5 EVALUATION OF ALTERNATIVES

This chapter begins by evaluating how well the Lynnwood Link Extension alternatives meet the project's Purpose and Need Statement. It then compares the environmental and transportation performance of the project alternatives, discusses their costs, and reviews other implementation issues.

5.1 Ability to Meet the Purpose and Need

The Purpose and Need Statement, presented in Chapter 1, is summarized in Table 5-1, which compares the No Build Alternative and light rail alternatives with the project's Purpose and Need. Each Purpose and Need objective, including measures for the forecast year 2035 transit travel times, is discussed further below.

Table 5-1. Consistency with Project Purpose and Need

Purpose and Need	No Build Alternative	Light Rail Alternatives
Provide reliable, rapid, and efficient transit service with sufficient capacity to meet current and projected demand	No	Yes
Forecast year 2035 transit travel times on I-5 from Lynnwood to Northgate (AM peak period)	26 minutes	14 to 16 minutes
Forecast year 2035 transit travel times on I-5 from Northgate to Lynnwood (PM peak period)	24 minutes	14 to 16 minutes
Forecast year 2035 PM peak hour passenger load transit level of service at screenlines on I-5	LOS E–F	LOS A–C
Create an alternative to travel on congested roadways	No	Yes
Support the region's adopted land use, transportation, and economic development plans	No	Yes
Extend the regional light rail system in support of the Sound Transit Long-Range Plan	No	Yes
Implement a financially feasible system that seeks to preserve and promote a healthy environment	No	Yes

Provide reliable, rapid, and efficient transit service with sufficient capacity to meet current and projected demand

The light rail alternatives would offer reliable, rapid, and efficient transit service with sufficient capacity to meet current and projected demand. They would be very reliable because they would operate outside of traffic. In contrast, under the No Build Alternative, bus service would be less reliable than today as traffic congestion increases on freeways and arterials in the project corridor.

Travel times to all regional destinations would be shorter with the light rail alternatives, with trips to Northgate and downtown Seattle 6 to 16 minutes faster than the No Build Alternative. The light rail alternatives also would expand the person-carrying capacity of the I-5 corridor and would reduce bus overcrowding as some riders shift from bus to light rail.

Create an alternative to travel on congested roadways

The light rail alternatives would bypass congested roadways by operating on an exclusive at-grade or elevated guideway. With light rail operating at least every 10 minutes for the majority of the day and offering faster travel times than bus service, travelers would have a time-competitive and reliable alternative to driving on congested roadways.

Support the region's adopted land use, transportation, and economic development plans

To address future population and employment growth, all regional, state, and local land use and transportation plans include a goal of improving transit accessibility and encouraging transit use; in addition, economic development plans call for reducing congestion to increase mobility of goods and services. The light rail alternatives support these long-range planning goals, and they are generally consistent with the land use plans and policies of the jurisdictions served by the project. Local and regional plans anticipate increased growth in urban centers that are connected by high quality transit. In the project corridor, the major urban growth centers are at Lynnwood and Northgate, which would be connected by light rail. Other station areas included in local jurisdictions' transit-supporting plans or policies include the NE 145th Street Station (Alternatives A1, A3, A10, and A11) and NE 185th Street Station (all light rail alternatives) in Shoreline, the Mountlake Terrace Transit Center or Freeway Station in Segment B, and the 220th Street SW Station (Alternative B2A) in Mountlake Terrace.

Light rail construction and operation would directly support economic development by creating jobs. Moreover, light rail can encourage future private development and investment near stations, which would result in economic benefits that would support the region's economic development plans.

Extend the regional light rail system in support of the Sound Transit Long-Range Plan

Sound Transit's Long-Range Plan calls for extending regional transit north to Everett. Any of the light rail alternatives would help implement the Long-Range Plan, but the alternatives with the fastest travel times, which are the alternatives with the fewest stations (four), would be the most compatible with the plan.

Implement a financially feasible system that seeks to preserve and promote a healthy environment

The light rail alternatives connecting Northgate to Lynnwood have project construction and operating costs similar to those considered in the financial plan developed as part of the ST2 program. Compared to the No Build Alternative's all-

bus system, the light rail alternatives would be more efficient and financially feasible to operate, particularly as the demand for transit service increases. The No Build system would also become increasingly more expensive to operate given increased congestion and travel times, which would be in addition to the service hours needed to meet projected travel demand. The light rail alternatives would also provide environmental benefits ranging from air quality and greenhouse gas improvements, cleanup of previously contaminated sites, and reduced noise to improved systems for stormwater management. The light rail alternatives would also best support regional plans to manage growth and reduce the environmental problems associated with sprawl.

5.2 Comparison of Ridership, Environmental Impacts, and Benefits

This section summarizes the ridership, environmental impacts and benefits that differentiate the light rail alternatives. The discussion focuses on the major differences; the Draft EIS Summary gives a complete summary of all environmental issues.

5.2.1 Segment A: Seattle to Shoreline

Table 5-2 displays the key measures that differentiate the six alternatives being considered in Segment A, including cost, transportation, and environmental performance. The alternatives represent two basic types of choices:

- Would it be better to have the alternatives at-grade wherever possible, with limited elevated sections, or would it be better to be mostly elevated?
- Should there be two or three stations, and where should they be placed?

As Table 5-2 shows, all Segment A alternatives would have a similar number of residential displacements due to property acquisitions. While all of the alternatives seek to use WSDOT right-of-way as much as possible, the narrow right-of-way in Segment A affects the level of impacts for all alternatives. The primary differences in right-of-way needs are at the stations, although the elevated alternatives (A3, A7, and A11) would be able to avoid impacts in some areas. There would be similar numbers of properties affected by the difference in choices for stations with park-and-rides at NE 145th Street (A1, A3, A10, and A11) and NE 155th Street (A5 and A7). The NE 185th Street Station options would also affect different ranges of properties, depending on whether the parking is in a multistory garage on the west side of the freeway (Alternative A1), on the east side with surface lots (A5 and A10), or in a structure to the east (A3, A7, and A11).

Transportation impacts would primarily occur at the station sites where intersections would have increased delays, but mitigation measures are available to reduce delays to conditions similar to the No Build Alternative or better.

Table 5-2. Comparison of Segment A Alternatives

	Alternative	A1	A3	A5	A7	A10	A11
	Stations	Two: NE 145th and NE 185th Streets	Two: NE 145th and NE 185th Streets	Three: NE 130th, NE 155th, and NE 185th Streets	Three: NE 130th, NE 155th, and NE 185th Streets	Three: NE 130th, NE 145th, and NE 185th Streets	Three: NE 130th, NE 145th, and NE 185th Streets
	Alignment	Mixed At-Grade and Elevated	Mostly Elevated	Mixed At-Grade and Elevated	Mostly Elevated	Mixed At-Grade and Elevated	Mostly Elevated
Category[a]	Measure						
Capital Cost Range[b]	2012 dollars (in millions)	$670 to $770	$700 to $810	$650 to $750	$740 to $850	$660 to $750	$750 to $870
Ridership	2035 daily boardings (net) [c]	10,600	10,600	11,000	11,000	11,000	11,000
Station Area Transit-Oriented Development	Qualitative rating of potential under existing conditions (limited-moderate-strong)	NE 145th Street: limited NE 185th Street: limited-moderate	NE 145th Street: limited NE 185th Street: limited-moderate	NE 130th Street: limited NE 155th Street: limited NE 185th Street: limited-moderate	NE 130th Street: limited NE 155th Street: limited NE 185th Street: limited-moderate	NE 130th Street: limited NE 145th Street: limited NE 185th Street: limited-moderate	NE 130th Street: limited NE 145th Street: limited NE 185th Street: limited-moderate
Transportation	Number of intersections requiring mitigation	5	7	11	9	10	8
	I-5 bridges rebuilt	NE 117th, NE 130th, and NE 185th Streets	---	NE 130th Street	---	NE 130th Street	---
	I-5 ramps relocated	NE 130th Street north off-ramp	NE 145th Street north on-ramp	NE 130th Street north off-ramp	---	NE 130th Street north off-ramp	NE 145th Street north on-ramp
	Realigned streets	1st Avenue NE 5th Avenue NE 7th Avenue NE	1st Avenue NE	1st Avenue NE 7th Avenue NE	1st Avenue NE	1st Avenue NE 7th Avenue NE	1st Avenue NE
	Number of parking spaces removed[d]	29	73	89	77	96	84
Property	Number of parcels affected	114	106	127	116	121	106
	Number of residences displaced	111	107	122	115	118	107
	Businesses and institutions potentially displaced	1	0	1	0	1	0
	Estimated WSDOT right-of-way needed (acres)	26	20	20	19	25	20

Table 5-2. Comparison of Segment A Alternatives

	Alternative	A1	A3	A5	A7	A10	A11
	Stations	Two: NE 145th and NE 185th Streets	Two: NE 145th and NE 185th Streets	Three: NE 130th, NE 155th, and NE 185th Streets	Three: NE 130th, NE 155th, and NE 185th Streets	Three: NE 130th, NE 145th, and NE 185th Streets	Three: NE 130th, NE 145th, and NE 185th Streets
	Alignment	Mixed At-Grade and Elevated	Mostly Elevated	Mixed At-Grade and Elevated	Mostly Elevated	Mixed At-Grade and Elevated	Mostly Elevated
Category[a]	Measure						
Visual and Aesthetic Resources	Low-medium-high impact	Medium	High	Medium	High	Medium	High
Ecosystem Resources	Wetland / buffer acres affected	0.7 / 0.8	0.7 / 0.7	0.7 / 1.2	0.7 / 1.2	0.7 / 0.7	0.7 / 0.7
	Acres of vegetation removed	2	1	2	1	2	2
Noise	Number of properties affected before mitigation[e]	198	366	244	382	231	361
	Number of properties affected after mitigation	0	0	0	0	0	0
Vibration	Number of properties affected before/after mitigation	8 / 0	2 / 0	14 / 0	3 / 0	13 / 0	2 / 0
Parks and Recreational Resources	Resources directly affected	Ridgecrest Park, Shoreline Stadium	Ridgecrest Park	Ridgecrest Park	Ridgecrest Park	Ridgecrest Park	Ridgecrest Park

[a] Only categories with notable impacts or differences among alternatives are shown; Chapters 3 and 4 include the full results for all environmental topics.

[b] Range reflects contingencies for a conceptual level design. Figures rounded to the nearest $10 million.

[c] The net boardings reflect ridership at all the segment stations, less the drop in ridership that would occur at the Northgate Station; the more sizeable drop is with a station located at NE 130th Street, which overlaps more with the Northgate Station ridership area than a station at NE 145th Street. All Segment A alternatives with three stations have a lower net ridership than the two station alternatives.

[d] Includes on-street and off-street parking. Does not include park-and-ride spaces.

[e] Includes park-and-ride noise impacts.

All Segment A alternatives would require noise walls, barriers, and other mitigation measures to alleviate noise impacts at properties along the corridor. Similarly, the mostly at-grade alternatives include mitigation to eliminate vibration impacts.

Impacts on water resources and ecosystems would be relatively similar; the mostly elevated alternatives (A3, A7, and A11) would have more opportunities to avoid impacts through design.

Impacts on parks would be similar among all Segment A alternatives, with all alternatives requiring an edge of Ridgecrest Park in Shoreline. The mostly elevated alternatives (A3, A7, and A11) would have more impacts on views from the Jackson Park Golf Course. Alternative A1 also includes a roadway realignment that would affect a small part of the Shoreline Stadium parking lot.

Overall, the mostly elevated alternatives (A3, A7, and A11) have higher costs but somewhat lower impacts compared with the mostly at-grade alternatives, except for having higher visual impacts.

Among the station pairing choices, alternatives featuring three stations (A1, A3, A10, and A11) rather than two (A1 and A3) would have higher costs. Three stations could add about 400 daily boardings in Segment A because some users would find a station farther north more convenient to use than the Northgate Station; however, three stations would create longer travel times because of the additional station stop.

There are also tradeoffs between having a station at NE 145th Street or at NE 155th Street. The NE 145th Street Station alternatives (A1, A3, A10, and A11) would displace residential properties, require street or interchange modifications, and place a multistory parking garage near residences. However, the station would serve several populous neighborhoods in Seattle and Shoreline, and it would have direct I-5 access. The NE 155th Street Station (A5 and A7) would also displace residences and add a multistory garage in a mostly residential area, but it would not have direct I-5 access. The City of Shoreline's planning policies identify stations at NE 145th Street and NE 185th Street, and the City is conducting station planning at those locations. The City's policies do not anticipate a station at NE 155th Street, and another station would still be required to serve Seattle neighborhoods to the south.

The NE 130th Street Station (A3, A7, and A11) would not appreciably increase environmental impacts or ridership benefits compared with alternatives that do not include this station. While it would increase costs, it could be paired with either a NE 145th Street or NE 155th Street Station with little difference in other effects.

The NE 185th Street Station would have similar ridership for all options. Costs and impacts tend to be the differentiating factors. At-grade alternatives (A1, A5, and A10) would have more street and/or bridge reconstruction, while the elevated alternatives would have more visually prominent guideways and stations. The siting and configuration for parking elements is generally interchangeable among the alternatives,

but the choices for structures or surface lots, as well as their siting, would alter the specific properties affected. All of the alternatives would affect some residential properties, the alternatives with parking to the east of I-5 (A3, A5, A7, A10, and A11) would impact more residences.

5.2.2 Segment B: Shoreline to Mountlake Terrace

Table 5-3 displays the key measures that differentiate the Segment B alternatives. These alternatives vary in their station location at the Mountlake Terrace Transit Center, whether they continue north in the I-5 median or cross to the west side of the freeway, or whether they offer a station at 220th Street SW. Alternatives B2 and B2A cross to the west of the freeway, impacting more properties, while Alternatives B1 and B4 stay in the median.

Alternatives B2 and B2A would have higher impacts on visual quality along I-5 where they are near residences from about 233rd Street SW to 220th Street SW. Existing dense vegetation would be cleared on the west side of I-5, which would change the visual character of the corridor. Alternatives B1 and B4 would have lower visual impacts because more of their alignments would be in the I-5 median, although Alternative B4 would have a prominent pedestrian bridge over I-5. Alternatives B1 and B4's median alignment also results in fewer noise impacts.

Alternative B2 and B2A alignments along the hillside west of I-5 also would cause higher land use impacts on the natural environment. These two alternatives would remove about 11 acres of forest cover compared to 5 acres with Alternative B1 and 3 acres with Alternative B4. Likewise, Alternatives B2 and B2A would affect the most wetlands and wetland buffer because they would cross a large portion of the second largest wetland in the study area. Also, Alternative B2A would create the most impervious surface and would require more mitigation measures to protect water resources due to the proposed placement of the guideway.

Transportation impacts would not differentiate the alternatives in Segment B except during construction, when Alternative B4 would need to close the bus ramps at the current freeway transit stop for the Mountlake Terrace Transit Center. This would affect transit service to the transit center for several years. However, when in operation, light rail would provide better service at this location than buses currently do, which would be a long-term benefit.

Table 5-3. Comparison of Segment B Alternatives

	Alternative	B1	B2	B2A	B4
	Stations	One: Mountlake Terrace Transit Center	One: Mountlake Terrace Transit Center	Two: Mountlake Terrace Transit Center and 220th Street SW	One: Mountlake Terrace Freeway Station
	Alignment	I-5 East Side to I-5 Median	I-5 East Side to I-5 West Side	I-5 East Side to I-5 West Side	I-5 East Side to I-5 Median
Category[a]	Measure				
Capital Cost[b]	2012 dollars (in millions)	$340 to $390	$390 to $450	$450 to $520	$310 to $360
Ridership	2035 daily boardings (net)[c]	4,600	4,600	4,800	3,600
Station Area Transit-Oriented Development	Qualitative rating of potential under existing conditions (limited-moderate-strong)	Mountlake Terrace Transit Center: moderate-strong	Mountlake Terrace Transit Center: moderate-strong	Mountlake Terrace Transit Center: moderate-strong 220th Street SW: moderate	Mountlake Terrace Freeway Station: moderate
Property	Number of parcels affected	5	18	18	6
	Number of residences displaced	0	5	5	0
	Estimated WSDOT right-of-way needed (acres)	14	15	16	15
Transportation	Number of parking spaces removed	0	7	11	0
Ecosystem Resources	Wetland / buffer acres affected	Less than 0.1 / 0.6	0.5 / 1.3	1.7 / 0.9	0.1 / 0.7
	Acres of vegetation removed	5	11	11	3
Visual and Aesthetic Resources	Qualitative rating (low-medium-high impact)	Low	High	High	Low
Noise	Number of properties affected before mitigation[d]	135	177	175	129
	Number of properties affected after mitigation	0	0	0	0

[a] Only categories with notable impacts or differences among alternatives are shown; Chapters 3 and 4 include full results.

[b] Range reflects contingencies for a conceptual level design. Figures rounded to the nearest $10 million.

[c] Net boardings within the segment, less any reduction in ridership that could occur in other segments with an additional station. Adding station at 220th Street SW reduces ridership at Lynnwood by 200 daily boardings.

[d] Includes park-and-ride noise impacts.

The Segment B alternatives would have different ridership depending on whether a station is sited at the Mountlake Terrace Transit Center (Alternatives B1, B2, and B2A) or its nearby freeway transit stop (Alternative B4); a freeway station would take longer for riders to access, which would reduce ridership. Alternative B2A would provide an additional station at 220th Street SW, but the project's overall ridership would not notably increase. The added station would attract riders, but the gain would be offset by fewer riders at the Mountlake Terrace Transit Station and Lynnwood because some boardings at those stations would shift to the 220th Street SW Station.

Alternatives B1, B2, and B2A would best support potential transit-oriented developments in Mountlake Terrace's planned town center because their station would be east of I-5, at the existing park-and-ride with an entrance south of 236th Street SW. This would be closer to the planned town center than the Alternative B4 freeway station.

5.2.3 Segment C: Mountlake Terrace to Lynnwood

Table 5-4 displays the key measures that differentiate the performance of the Segment C alternatives including ridership, environmental impacts, and planning consistency.

Alternative C1 would affect the most properties because it would displace a condominium complex and two business parks, displacing up to 77 residences and 31 businesses. In contrast, Alternative C3 would displace one business, and Alternative C2 would displace three businesses, with no residential impacts.

Alternatives C1 and C2 would have higher visual impacts because of the elevated guideway near residential properties and Scriber Creek Park.

Alternative C2 would cross the Scriber Creek wetland complex and affect the largest amount of stream and wetland buffer area. Alternative C1 would cross north of the wetlands, over Scriber Creek Park. Alternative C3 would cross near the southern end of the Scriber Creek wetland complex, and its impacts would be less than those for Alternative C2.

As for Scriber Creek Park itself, Alternative C1 would have columns and a section of the elevated guideway within the park along Cedar Valley Road, which would visually alter this part of the park. Alternative C2 would not be in the park but the guideway and columns adjacent to the park would have visual impacts, primarily from the Scriber Creek Trail. Alternative C3 would not affect the park.

Table 5-4. Comparison of Segment C Alternatives

	Alternative	C1	C2	C3
	Station	200th Street SW	At transit center	At park-and-ride
Category[a]	Measure			
Capital Cost[b]	2012 dollars (in millions)	$300 to $350	$270 to $310	$270 to $340
Ridership	2035 daily boardings (net) [c]	19,400 to 19,800	19,400 to 19,800	19,400 to 19,800
Station Area Transit-Oriented Development	Qualitative rating of potential under existing conditions (limited-moderate-strong)	200th Street SW Station: moderate-strong	Lynnwood Transit Center: moderate-strong	Lynnwood Park-and-Ride: moderate-strong
Property	Number of parcels affected	106	29	15
	Number of residences displaced	77	1	0
	Businesses and institutions displaced	31	3	1
	Estimated WSDOT right-of-way needed (acres)	1	1	3
Transportation	Realigned streets	---	---	208th Street SW
	Number of parking spaces removed	8	4	0
Ecosystem Resources	Wetland / buffer acres affected	Less than 0.1 / 0.5 - 0.9	0.9-1.0 / 0.5 – 0.9	0.2 / 0.5 - 1.0
	Acres of vegetation removed	1	1	1-2
Visual and Aesthetic Resources	Qualitative rating (low-medium-high impact)	High	High	Medium
Noise	Number of properties affected before mitigation [d]	286–293	109–116	6–20
	Number of properties affected after mitigation	0	0	0
Parks and Recreational Resources	Resources directly affected	Interurban Trail, Scriber Creek Park, Scriber Creek Trail	Interurban Trail, Scriber Creek Trail	Interurban Trail, Scriber Creek Trail

[a] Only categories with notable impacts or differences among alternatives are shown; Chapters 3 and 4 include full results.

[b] Range reflects contingencies for a conceptual level design. Figures rounded to the nearest $10 million.

[c] Ridership range reflects total boardings at this station, but adjusted to reflect ridership changes caused by additional station(s) in Segment A or B and their effect on ridership in this segment.

[d] Includes park-and-ride noise impacts.

While all of the Segment C alternatives would serve the same area and have similar opportunities to support transit-oriented developments, the station site choices would provide different opportunities for developing the area over time. The Alternative C1 station at 200th Street SW would be closer to the designated town center for Lynnwood. It would have few impacts on the existing transit center and park-and-ride during construction, but it would displace more existing uses than the other two alternatives. Alternatives C2 and C3 would temporarily reduce the current parking capacity at the transit center for the construction of a park-and-ride garage. Alternative C3 also has the option to relocate the existing transit center at the same time as the light rail is built, or the transit center could be relocated later, potentially as part of future transit-oriented development plans. However, Alternative C3 has a tail track that cuts across a larger parcel that would otherwise be available for future transit-oriented development.

In other respects, including transportation performance, accessibility, and overall transit-oriented development, the Segment C alternatives would have similar effects.

5.3 Other Considerations

This section identifies other issues Sound Transit considered while planning and evaluating the benefits and impacts of the Lynnwood Link Extension.

5.3.1 Costs and Funding

The estimated capital costs of the alternatives are listed individually in Tables 5-2 through 5-4. With six alternatives in Segment A, four in Segment B, and three in Segment C, there are 72 possible segment combinations that could be linked to create the full 8.5-mile extension from Northgate to Lynnwood, with total costs ranging from $1.2 billion to $1.7 billion, depending on the alternatives selected by segment.

These estimates capture the cost differences of the essential features of alternatives and help distinguish key choices among the alternatives. The project cost estimates include:

- Construction costs for facilities, including the trackway/guideway, stations, and anticipated mitigation requirements
- Contingencies that address the varying levels of uncertainty and construction risk that have been identified for alternatives
- Right-of-way acquisition costs, including temporary construction easements
- Costs for design, permitting, agency administration, and program management

Because the project is still in conceptual planning, these estimates include substantial contingencies that recognize the uncertainty around some key factors that affect cost, such as WSDOT/FHWA design requirements, construction methods, mitigation measures, and market factors.

All of the light rail alternatives are estimated to cost about $15 million per year to operate and maintain, varying by several hundred thousand dollars depending on how many stations are included. Major operating costs include labor and benefits, electric power, insurance, and parts and equipment to run and maintain the trains, guideway, systems, and stations.

Project costs and revenues available to cover those costs will be major considerations for Sound Transit as it identifies a Preferred Alternative for the Final EIS. One of the purposes of the project is to support the implementation of the Sound Transit Long-Range Plan. The Long-Range Plan emphasizes cost-effective and efficient transportation solutions, and it calls for a financially feasible system that is affordable to build, run, and use.

Sound Transit's financial plan currently includes $1.322 million for this project (as indicated in Sound Transit's 2013 Transportation Improvement Program); therefore, some combinations of segment alternatives are not currently affordable. Of the 72 combinations, roughly one-third are affordable within the financial plan, another one-third are within 5 percent (about $66 million) of being affordable, and the remaining third would require even more funding.

Cost Tradeoffs

As noted, there are relatively small differences in operating costs among the alternatives. Capital cost differences are more pronounced; major cost tradeoffs among alternatives are summarized below.

Segment A: Seattle to Shoreline

A major cost driver in Segment A is the extent of the guideway placed on an elevated structure, which is more expensive. Alternatives A1, A5, and A10 place much of the guideway and stations at-grade; however, they would require rebuilding up to four bridges that cross I-5. Alternatives A3, A7, and A11 elevate more of the guideway to cross over bridges to avoid the impacts of rebuilding them. The mostly elevated alternatives are $30 million to $90 million more expensive than the more at-grade alternatives because the cost of the elevated guideways and stations is higher than the cost of rebuilding bridges.

The number of stations also affects costs. Alternatives A1 and A3 include two stations, while Alternatives A5, A7, A10, and A11 include three. Including a third station in this segment adds $30 million to $50 million to the overall cost of the segment.

Segment B: Shoreline to Mountlake Terrace

There are several cost tradeoffs among the alternatives in Segment B. Converting the Mountlake Terrace Freeway Station for light rail use in Alternative B4 would cost $20 million to $30 million less than building a new elevated station in the Mountlake Terrace Transit Center in Alternatives B1, B2, and B2A. North of 236th Street SW, crossing all the way over I-5 and then running on mostly elevated structures along the west side of the freeway in Alternatives B2 and B2A would cost about $40 million more than crossing only to the median and then running at-grade in the median to Lynnwood in Alternatives B1 and B4. Finally, adding a station near 220th Street SW in Alternative B2A would cost approximately $50 million or more.

Segment C: Mountlake Terrace to Lynnwood

The cost ranges in Segment C reflect the length of elevated guideway, property acquisition costs, and the cost for modifying existing transit facilities. All three alternatives in this segment are elevated and each includes an elevated station near the existing Lynnwood Transit Center. Alternative C1 has the longest guideway and the most property acquisition costs, and would cost up to $30 million more than the other Segment C alternatives. Alternative C2, which has less guideway and less property acquisition, is the least expensive of the alternatives. Alternative C3 has the shortest guideway length but a slightly higher amount of property acquisition than C2. One design option for Alternative C3 includes relocating the Lynnwood Transit Center closer to the station, which would make it slightly more expensive than Alternative C1.

Funding

Sound Transit funds its facilities, services, and programs through a combination of revenue sources, including voter-approved sales, motor vehicle excise and rental car taxes, state and federal grants, passenger fares, and bond proceeds. The Lynnwood Link Extension is one project in the overall $17.8 billion ST2 system expansion program approved by voters in 2008. Since that approval, the recession has lowered the revenue forecast through 2023 by 30 percent. Sound Transit has responded by taking steps to control costs and realign the ST2 program to ensure that the majority of the ST2 program, including the Lynnwood Link Extension, can be delivered by 2023. However, financial challenges remain. Sound Transit is seeking a grant through FTA's nationally competitive New Starts program. Sound Transit's financial plan has assumed, even before ST2 was approved, that the agency would secure at least $600 million in New Starts funding for the Lynnwood Link Extension. This funding will be required to build any of the Lynnwood Link Extension alternatives. Sound Transit believes this project will compete well nationally. The agency has secured similar size grants in the past, receiving $500 million to help fund the initial segment of Central Link and another $813 million to help fund the University Link.

5.3.2 Commitment of Resources

If built, the Lynnwood Link Extension would have irreversible and irretrievable commitments of property and natural resources.

For this project, private properties with residential and commercial uses would be converted to transit use. The use of WSDOT right-of-way for the project would also be a commitment of resources that could affect the costs and impacts of future projects in the corridor. While WSDOT and Sound Transit have been collaborating to develop this project in a way that maintains WSDOT's flexibility to make future necessary improvements, the project would ultimately need to secure FHWA's approval to use highway lands, considering factors such as safety, transportation performance, maintenance, and potential future improvement needs.

The conversion of public or private lands to light rail use would permanently alter visual quality and character along the project corridor. This would result in visual impacts that might not be immediately mitigated by replacement vegetation and landscaping. The project would affect wetlands, wildlife habitat, and aquatic resources to varying degrees, depending on the alternative built. Mitigation measures would be employed, but some of these resources would be irretrievably altered.

Construction of the project also would require the irretrievable commitment of resources such as fuel and construction materials (e.g., aggregate for concrete, wood for forms and frames, and steel for rebar).

5.3.3 Benefits and Disadvantages of Delaying Project Implementation

As required under SEPA (WAC 197-11-440), Sound Transit has evaluated the benefits and disadvantages of delaying the project, compared with moving forward with it as planned.

If Sound Transit delays construction, this would temporarily avoid the long-term and construction-related environmental consequences associated with the project. Other long-term impacts such as visual impacts could be delayed but not avoided. Delays in acquiring properties could be seen as a benefit because property owners could reside on their property longer, but this could also create burdens on property owners or tenants, particularly if the project delays the acquisition and relocation processes.

The disadvantage of delaying the project would be the failure to address the growing transportation needs of the corridor communities and the region. Sound Transit and PSRC transportation plans, as well as the long-range planning, growth management, and economic development plans of the project corridor communities (see Section 4.2, Land Use), emphasize the need for a transportation alternative that addresses congestion.

A substantial delay in implementing the Lynnwood Link Extension would result in the inability of the region to accommodate its projected travel demand growth. The current high levels of congestion and unreliability for travelers in the I-5 corridor would persist because regional transportation planners expect travel demand to continue growing. Bus transit service would continue to degrade as congestion on the roadways increases because buses travel on these roadways. Increased traffic congestion could affect future economic development in the region because it could increase the cost of doing business, including costs for lost productivity and wasted fuel. Increased business costs would make the project corridor communities comparatively less attractive as places to live or do business.

Finally, delays in solving this transportation problem could change planned development patterns, leading to less dense development and lost opportunity to create transit-supported communities. This could hamper economic growth, worsen environmental conditions, and negatively affect the regional quality of life.

5.3.4 Areas of Controversy and Issues to be Resolved

Public and agency comments suggest limited project-related controversy. In Segment A, two of the alternatives (A5 and A7) would include a station at NE 155th Street, which the City of Shoreline opposed in its comment letter during environmental scoping. The Edmonds School District also has concerns about potential use of its property by Segment C alternatives. The City of Lynnwood and the Edmonds School District have expressed concerns about the Lynnwood site alternative for Sound Transit's Link Operations and Maintenance Satellite Facility, a separate project that would support the operations of the Lynnwood Link Extension. Site alternatives for the maintenance facility are also being considered in Bellevue. Based on public and agency comments and ongoing outreach, Sound Transit is not aware of any other areas of noteworthy controversy at this time. Additional areas of controversy may be identified during the Draft EIS comment period.

Issues yet to be resolved relate to agreements that Sound Transit must secure to use parts of the I-5 right-of-way, to modify any I-5 interchanges, or to modify other parts of the freeway such as shoulders. Approvals for the Lynnwood Link Extension would be made by WSDOT and FHWA during final design, and these agencies could request modifications or place other conditions on the project. Sound Transit has worked successfully with WSDOT and FHWA to obtain approvals for right-of-way use for other Sound Transit projects, but if Sound Transit is not able to use the rights-of-way as anticipated in the current design of the alternatives, this could affect the project's costs and impacts.

As noted above in Section 5.3.1, project funding also remains an issue to be resolved. Sound Transit is proposing the project as a candidate for FTA's New Starts grants program. Recent legislation has changed some of the requirements for the program and its longer-term funding levels are not known.

Potential stations at NE 130th Street, NE 155th Street, and 220th Street SW were not evaluated in the ST2 planning process, which analyzed ridership and cost for each station, and are not currently included in the ST2 Plan. Further evaluation of consistency with the ST2 Plan would be required before any of these stations could be added to the Lynnwood Link Extension, or before the NE 145th Street Station could be replaced or eliminated.

6 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

Public involvement and agency coordination activities are important components of the NEPA/SEPA environmental process. The public includes all parties who may have an interest in the project, including other federal, state, and local agencies; tribes; organizations; businesses; and citizens.

Sound Transit and the FTA are providing ongoing opportunities for all those interested in the Lynnwood Link Extension to be involved, get information, ask questions, and give comments. Sound Transit and FTA have a formal Coordination Plan with specific elements for agency and tribal outreach and public involvement. The Coordination Plan is summarized in this chapter and the project's public involvement, agency, and tribal coordination activities are further defined. These include activities already conducted and those planned in support of the environmental review process.

The public involvement and agency coordination effort for what is now the Lynnwood Link Extension project began in October 2010. FTA and Sound Transit engaged the public in early public scoping at that time to support the North Corridor Alternatives Analysis, using public notices in the Federal Register and SEPA Register, advertisements and legal notices in local newspapers, and mailed postcards and email. They held three public meetings, one each in Seattle, Shoreline, and Lynnwood, and one agency meeting during the early public scoping period. FTA and Sound Transit asked people to give their suggestions about the transportation problems of the project corridor and to propose a broad range of potential transit solutions. More information about the Alternatives Analysis, which led to the alternatives evaluated in this Draft EIS, and its public involvement and agency coordination is included in the *Alternatives Analysis Report and SEPA Addendum* (September 2011), which is provided in Appendix K, Supporting Documents. The scoping phase for the Draft EIS for the Lynnwood Link Extension was started in October 2011, as discussed in Section 6.2.1.

6.1 Coordination Plan

The public involvement, agency coordination, and tribal coordination efforts outlined in the project's Coordination Plan cover activities from the Alternatives Analysis process through the Final EIS. These efforts also comprise agency and tribal coordination and outreach that Sound Transit formally initiated when the project began environmental scoping for the Draft EIS. The purpose of the plan is to provide a structured approach to public outreach for the project team throughout the EIS process.

The Coordination Plan also includes strategies for outreach to traditionally hard-to-reach populations, such as minority, low-income, or low-English proficiency populations. The project's public involvement efforts are designed to help identify and involve minority and low-income populations that the project could benefit or affect adversely. Sound Transit and FTA recognize it is important to try to reach all people potentially affected by the project.

6.2 Public Outreach Activities and Methods

Outreach activities will continue throughout the environmental review process. Some activities will occur at specific project milestones, such as the publication of this Draft EIS, while other types of activities will be conducted on an ongoing basis. The following subsections summarize the outreach activities and methods used or planned during the project's environmental process. A detailed list of all the public outreach activities conducted to date, including public meetings and hearings, is provided in Appendix L, Public Involvement and Agency Coordination.

6.2.1 Scoping

As noted above, Sound Transit and FTA conducted early scoping for an Alternatives Analysis beginning in October 2010. Following the release of the Alternatives Analysis report, Sound Transit conducted formal public scoping for the Lynnwood Link Extension EIS beginning on September 30, 2011. Scoping supports the environmental review process requirements of NEPA and SEPA. The scoping process began with the public notice of the intent to prepare an EIS in the Federal Register on September 29, 2011, and the scoping notice in the SEPA Register on September 30, 2011. The formal notices were accompanied by advertisements and other public notices and outreach materials. Scoping notice postcards were sent to 103,000 addresses, and emails were sent to 1,000 email addresses. During the scoping period, Sound Transit and FTA asked the public to comment on the proposed Purpose and Need Statement, environmental issues for evaluation in the Draft EIS, and other alternatives being considered for evaluation in the Draft EIS.

To provide project information to the public during scoping, Sound Transit produced the following documents and made them available on the project Web site (http://www.soundtransit.org/lle) and at public meetings:

- *Scoping Information Report:* This summary of the environmental scoping effort provides a planning history of the project, the results of the Alternatives Analysis, the draft Purpose and Need Statement, the range of alternatives being considered for study in the Draft EIS, the potential environmental topics to be reviewed in the Draft EIS, and the project schedule.

- *Draft Coordination Plan*: This plan is a summary of the efforts to engage the public, agencies, and tribes throughout the environmental review process.
- *Alternatives Analysis Report and SEPA Addendum*: This is a summary document and complete technical report describing the initial study Sound Transit conducted to define the most promising alternatives for further review in the Draft EIS, along with alternatives to be dropped from further consideration.

Another method through which Sound Transit provided information was "Tech Talk," which was an informal, online outreach activity during the scoping period. Tech Talk was held on Friday, October 7, 2011, during the lunch hour (noon to 1 pm). Participants accessed the broadcast by going to video.soundtransit.org. The video of the broadcast is on the project Web site.

During the 30-day scoping period, Sound Transit and FTA held public meetings in Seattle, Shoreline and Lynnwood, and they held an agency meeting in Shoreline. They received 69 comment submittals from individuals, 14 from jurisdictions and agencies, and three from organizations. The comments received during scoping were provided to the Sound Transit Board for consideration before the Board identified the alternatives that are analyzed in this Draft EIS. The *Environmental Scoping Summary Report* (Sound Transit 2011f) summarizes all the comments received during scoping. Table 6-1 provides further details on the scoping meetings (including early scoping).

Table 6-1. Public, Agency, and Tribal Scoping Meetings

Scoping Meetings	Dates	Number of Attendees
Public	October 7, 12, and 14, 2010	200 people
Agency and Tribal	October 14, 2010	9 agencies
Public	October 11, 13, and 18, 2011	185 people
Agency and Tribal	October 11, 2011	13 agencies

The majority of the comments Sound Transit and FTA received were positive. All the jurisdictions, agencies and organizations with written comments either supported the proposed project or offered advice on the project's next steps into the environmental process. None of these parties were opposed to the proposed project.

Seven of the agencies and jurisdictions specifically indicated support for an I-5 alternative, as did all of the organizations that commented. Several agencies voiced concerns about a SR 99 alternative's impacts, costs, ridership or ability to meet other purpose and need objectives. Most of the individual public comments supported the proposed project or one or more of the light rail alternatives Sound Transit and FTA are considering for the EIS. Several agencies suggested additional sites or options, including stations at NE 130th Street, NE 155th Street, and 200th Street SW. Three commenters were opposed to the proposed project, including one who preferred

Bus Rapid Transit instead of light rail. The other comments varied, but included suggestions about environmental or land use factors and the purpose and need for the project. A number of commenters asked Sound Transit to move ahead quickly to build the project.

6.2.2 Public Meetings, Open Houses, Briefings, and Workshops

In addition to scoping meetings, Sound Transit has held public meetings, open houses, and workshops to present project information and solicit comments from the public. The format typically includes a time for the public to view project information and to speak with project team members one-on-one. Appendix L, Public Involvement and Agency Coordination, lists all public meetings and briefings for the project to date. Sound Transit will continue to hold these public events as the project progresses through the EIS process.

Sound Transit also regularly provides briefings to neighborhood associations, organizations, and businesses located within the project vicinity to provide project information and to answer questions. Briefings typically include a presentation by project staff and an opportunity for questions and answers.

6.2.3 Community Events

Sound Transit representatives have attended various community events planned by other organizations to reach community members who might not otherwise seek out information about the Lynnwood Link Extension. These events help people obtain information, sign up for the project mailing list, and talk to project staff about the project. Appendix L lists the community events that Sound Transit has attended.

6.2.4 Drop-in Sessions

In March 2012, Sound Transit held 10 drop-in sessions along the project corridor in Seattle, Shoreline, Mountlake Terrace, Edmonds, and Lynnwood at various public locations, such as community centers, grocery stores, and libraries. These sessions were advertised by postcards inviting people to drop in at the locations to talk to staff, learn more about the project, and provide additional feedback prior to the Sound Transit Board identifying the alternatives included in this Draft EIS. Sound Transit staff members spoke with approximately 450 people during these sessions.

6.2.5 Project Web Site

The project has a Web site (http://projects.soundtransit.org/Projects-Home/Lynnwood-Link-Extension.xml) that provides current project information, including project maps, schedule, and project-related documents, which Sound Transit updates regularly.

6.2.6 News Media

At times, Sound Transit uses local newspapers to inform, educate, and involve the public. News releases and advertisements for public meetings are sent to newspapers in the project vicinity.

6.2.7 Fact Sheets, Brochures, and Newsletters

Fact sheets and brochures are often distributed at public meetings, workshops, and community events. The purpose of the fact sheets and brochures is to concisely provide project updates. Newsletters were mailed and emailed in June 2012 and April 2013 to provide project information and updates.

6.2.8 Email Subscription List

Sound Transit maintains an email subscription list of people who have expressed interest in the project, or who have requested project information, and provides periodic project updates and e-newsletters to subscribers.

6.2.9 Environmental Justice Coordination

At the start of project outreach activities in late 2010 and again in 2011, Sound Transit worked to better understand demographic and community characteristics in the corridor, with a particular focus on low-income and minority populations. Stakeholder interviews helped the agency identify community organizations in the project corridor that were likely to represent or provide services to minority and low-income individuals. The resulting environmental justice population outreach activities conducted for the project are outlined in Appendix D of the project's Public Involvement Plan, and are also summarized in Section 4.4, Social Impacts, Community Facilities, and Neighborhoods, and Appendix C, Environmental Justice Analysis. Some examples of Sound Transit's targeted outreach are:

- Publication of the environmental scoping notices in: *La Raza*, *Korean Daily*, *Seattle Chinese Times*, *Russian World Newspaper*, *Seattle Chinese Post*, and *tu Decides*.
- Project staff attendance at Cinco de Mayo festival events to hand out project materials translated into Spanish and a Spanish-interpreter present to translate.
- Project posters distributed to several organizations that serve minority and low-income populations in the project corridor.

Sound Transit's environmental justice outreach activities to date are summarized in Table L-1 in Appendix L. As described in Section 6.5, the Draft EIS release is also resulting in extensive additional communication and outreach to low-income or minority members of the corridor communities.

6.3 Agency Coordination

In addition to the public meetings and hearings to which agencies are invited, Sound Transit coordinates with agencies via periodic meetings. These meetings are either policy- or technical-related, depending on the topic of discussion, and are designed to gather input from interested agencies. The participating and cooperating agencies with which Sound Transit has been coordinating for the proposed project are listed in Table 6-2.

Table 6-2. Participating and Cooperating Agencies

Cooperating Agencies[a]	Participating Agencies[b]
Federal Highway Administration	U.S. Department of Interior
Washington State Department of Transportation	U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers	U.S. Environmental Protection Agency
City of Edmonds	National Oceanic and Atmospheric Administration
City of Lynnwood	Homeland Security/Transportation Security Administration
City of Mountlake Terrace	Advisory Council on Historic Preservation
City of Seattle	Federal Emergency Management Agency
City of Shoreline	Federal Railroad Administration
King County	National Park Service
Snohomish County	Seattle City Light
	Snohomish County Public Utility District
	Washington Department of Archaeology and Historic Preservation
	Washington Department of Fish and Wildlife
	Washington State Department of Ecology
	Puget Sound Regional Council
	Puget Sound Clean Air Agency
	Community Transit
	Everett Transit
	City of Mill Creek

[a] A cooperating agency is any federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative (40 CFR 1508.5).

[b] A participating agency is any agency with an interest in the project (23 USC 139(d)).

6.4 Tribal Coordination

Sound Transit contacted the following federally-recognized tribes that have Treaty rights, cultural resources, or other interests in the project area:

- Muckleshoot Indian Tribe
- Snoqualmie Tribe
- Suquamish Tribe
- Tulalip Tribes
- Yakama Nation

Because of federal government-to-government consultation responsibilities associated with federally recognized tribes, FTA initiated consultation with the affected tribes and invited them to become participating agencies. FTA and Sound Transit will continue to consult with the tribes regarding potential natural and cultural resources impacts. In accordance with the requirements of Section 106 of the National Historic Preservation Act, Sound Transit also contacted the Duwamish and Snohomish tribes, which are not federally recognized but have interests in cultural resources in the region.

6.5 Draft EIS Comment Period

Sound Transit published the Notice of Availability of the Draft EIS in the Federal Register and SEPA Register. The public comment period for this Draft EIS is from July 26, 2013 to September 23, 2013. During this period, the public, agencies, and tribes can comment on the Draft EIS. In addition to the Federal Register and SEPA Register notices, the public was informed about the comment period through mailed postcards, emails, community calendar postings, and online and print display advertisements. The times and locations for the public hearings for this Draft EIS are listed in the Fact Sheet.

Sound Transit will review all comments received during the 60-day comment period and consider whether further analysis, including additional or revised information in the Final EIS, is appropriate. The Final EIS will include (or summarize) and respond to all substantive comments on the Draft EIS. For more information about how to comment on this Draft EIS, see the Fact Sheet located at the front of the document.