure of S Royal Brougham Way contributes to congestion on Edgar Martinez Drive S• Construction of elevated guideway and SODO and Stadium stations in E3 busway would periodically disrupt travel on existing light rail• Most disruptive construction (cut-and-cover) of 5th Avenue S in Chinatown/International District <div></div> <ul style="list-style-type: none">• Community impacts in downtown Seattle would most likely be limited to traffic disruptions and changes in business access <div></div> <ul style="list-style-type: none">• Lane closures during construction on Elliott Avenue W and 15th Avenue W in Interbay and 15th Avenue NW in Ballard contribute to widespread diversion and increased congestion in Lower Queen Anne and the Westlake and SR 99 corridors	Lower <ul style="list-style-type: none">• Potential for visual, noise, and vibration impacts on residences near SW Alaska Street, 41st Avenue SW, SW Avalon Way, SW Genesee Street and Delridge Way SW in West Seattle, 5th Avenue S in the Chinatown/International District, Mercer Street (near 5th Avenue N and 1st Avenue N), W Dravus Street, between 15th Avenue W and 14th Avenue W (north of W Emerson Street), and NW Market Street• Access to businesses would be maintained throughout the corridor, although the community may experience changes in access to some businesses <div></div> <ul style="list-style-type: none">• Greatest disruption to the neighborhood between Alaska Junction and Avalon stations in West Seattle• Increased congestion on SW Avalon Way and the West Seattle Bridge due to construction on Delridge Way SW and SW Genesee Street <div></div> <ul style="list-style-type: none">• Construction of at-grade guideway and SODO Station in E3 busway would periodically disrupt travel on existing light rail, but avoid disruption to service at existing Stadium Station• Closure of S Royal Brougham Way, S Lander Street, and S Holgate Street contribute to congestion on 1st Avenue S, 4th Avenue S, Edgar Martinez Drive S, and Airport Way S• Disruptive cut-and-cover construction on 5th Avenue S for International District/Chinatown Station <div></div> <ul style="list-style-type: none">• Community impacts in downtown Seattle would most likely be limited to traffic disruptions and changes in business access• Additional congestion in Lower Queen Anne due to lane restrictions on Mercer Street	Medium <ul style="list-style-type: none">• Reduced length of disruption on 5th Avenue S for International District/Chinatown Station compared to cut-and-cover station at this location• Construction impacts elsewhere along the WSBLE Project corridor would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	Medium <ul style="list-style-type: none">• Potential for visual, noise, and vibration impacts on residences near SW Alaska Street, 41st Avenue SW, SW Avalon Way, SW Genesee Street and Delridge Way SW in West Seattle, 4th Avenue S in the Chinatown/International District, Denny Way (near Westlake), Harrison Street (near SR 99), Republican Street (near Key Arena), Elliott Avenue W, 15th Avenue W (south of Armory Way), and NW Market Street• Greater amount of construction vehicles in West Seattle and Interbay/Ballard neighborhoods for tunnel excavation material hauling• Access to businesses would be maintained throughout the corridor, although the community may experience changes in access to some businesses <div></div> <ul style="list-style-type: none">• Construction of elevated guideway and SODO and Stadium stations in E3 busway would periodically disrupt travel on existing light rail• Closure of S Royal Brougham Way, S Lander Street, and S Holgate Street contribute to congestion on 1st Avenue S, 4th Avenue S, Edgar Martinez Drive S, and Airport Way S• Reduced visual, noise, and vibration impacts compared to 5th Avenue S International District/Chinatown station location• Lane restrictions and closure of 4th Avenue S for reconstruction of 4th Avenue S viaduct would result in congestion on other north-south streets in Chinatown/International District, the waterfront corridor, and Rainier Avenue S <div></div> <ul style="list-style-type: none">• Community impacts in downtown Seattle would most likely be limited to traffic disruptions and changes in business access

Key to Rating

Lower Performing

Medium Performing

Higher Performing

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Page D-27

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
		Higher	Higher	Higher	Higher
Environmental Effects (continued)	Potential business displacements	<ul style="list-style-type: none">Fewer than approximately 1.4 million square feet of potential business displacements, similar to 41st Avenue Alaska Junction StationDisplacements would occur primarily around Avalon Station and along the west side of Delridge Way SW in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, along 4th Avenue S for tunnel construction, in downtown for entrances to underground stations, on Elliott Avenue W and in Interbay	<ul style="list-style-type: none">Fewer than approximately 1.4 million square feet of potential business displacements, similar to 41st Avenue Alaska Junction StationDisplacements would occur primarily around Avalon Station and along the west side of Delridge Way SW in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, along 4th Avenue S for tunnel construction, in downtown for entrances to underground stations, on Elliott Avenue W and in Interbay	<ul style="list-style-type: none">Fewer than approximately 1.4 million square feet of potential business displacements, less than 4th Avenue Cut-and-Cover StationDisplacements would occur primarily around Avalon Station and along the west side of Delridge Way SW in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, in downtown for entrances to underground stations, on Elliott Avenue W and in InterbayWould have reduced business displacements along 4th Avenue S due to tunnel construction method	<ul style="list-style-type: none">Fewer than approximately 1.4 million square feet of potential business displacementsDisplacements would occur primarily around Avalon Station and along the west side of Delridge Way SW in West Seattle, in the Duwamish industrial areas for the Duwamish Waterway crossing and accessing the E3 busway, along 4th Avenue S for tunnel construction, in downtown for entrances to underground stations, on Elliott Avenue W, in Interbay and along 15th Avenue NW near NW Market Street for Ballard Station
	Community construction impacts	<ul style="list-style-type: none">Construction impacts for alternative with Alaska Junction Station at 42nd Avenue SW would be similar to alternative with station at 41st Avenue SW, but construction activities would primarily occur on 42nd Avenue SW	<ul style="list-style-type: none">Construction impacts for alternative with Alaska Junction Station at 44th Avenue SW would be similar to alternative with station at 41st Avenue SW, but construction activities would primarily occur on 44th Avenue SW	<ul style="list-style-type: none">4th Avenue Mined International District Chinatown Station would result in the greatest traffic impact to Chinatown/International District due to full, multi-year closure of 4th Avenue S viaduct; creates widespread congestion throughout Chinatown/International District, waterfront corridor and other north-south arterials east of I-5Construction impacts elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">Construction impacts for alternative with Ballard Station at 15th Avenue NW would be similar to alternative with station at 14th Avenue NW, but construction activities would primarily occur on 15th Avenue NW

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Environmental Effects (continued)	Burden on minority and low-income populations	Lower	Medium	Medium	Lower
		<ul style="list-style-type: none">• Construction period impacts would occur in areas with minority and low-income populations above the city average around the International District/Chinatown, Midtown, Westlake, Denny, and South Lake Union stations; no permanent noise or visual impacts are expected for these populations because the alternative would be in a tunnel through downtown Seattle• SODO and Stadium stations would be located in areas of moderate displacement risk• International District/Chinatown Station would have more extensive cut-and-cover construction on 5th Avenue S than other alternatives due to existing underground structures and need for ground improvement to address poor soil conditions• International District/Chinatown, Midtown, Westlake, and Denny stations would be located in areas of higher displacement risk• All other stations would be located in areas where minority or low-income populations are not above the city average and located in areas of lower displacement risk	<ul style="list-style-type: none">• Construction period impacts would occur in areas with minority and low-income populations above the city average around the International District/Chinatown, Midtown, Westlake, Denny, and South Lake Union stations; no permanent noise or visual impacts are expected for these populations because the alternative would be in a tunnel through downtown Seattle• SODO and Stadium stations would be located in areas of moderate displacement risk• Reduced construction period impacts for the 5th Avenue Cut-and-Cover International District/Chinatown Station compared to the ST3 Representative Project because the tunnel south of the station would be bored instead of cut-and-cover• International District/Chinatown, Midtown, Westlake, and Denny stations would be located in areas of higher displacement risk• All other stations would be located in areas where minority or low-income populations are not above the city average and located in areas of lower displacement risk	<ul style="list-style-type: none">• 5th Avenue Mined International District/Chinatown Station would have reduced construction period impacts compared to 5th Avenue Cut-and-Cover International District/Chinatown Station because the tunnel south of the station would be bored and the station would be mined• 5th Avenue Mined International District/Chinatown Station would have a longer duration of construction than 5th Avenue Cut-and-Cover International District/Chinatown Station• Burden on minority and low-income populations elsewhere along the WSBLE Project corridor would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Construction period impacts would occur in areas with minority and low-income populations above the city average around the International District/Chinatown, Midtown, Westlake, Denny, and South Lake Union stations; no permanent noise or visual impacts are expected for these populations because the alternative would be in a tunnel through downtown Seattle• SODO and Stadium stations would be located in areas of moderate displacement risk• Multi-year partial closure of 4th Avenue S during construction has potential for higher volumes of cut-through traffic, including transit and freight vehicles, in Chinatown/International District than the alternatives with an International District Chinatown Station on 5th Avenue S• International District/Chinatown, Midtown, Westlake, and Denny stations would be located in areas of higher displacement risk• All other stations would be located in areas where minority or low-income populations are not above the city average and located in areas of lower displacement risk

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Environmental Effects (continued)	Burden on minority and low-income populations	Lower	Lower	Lower	Lower
		<ul style="list-style-type: none">Alaska Junction Station at 42nd Avenue SW would have burden on minority and low-income populations similar to station at 41st Avenue SWBurden on minority and low-income populations elsewhere along the WSBLE Project corridor would be similar to alternative with station at 41st Avenue SW	<ul style="list-style-type: none">Alaska Junction Station at 44th Avenue SW would have burden on minority and low-income populations similar to station at 41st Avenue SWBurden on minority and low-income populations elsewhere along the WSBLE Project corridor would be similar to alternative with station at 41st Avenue SW	<ul style="list-style-type: none">Multi-year full closure of 4th Avenue S during construction for the 4th Avenue Mined International District/Chinatown Station has potential for higher volumes of cut-through traffic, including transit and freight vehicles, in Chinatown/International District than the 4th Avenue Cut-and-Cover Station and the station on 5th Avenue SDuration of full closure of 4th Avenue S during construction for the 4th Avenue Mined International District/Chinatown Station would be longer than the partial closure for the 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">Ballard Station at 15th Avenue NW would have burden on minority and low-income populations similar to station at 14th Avenue NWBurden on minority and low-income populations elsewhere along the WSBLE Project corridor would be similar to alternative with station at 14th Avenue NW

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Traffic Operations	Traffic circulation and access effects	Lower <ul style="list-style-type: none">• Most lengthy segments of elevated track along high-volume arterials can eliminate or truncate left turn lanes, reduce capacity and restrict turning movements along these streets• Elevated track along high volume streets include SW Alaska Street, Fauntleroy Way SW, Delridge Way SW, Elliott Avenue W, 15th Avenue W and 15th Avenue NW	Medium <ul style="list-style-type: none">• Affects driveway access and roadway capacity/turn lanes, primarily along streets with lower traffic volumes, including 39th Avenue SW, Fauntleroy Way SW and 14th Avenue NW• 39th Avenue SW would be closed to through traffic south of SW Genesee Street; however, alternative routes are available for local circulation• Improvements to circulation in SODO due to addition of grade-separated crossings at S Lander and S Holgate streets	Medium <ul style="list-style-type: none">• Traffic circulation and access for 5th Avenue Mined International District/Chinatown Station would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	Higher <ul style="list-style-type: none">• Limited effect to driveway access and roadway capacity/turn lanes, including minor circulation changes around West Seattle tunnel portal• Improvements to circulation in SODO due to addition of grade-separated crossings at S Lander and S Holgate streets
	Effects on transportation facilities	Lower <ul style="list-style-type: none">• Fully elevated guideway outside of downtown Seattle• Highest number of potential conflicts with existing and planned transportation infrastructure• Affected facilities in West Seattle/Duwamish include the Fauntleroy Way SW/SW Alaska Street intersection, Fauntleroy Boulevard project, Fauntleroy Way SW/SW Genesee Street intersection, Delridge Way SW corridor, West Seattle Bridge, SR 99 crossing and West Seattle Bridge/S Spokane Street crossing• Affected facilities in SODO and Chinatown/International District include WSDOT I-90 ramps, Seattle Boulevard, Ryerson Base and E3 busway• Affected facilities in Downtown include the SR 99 northbound off-ramp at Republican Street and South Lake Union Streetcar• Affected facilities in Interbay/Ballard include the Magnolia Bridge/Elliott Avenue West/15th Avenue West interchange, Emerson interchange and 15th Avenue NW/NW Market Street intersection	Medium <ul style="list-style-type: none">• Elevated portions of the alignment avoid some but not all potential conflicts with existing and planned transportation infrastructure• Affected facilities in West Seattle/Duwamish include the Fauntleroy Boulevard project, Fauntleroy Way SW/SW Genesee Street intersection, Delridge Way SW corridor, West Seattle Bridge, SR 99 crossing and West Seattle Bridge/S Spokane Street crossing• Affected facilities in SODO and Chinatown/International District include the SR 99 crossing, West Seattle Bridge/S Spokane Street crossing, S Lander Street, S Holgate Street, E3 busway and Central/Atlantic Base• Affected facilities in Downtown include I-5, Mercer Street and South Lake Union Streetcar• Affected facilities in Interbay/Ballard include a portion of the Magnolia Bridge, Emerson interchange and 14th Avenue NW/NW Market Street intersection	Medium <ul style="list-style-type: none">• Effects to transportation facilities for 5th Avenue Mined International District/Chinatown Station would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	Medium <ul style="list-style-type: none">• Tunnels in West Seattle and Ballard and routing in Interbay reduce the number of potential conflicts with other transportation facilities• Affected facilities in West Seattle/Duwamish include 39th Ave SW, Fauntleroy Boulevard project, Fauntleroy Way SW/SW Genesee Street intersection, W Marginal Way ramps and West Seattle Bridge• Affected facilities in SODO and Chinatown/International District include S Lander Street, S Holgate Street, Ryerson Base, E3 busway and 4th Avenue S viaduct• Affected facilities in Downtown include Westlake Station, SR 99 and South Lake Union Streetcar• Affected facilities in Interbay/Ballard include W Armory Way and the Emerson interchange

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Traffic Operations	Traffic circulation and access effects	Higher	Higher	Higher	Higher
		• Traffic circulation and access for Alaska Junction Station at 42nd Avenue SW would be similar to station at 41st Avenue SW	• Traffic circulation and access for Alaska Junction Station at 44th Avenue SW would be similar to station at 41st Avenue SW	• Traffic circulation and access for 4th Avenue Mined International District/Chinatown Station would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	• Traffic circulation and access for Ballard Station at 15th Avenue NW would be similar to station at 14th Avenue NW
	Effects on transportation facilities	Medium	Medium	Medium	Medium
		• Effects to transportation facilities for Alaska Junction Station at 42nd Avenue SW would be similar to station at 41st Avenue SW	• Effects to transportation facilities for Alaska Junction Station at 44th Avenue SW would be similar to station at 41st Avenue SW	• 4th Avenue Mined International District/Chinatown Station would displace Ryerson Base • Effects to transportation facilities for 4th Avenue Mined International District/Chinatown Station elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	• Effects to transportation facilities for Ballard Station at 15th Avenue NW would be similar to station at 14th Avenue NW

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
		Lower	Medium	Medium	Medium
Economic Effects	Effects on freight movement	<ul style="list-style-type: none">• Elevated guideway columns could affect truck access to local businesses on SW Alaska Street, Fauntleroy Way SW, Delridge Way SW, Elliott Avenue W, 15th Avenue W and 15th Avenue NW; this alternative would have greatest direct impact to truck freight routes of all alternatives• Construction activities would affect the following Major Freight Routes: Fauntleroy Way SW, Elliott Ave W, 15th Ave W and 15th Ave NW; and would cross over the following Major Freight Routes: W Marginal Way, 1st Avenue S, 4th Avenue S, West Seattle Bridge, Shilshole Avenue NW, NW Leary Way and NW Market Street <p>-----</p> <ul style="list-style-type: none">• South bridge crossing would span Duwamish Waterway navigation channel, but could have temporary construction impacts to waterway operations• No direct impacts expected to Terminal 5 or Terminal 18 access or operations <p>-----</p> <ul style="list-style-type: none">• Use of BNSF spur track south of S Lander Street in SODO could affect rail freight operations• Bus relocation from E3 busway could affect freight routes in SODO• Partial closure of 5th Avenue S in Chinatown/International District during construction could affect local freight delivery <p>-----</p> <ul style="list-style-type: none">• Road closures during construction at cut-and-cover tunnel stations could affect some local truck freight delivery• Column in center turn lane on Elliott Avenue W in Interbay could affect queue lengths for left turns to W Mercer Place• Temporary and permanent impacts to water-dependent businesses and Dock 3 at Fishermen's Terminal are expected, and as fresh-water dependent businesses, these uses would be very difficult to relocate• Movable bridge columns in Salmon Bay would maintain Ship Canal navigation channel, but could affect large vessel turning movement to Fishing Vessel Owners (FVO)/Fisherman's Terminal	<ul style="list-style-type: none">• Construction activities would have substantial effects on Mercer Street, a Major Freight Route, and would cross over the following Major Freight Routes with more limited impacts: Fauntleroy Way SW, W Marginal Way, 1st Avenue S, 4th Avenue S, West Seattle Bridge, 15th Avenue W, W Nickerson Street, NW Leary Way and NW Market Street• Elevated guideway columns could affect truck access to local businesses on SW Alaska Street and Delridge Way SW in West Seattle• Road closures during construction at cut-and-cover tunnel stations could affect some local truck freight delivery in Chinatown/International District and downtown <p>-----</p> <ul style="list-style-type: none">• South bridge crossing would span Duwamish Waterway navigation channel, but could have temporary construction impacts to waterway operations• No direct impacts expected to Terminal 5 or Terminal 18 access or operations <p>-----</p> <ul style="list-style-type: none">• Use of BNSF spur track south of S Lander Street in SODO could affect rail freight operations• Bus relocation from E3 busway could affect freight routes in SODO• Temporary closure of S Royal Brougham Way in SODO and construction of overpasses at S Lander Street and S Holgate Street could affect local freight delivery• Partial closure of 5th Avenue S in Chinatown/International District during construction could affect local freight delivery• Partial or full closure of Mercer Street for Seattle Center Station could affect freight movement between I-5 and Terminal 91 <p>-----</p> <ul style="list-style-type: none">• Construction adjacent to east side of BNSF lines west of Elliott Avenue W in Interbay and on the east side of Interbay BNSF yard• Potential full or partial closure of Magnolia Bridge in Interbay during construction of undercrossing• Avoids impacts to Fishermen's Terminal, but could affect operations of an intermodal freight facility that provides unique shipping services to/from Alaska and is dependent on a freshwater location and proximity to rail lines and freight truck routes, which would be difficult to relocate• Columns for the Salmon Bay fixed bridge crossing would maintain navigation channel but could affect large vessel navigation to/from water dependent businesses on Salmon Bay, as well as the Maritime Academy/14th Avenue NW Boat Ramp area, and as freshwater dependent businesses, these uses would be difficult to relocate	<ul style="list-style-type: none">• Mined construction of International District/Chinatown Station would avoid impacts on local freight delivery on 5th Avenue S compared to 5th Avenue Cut-and-Cover International District/Chinatown Station• Effects to freight movement and access would be similar elsewhere to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Construction activities would have substantial effects on 4th Avenue S, a Major Freight Routes and cross over the following Major Freight Routes, with more limited impacts: West Seattle Bridge, 1st Avenue S, and 15th Avenue W• Road closures during construction at cut-and-cover tunnel stations could affect some local truck freight delivery in Chinatown/International District and downtown <p>-----</p> <ul style="list-style-type: none">• Elevated guideway columns could affect truck access to local businesses on Delridge Way SW in West Seattle• North bridge crossing would span Duwamish Waterway navigation channel, but could have temporary construction impacts to waterway operations• Possible temporary construction parking and gate queue storage impacts at Terminal 18 on Harbor Island; rail access to businesses would be maintained <p>-----</p> <ul style="list-style-type: none">• Use of BNSF spur track south of S Lander Street in SODO could affect rail freight operations• Bus relocation from E3 busway in SODO could affect freight routes• Partial closure of 4th Avenue S in Chinatown/International District during construction would increase congestion on freight routes and affect freight movement and would also limit oversize load access to downtown Seattle; 4th Avenue S is one of two routes into downtown for oversize loads from the south• Could affect BNSF operations during tunnel and station construction on 4th Avenue S in Chinatown/International District due to close proximity to tracks <p>-----</p> <ul style="list-style-type: none">• Construction on the east side of Interbay BNSF yard in Interbay• Tunnel avoids in-water columns in Salmon Bay and impacts on Fishermen's Terminal

Key to Rating	Alternative Performance		
	Lower Performing	Medium Performing	Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Economic Effects	Effects on freight movement	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">Effects to freight movement for Alaska Junction Station at 42nd Avenue SW would be similar to station at 41st Avenue SW	<ul style="list-style-type: none">Effects to freight movement for Alaska Junction Station at 44th Avenue SW would be similar to station at 41st Avenue SW	<ul style="list-style-type: none">Full closure of 4th Avenue S in Chinatown/International District during construction would require detours of freight trucks and affect freight movementFull closure of 4th Avenue S would also limit oversize load access to downtown Seattle; 4th Avenue S is one of two routes into downtown for oversize loads from the southEffects to freight movement and access would be similar elsewhere along the WSBLE Project corridor as alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">Effects to freight movement for Ballard Station at 15th Avenue NW would be similar to station at 14th Avenue NW

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

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Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		ST3 Representative	West Seattle Elevated/C-ID 5th Ave/Downtown 6th Ave/Ballard Elevated		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel
		Project	5th Ave Cut-and-Cover International District/ Chinatown Station	5th Ave Mined International District/ Chinatown Station	41st Ave Alaska Junction/4th Ave Cut-and-Cover/14th Ave Ballard
Economic Effects (continued)	Business and commerce effects	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">• Would have moderate amount of business displacements, the majority of which would be industrial or light-industrial businesses in Duwamish and Interbay Manufacturing/Industrial Centers (MIC)• Would displace small businesses in West Seattle and Ballard that mostly serve local community• Could displace businesses that support international and domestic trade through Port of Seattle and Northwest Seaport Alliance terminals on Duwamish Waterway and Salmon Bay• Potential construction period impacts, such as lane closures and access changes, to local businesses on or near SW Alaska Street, Fauntleroy Way SW and Delridge Way SW in West Seattle, south side of West Seattle Bridge, E3 busway in SODO, 5th Avenue S in Chinatown/International District, around Downtown tunnel station locations, Elliott Avenue W and 15th Avenue W in Interbay, and 15th Avenue NW and NW Market Street in Ballard <p>-----</p> <ul style="list-style-type: none">• Could displace water-dependent businesses at Fishermen's Terminal, which could have secondary effects to other marine industries that maintain the Alaskan Fishing Fleet, and would reduce available moorage for fishing vessels• Other water dependent businesses could be displaced on north side of Salmon Bay (i.e., marina for recreational vessels)	<ul style="list-style-type: none">• Would have greatest amount of business displacements, the majority of which would be industrial or light-industrial businesses in Duwamish and Interbay MICs• Could displace businesses that support international and domestic trade through Port of Seattle and Northwest Seaport Alliance terminals on Duwamish Waterway and Salmon Bay• Potential construction period impacts, such as lane closures and access changes, to local businesses on or near SW Alaska Street, SW Avalon Way and Delridge Way SW in West Seattle, south side of West Seattle Bridge, E3 busway in SODO, 5th Avenue S in Chinatown/International District, around Downtown tunnel station locations, Elliott Avenue W, 17th Avenue W, 16th Avenue W and 13th Avenue W in Interbay, and 14th Avenue NW and NW Market Street in Ballard <p>-----</p> <ul style="list-style-type: none">• Would displace small businesses in West Seattle that mostly serve local community and small businesses in Interbay that are service- or light-industrial-oriented <p>-----</p> <ul style="list-style-type: none">• Permanent business and commerce effects of 5th Avenue Cut-and-Cover Station and 5th Avenue Mined Station would be similar• Construction period impacts would last longer with the cut-and-cover station <p>-----</p> <ul style="list-style-type: none">• Would avoid impacts to Fishermen’s Terminal, but could affect operations of an intermodal freight facility that provides unique shipping services to/from Alaska and is dependent on a freshwater location and proximity to rail lines and freight truck routes	<ul style="list-style-type: none">• Permanent business and commerce effects of 5th Avenue Cut-and-Cover Station and 5th Avenue Mined Station would be similar• Construction period impacts would be shorter with mined station• Business and commerce effects elsewhere along the WSBLE Project corridor would be similar to alternative with 5th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Would have moderate amount of business displacements, the majority of which would be industrial or light-industrial businesses in Duwamish and Interbay MICs• Potential construction period impacts, such as lane closures and access changes to local businesses on or near SW Alaska Street, SW Avalon Way and Delridge Way SW in West Seattle, north side of West Seattle Bridge, E3 busway in SODO, 4th Avenue S in Chinatown/International District, around Downtown tunnel station locations, Elliott Avenue W, 15th Avenue W, W Armory Way, 17th Avenue W and 16th Avenue W in Interbay, and 14th Ave NW and NW Market Street in Ballard <p>-----</p> <ul style="list-style-type: none">• Would displace small businesses in West Seattle that mostly serve local community and small businesses in Interbay that are service- or light-industrial-oriented• Duwamish Waterway crossing north of West Seattle Bridge may displace some water-dependent businesses• Duwamish Waterway crossing north of West Seattle Bridge could displace businesses that support international and domestic trade through Port of Seattle and Northwest Seaport Alliance terminals; could displace some buildings at Terminal 7 (private) <p>-----</p> <ul style="list-style-type: none">• Permanent business and commerce effects of 4th Avenue Cut-and-Cover Station and 4th Avenue Mined Station would be similar• Construction period impacts would be shorter with cut-and-cover tunnel and station, but longer than alternatives on 5th Avenue S <p>-----</p> <ul style="list-style-type: none">• Tunnel under Salmon Bay would avoid maritime business impacts, including those at Fishermen's Terminal

NOTES:
1. Minority population is defined in US Department of Transportation Updated Environmental Justice Order 5610.2(a) as persons belonging to any of the following groups: Black, Hispanic, Asian American, and American Indian and Alaska Native

Key to Rating

Alternative Performance

Lower Performing

Medium Performing

Higher Performing

Level 3 Alternatives Evaluation

Purpose and Need / Evaluation Criteria / Measures		Level 3 Alternatives			
		West Seattle Tunnel/C-ID 4th Ave/Downtown 5th Ave/Ballard Tunnel			
		42nd Ave Alaska Junction Station	44th Ave Alaska Junction Station	4th Ave Mined International District/ Chinatown Station	15th Ave Ballard Station
Economic Effects (continued)	Business and commerce effects	Medium	Medium	Medium	Medium
		<ul style="list-style-type: none">• Business and commerce effects of Alaska Junction Station at 42nd Avenue SW would be similar to station at 41st Avenue SW• Potential for additional construction period impacts on businesses on 42nd Avenue SW	<ul style="list-style-type: none">• Business and commerce effects of Alaska Junction Station at 44th Avenue SW would be similar to station at 41st Avenue SW• Potential for additional construction period impacts on businesses on 44th Avenue SW	<ul style="list-style-type: none">• Permanent business and commerce effects of 4th Avenue Cut-and-Cover Station and 4th Avenue Mined Station would be similar• Construction period impacts would be longer with mined station than 4th Avenue Cut-and-Cover Station and alternatives on 5th Avenue S• Business and commerce effects elsewhere along the WSBLE Project corridor would be similar to alternative with 4th Avenue Cut-and-Cover International District/Chinatown Station	<ul style="list-style-type: none">• Business and commerce effects of Ballard Station at 15th Avenue NW would be similar to station at 14th Avenue NW• Potential for additional construction period impacts on 15th Avenue NW

NOTES:
1. Minority population is defined in US Department of Transportation Updated Environmental Justice Order 5610.2(a) as persons belonging to any of the following groups: Black, Hispanic, Asian American, and American Indian and Alaska Native

Key to Rating

Alternative Performance

Lower Performing

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