CENTRAL PUGET SOUND REGIONAL TRANSIT AUTHORITY
(Sound Transit)

Central Link Project:
Northgate Link Extension SEPA Addendum (August 2014)
to
North Link Final Supplemental Environmental Impact Statement (2006)

Prepared Pursuant to the State Environmental Policy Act,
Chapter 43.21C RCW and WAC 197-11-625

Purpose of This Addendum

This addendum describes proposed design refinements to the Northgate Link Extension Light Rail Project (Northgate Link), which is extending Sound Transit's light rail system from the University of Washington Station near Husky Stadium to Northgate in Seattle, Washington. In April 2006, the *North Link Final Supplemental Environmental Impact Statement* (Final SEIS) was issued by Sound Transit and the Federal Transit Administration (FTA) pursuant to the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). Since publication of the Final SEIS, Sound Transit has renamed the segment of the project extending from University of Washington Station to Northgate Station as the Northgate Link Extension. The Final SEIS evaluated a No-Build Alternative and several "build" alternatives including the Preferred Alternative that was selected by the Sound Transit Board as the alternative to be built for the project. FTA issued a Record of Decision (ROD) for the project in June 2006.

In the course of the final design process for the Northgate Link project, Sound Transit confirmed a conflict between the light rail alignment and the existing Seattle City Light (SCL) 115,000 volt (115 kV) transmission line in the project vicinity near the Northgate neighborhood. This conflict was identified in the Final SEIS, which evaluated the impacts of relocating the transmission line.

Relocation of electric transmission lines (up to and including 115 kV) is categorically exempt from environmental review under the SEPA rules (WAC 197-11-800(23) (c)). However, because this relocation is related to the larger Northgate Link Extension Project and was previously analyzed in the Final SEIS, Sound Transit is providing this SEPA addendum to add information and analysis about the proposal. This SEPA addendum addresses the transmission line relocation and provides additional project-related environmental information. It does not substantially change the analysis of significant impacts and alternatives in existing environmental documents.

Options Considered

The existing 115 kV transmission line crosses I-5 at NE 113th Street on the north and at NE 105th Street on the south, and runs along the east side of the freeway adjacent to 1st Avenue NE between these two crossing points. A schematic diagram of the proposed relocation is shown on Figure 1. Sound Transit and SCL considered several options for relocating the transmission line. The options included relocations to the following properties:

i) Northgate Mall property;

ii) the east edge of the I-5 right-of-way west of 1st Avenue NE; and

iii) Interstate 5 (I-5) right-of-way on the west side of I-5.

The first two options would introduce additional design constraints to the light rail system, require raising the pole heights, increase construction and maintenance costs, and create risk due to light rail construction under the line. In addition, negotiation for an easement on the Northgate Mall property poses schedule impacts, and any franchise agreement with Washington State Department of Transportation (WSDOT) for I-5 right-of-way would be revocable, posing the risk of needing to relocate the line again if WSDOT determines that the right-of-way is needed for other purposes. Because of these constraints and risks, SCL suggested alternative routes that

kept the transmission line and associated poles within Seattle Department of Transportation (SDOT) right-of-way.

Two routes were identified that followed SDOT right-of-way: Meridian Avenue N/N 115th Street and Northgate Way/Meridian Avenue N/N 115th Street. Sound Transit analyzed these alternative routes. The evaluation included overall length of utility construction/demolition, pole type, construction staging, utility conflicts, and impacts to street trees, parks, private property, and traffic. The Meridian Avenue N/N 115th Street alignment was identified as the preferred alignment and conceptually approved by SCL.

Based on design guidance received from SCL, SDOT, and Seattle Public Utilities, Sound Transit developed a preliminary design for relocation of the power line to the Meridian Avenue N/N 115th Street alignment. The preliminary design was presented to the community at a public meeting in December 2013.

In response to public comments concerned with potential visual impacts, Sound Transit modified the design (in consultation with SCL and SDOT), replacing three steel poles with wood laminate poles along N 115th Street, reducing pole heights (up to 20 feet), and reducing the width of the poles.

Also in response to public comments Sound Transit evaluated 12 additional alternatives, some of which were variations on the initial proposals. These alternatives include:

- undergrounding the entire alignment;
- undergrounding along N 115th Avenue; various combinations of overhead and undergrounding in locations within the WSDOT right of way, City of Seattle right-of-way, and Northgate Mall property;
- undergrounding along 1st Avenue NE; and
- hanging conductors from the light rail guideway.

After evaluating each of these alternatives, Sound Transit continued with Meridian Avenue N and N 115th Street as the preferred alternative because of substantial issues with the other alternatives.

For example, fully underground alternatives were rejected because they are substantially more costly to install and maintain, and involve long term maintenance and operation challenges. The estimated cost for constructing underground transmission lines ranges from 4 to 14 times more expensive than overhead lines of the same voltage and same distance and underground lines have approximately half the service life of overhead lines. It is also more difficult to locate faults or breaks in underground lines. Repair and outage times for underground lines are notably longer than those for overhead lines (Public Service Commission of Wisconsin, 2011). Designs that combine underground and overhead facilities were rejected due to cost, reliability, and maintenance issues and because they require transition structures, or riser poles, between the overhead and underground lines. SCL does not favor such transition structures due to reliability concerns for this important component of the grid. These structures are larger poles that separate the three conductors, and are more visually prominent than poles for comparable overhead lines. In addition, overhead facilities near the light rail alignment also increase the cost of construction and complicate future light rail maintenance, and introduce light rail reliability risks. Hanging the conductors from the light rail guideway would require temporary line relocation and phased

construction of the Northgate Link project. Hanging conductors from the guideway would also require SCL to obtain access permits to maintain their infrastructure, introduce safety risks for light rail inspection staff that walk the tracks weekly, and potentially create induced current, interfering with the light rail operations.

Sound Transit presented the modified Meridian Avenue N/N 115th Street alignment design at a second public meeting in March 2014. In response to the public's request for an alignment within I-5 right-of-way, Sound Transit prepared a conceptual plan for WSDOT's consideration. WSDOT responded in writing that it would not support the relocation of the transmission facilities, either overhead or underground, in the WSDOT right-of-way. Consequently, many of the alternatives studied by Sound Transit, which would require construction of facilities within WSDOT right-of-way, were no longer viable.

Based on the issues with the other alternatives, Sound Transit continues to consider the Meridian Avenue N/N 115th Street as the preferred alternative.

Sound Transit conducted a third public meeting in June 2014 to explain the rationale behind the preferred alternative and to inform the public about future activities that will be occurring in the neighborhood as this project proceeds.

Northgate Link Extension Project Background

The Northgate Link Extension is the northern segment of the Central Link light rail program. Following issuance of the Final EIS for the Central Link light rail project (Sound Transit and FTA 1999), Sound Transit initiated the "North Link" project, which reconsidered the alternatives between downtown Seattle, Capitol Hill, the University District, and Northgate (and is now known by two names: University Link and Northgate Link).

Sound Transit and FTA issued the Final SEIS (Sound Transit and FTA) in April 2006 and the Sound Transit Board selected a revised North Link alignment in 2012. In June 2006, FTA issued its ROD for North Link, which acknowledged the completion of the environmental review process under NEPA. The southern portion of the North Link alignment, from downtown Seattle to the University of Washington Station, is now under construction as University Link. From the University of Washington Station, the Northgate Link alignment will continue north in a tunnel and reach the University District Station under Brooklyn Avenue NE south of NE 45th Street. Continuing north in a tunnel, the route will reach the Roosevelt Station just west of 12th Avenue NE between NE 65th Street and NE 67th Street. From the Roosevelt Station, the tunnel will continue northwest to a portal location north of NE 92nd Street on the east side of I-5, then continue on the surface and elevated along the east side of I-5 to the elevated Northgate Station east of 1st Avenue NE, spanning NE 103rd Street adjacent to the Northgate Transit Center.

Project Refinements- 115 kV Transmission Line Relocation

Sound Transit has refined its construction approach in the vicinity of the Northgate Station due to conflicts with an existing SCL transmission line. Sound Transit's refinement includes the design and installation of approximately 4,000 feet of a new SCL 115 kV aerial transmission line and associated poles along Meridian Avenue N and N 115th Street (Figure 1). The transmission

line is proposed to be relocated in the existing SDOT right-of-ways[1] of Meridian Avenue N where they would reconnect with the existing transmission line at N 105th Street on the south end and at the north end along N 115th Street to the east until it connects with the main transmission line in the 1st Avenue NE right-of-way just west of I-5. Approximately 4,000 feet of existing transmission line along 1st Avenue NE, across I-5, and within a utility easement will be decommissioned and salvaged. Based on the preliminary design, it has been estimated that six existing poles will be removed and four will be shortened, to continue their use as distribution line poles. Thirteen poles (five new and 8 replacement poles) ranging from 75- to 130-feet tall will be installed to carry the new 115kV aerial transmission line. Approximately ten of the thirteen will be steel poles and three would be wood laminate poles. Five of the six poles to be installed along N 115th Street would replace existing distribution line poles. The new poles would be taller than the existing ones and would accommodate both the existing distribution line and the new transmission line. In addition to using wood laminate poles along N 115th Street, pole heights were reduced by up to 20 feet from the originally proposed pole heights, in response to community concerns. By relocating the transmission line, this refinement resolves the conflict between existing SCL transmission lines and the Northgate Light Rail Station and associated aerial guideway along 1st Avenue NE.

Changes in Environmental Effects and Mitigation

The proposed design refinements would not change the primary characteristics of the light rail project along the route evaluated in the Final SEIS. Impacts for many of the elements of the environment discussed in the Final SEIS would remain unchanged. The following areas do not require additional detailed discussion in this SEPA addendum because there would be no change in effects:

- Transportation
- Land Use
- Air Quality
- Noise and Vibration
- Ecosystems
- Water Resources
- Energy
- Geology and Soils
- Hazardous Materials
- Public Services
- Parks and Recreation

[1] For the purposes of this analysis, the right-of-way was defined as the roadway and adjacent public sidewalks (City of Seattle owned street right-of-way) along Meridian Avenue N (between 105th and 115th Street N) and 115th Street N (between I-5 and Meridian Avenue N), and the affected portion of the I-5 right-of-way at N 115th Street. The right-of-way does not include any adjacent private parcels, except at the east end of N 115th Street, where the transmission line would pass over the SE corner of one private parcel.

Additional information about potential impacts associated with the proposed design refinements are provided for the following elements of the environment:

- Visual Resources and Aesthetics
- Historic and Archaeological Resources
- Neighborhoods and Populations
- Economics
- Environmental Health, including electrical and magnetic fields (EMF)
- Utilities
- Construction Impacts associated with Transportation, Air Quality, and Noise and Vibration

Mitigation measures for all of these elements of the environment would be similar to those identified in the Final SEIS.

Visual Resources and Aesthetics

Overall, the visual and aesthetic impacts of the project with the design refinements would be similar to the effects discussed in the Final SEIS, except that the affected environment for utility construction extends to the west side of I-5 in the Northgate area for approximately 15 blocks. Specifically, five new and eight replacement poles 75- to 130-feet tall would be installed together with 4,000 linear feet of 115kV transmission line along Meridian Avenue N from approximately N 115th Street on the north to N 105th Street on the south and along N 115th Street from Meridian Avenue N on the west to I-5 on the east.

Affected Visual Environment

The affected environment can be characterized in four segments (refer to Figure 1):

1. The area where the transmission line would be removed along 1st Avenue NE, including freeway crossings
2. Meridian Avenue N south of Northgate Way
3. Meridian Avenue N north of Northgate Way
4. N 115th Street

The area where the transmission line would be removed includes two crossings of I-5, a major interstate highway comprising up to eight lanes of traffic plus numerous on- and off-ramps. In this segment, 1st Avenue NE parallels and abuts I-5 to the west and is generally separated from the freeway by a grassy embankment with a limited number of trees, a stormwater pond and park-and-ride parking lots. That corridor currently has both the existing 88-foot transmission line poles and shorter poles (approximately 40 feet in height) with distribution wires and other overhead utility lines. Some of the poles have both transmission and distribution lines on them. The east side of 1st Avenue NE abuts 2- and 3-story multifamily housing development north of Northgate Way. South of Northgate Way, the east side of 1st Avenue NE abuts a landscaped embankment and the parking lots of Northgate Mall. On the west side of the freeway, the existing transmission line passes between a 3-story apartment complex and an office complex and associated parking lots. Viewer sensitivity in this segment is low on the freeway and adjacent to Northgate Mall; due to the high traveling speed of viewers, few viewers are likely to

notice the existing overhead transmission line. Viewer sensitivity on 1st Avenue NE north of Northgate Way is higher because viewers see the transmission line from west facing windows of several apartment buildings (comprising approximately 80 apartment units facing this transmission line), from sidewalks, and from the relatively slow traveling speeds of vehicles. The same is true of the existing segment west of I-5 approaching N 105th Street and Meridian Avenue North, which also abuts an apartment building, with approximately 100 units facing the power line. While I-5 in this area is designated as a scenic route for its views of Mount Rainier from the southbound lanes, the overhead transmission line does not affect these views.

In the area where the new transmission line would be constructed, visual character and viewer sensitivity varies by segment. South of Northgate Way, Meridian Avenue N is a roadway generally lined with deciduous street trees ranging from 15 to 70 feet in height, abutted by commercial and multifamily buildings. There are currently few overhead power lines in this segment because the distribution lines serving this area are underground. The street trees generally screen views of utility poles in this segment, with the exception being near Northgate Way, where there are fewer trees on either side of the roadway. While traffic travels at arterial speeds of around 35 miles per hour on Meridian Avenue N, this area also has a moderate amount of pedestrian traffic and some multifamily residential development facing the street. As such, viewer sensitivity is moderate to high. Meridian Avenue N is not a designated scenic route, but public comment indicates that a high value is placed on the visual quality of the tree-lined avenue.

North of Northgate Way, Meridian Avenue N is a roadway that has few street trees and has overhead distribution wires on poles approximately 40 feet in height lining the east side of the roadway. On the west side of the roadway, there is a cemetery and two 3-story office buildings. The east side of this segment includes commercial retail and office buildings in the block closest to Northgate Way, and two small apartment buildings and single-family detached residential buildings for the remainder north to N 115th Street. Visual quality of this segment is lower than that south of Northgate Way, and viewer sensitivity is slightly lower, due to a greater proportion of non-residential adjacent land uses.

North 115th Street is a narrow residential street with approximately 35 single-family homes on both sides. While this street has few street trees, there are ornamental trees of various types and sizes in the front yards of many of the homes. Homes in this segment are generally set back 20 or more feet from the roadway. The street has an existing overhead distribution line on poles approximately 40 feet in height extending along the south side of the roadway. Although traffic volumes are much lower on this street, viewer sensitivity is higher in this area due to the relatively slow speed of traffic, and views of the street from residences.

Visual Impacts

Removal of existing transmission line: removal of the transmission line would slightly change visual resources in the 1st Avenue NE corridor, I-5 where the power lines currently cross, and the N 105th Street utility right-of-way extending from I-5 on the east to Meridian Avenue N on the west. Localized changes to immediate views in these corridors would be experienced by motorists, businesses, and residents but these changes are expected to be minor, as described below. (See Figure 2.)

Three existing poles and their associated wires would be removed along the N 105th Street utility right-of-way along with the wires crossing I-5. The north/south transmission line that currently

runs along 1st Avenue NE and crosses I-5 in the vicinity of NE 113th Street on the east side of I-5 to 1st Avenue NE at N 115th Street would also be removed. Along 1st Avenue NE, the transmission-only poles would be removed. On poles that currently carry both transmission and distribution lines, the transmission lines would be removed and the poles reduced to approximately 40 feet in height to continue serving the electrical distribution needs of the Northgate area. Views in and across these corridors would improve slightly with removal of these lines, although these changes are small compared to the elevated light rail guideway running along the east side of the I-5 right-of-way, which will be prominent but in keeping with the current scale of the urbanized area surrounding the mall and along I-5 (Sound Transit and FTA 2006 and 2013).

Installation of new transmission line: Pole heights for the new transmission line would vary in height from 75 feet up to 130 feet. Street trees on Meridian Avenue N are primarily owned by SDOT and would remain in place. Minor trimming may be required during installation. The proposed height of the new poles and line would provide adequate clearance, including clearance for the maximum estimated future tree heights. Privately owned trees would generally not be affected, except for one tree on N 115th Street, described below.

On Meridian Avenue N south of Northgate Way four new power poles ranging from 120 to 130 feet in height, and the associated transmission line would be installed. The southernmost pole would be on the west side, and the other three would be on the east side of the street. These new poles would extend above the height of the trees and therefore would become prominent visual features most noticeable to southbound travelers approaching this segment from the north because the roadway slopes to the south and the view of the poles would not be obstructed by the street trees. From the south, the upward slope of the road and the intermittent street tree canopy would make views of the poles for travelers northbound on Meridian Ave N less prominent than the southbound views. Because of the size and density of the street trees on Meridian, the upper portion of the poles would not be as noticeable from the street level when adjacent to or under street trees. At street level, the bases of the poles would be prominent because of their diameter (up to approximately 5 feet for the southernmost pole), but each of the poles would be several hundred feet apart.

On Meridian Avenue N north of Northgate Way, four new power poles ranging from 75 to 130 feet in height and the associated transmission line would be installed. The tallest poles would be nearest to Northgate Way. These would be more prominent visual features than the existing poles they would replace. They would be noticeable from any direction due to the lack of street trees. Because the existing distribution wires would be attached to the new poles, there would not be an increase in the number of power poles, but the new poles would be both taller and wider (up to 4 feet) at the base than existing poles.

On N 115th Street, four existing 40-foot poles carrying distribution lines would be replaced with 80- to 95-foot tall poles carrying both distribution and transmission lines. One 80-foot steel pole would be placed adjacent to I-5 in the 1st Avenue NE right-of-way to connect with the existing transmission that extends to the north from there. The tallest poles would be those toward the eastern end of N 115th Street closer to I-5. Figure 2 shows photo simulations of the proposed poles. For the pole at N 115th Street and Corliss Avenue N, Figure 2 shows the initially proposed 110-foot tall steel pole, and the currently proposed 95-foot tall wood (glue-laminated) pole. This change was made following input from public meetings. Figure 2 also shows the currently proposed 80-foot tall wood pole between Meridian Avenue N and Corliss Avenue N, which was

originally proposed as an 85-foot tall steel pole. The new poles would be more prominent than the poles they would replace because of their greater height and width at the base of the poles, which would range from approximately 3 feet up to 4 feet for the easternmost pole. One privately owned tree in the N 115th Street right-of-way would need to be trimmed initially to provide required clearance. The property owner will be approached to determine whether trimming or replacement would be preferred.

In all segments, visual impacts from new or relocated poles are not expected to be significant.

Historic and Archaeological Resources

There would be only a minor change in the potential short-term or long-term effects of the proposed transmission line relocation on historic and archaeological resources, due to the change in the area of potential effects. The area of potential effect for historic resources was defined in consultation with the Washington Department of Archaeology and Historic Preservation as the alignment for the power line, which extends outside of the area considered in the SEIS where any ground disturbance was expected.

A search of the Washington State Department of Archaeology and Historic Preservation's WISAARD database was conducted to assess the presence of recorded cultural resources within the right-of-way associated with the relocation of the 115 kV line. The database search resulted in no recorded historic inventory properties (buildings or built structures older than 50 years), historic register properties, archaeological sites, or cemeteries within the ROW. The historic GLO (General Land Office) map accessible within WISAARD does not show any trails or other cultural, or natural, features within the right-of-way. The probability for finding archaeological resources is projected as low throughout most of the corridor, and moderate in the portion of Meridian Avenue N, south of N 107th Street.

Neighborhoods and Populations

Property Acquisition

No property acquisition would be required. The proposed transmission line would cross the corner of one residential property at the corner of N 115th Street and I-5; an existing SCL power line currently crosses over this property. The crossing is necessary to re-connect the new line to the existing system. An easement for this crossing would be acquired from the property owner. No structures or other improvements on the property would be affected. Sound Transit would comply with its own acquisition policies as well as the appropriate provisions of the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Uniform Relocation Act Amendments of 1987 and the State of Washington's relocation and property acquisition regulations (Washington Administrative Code [WAC] 468-100). Compensation for an easement to the affected property owner would be according to the provisions specified in Sound Transit's adopted Real Estate Property Acquisition and Relocation Policy, Procedures, and Guidelines.

Environmental Justice

Federal executive orders require consideration of whether impacts from proposed transportation projects would have disproportionately high and adverse effects on minority and/or low-income populations. Environmental justice issues were considered as part of the North Link Final SEIS (2006), which concluded that the North Link project would *not* have a disproportionate effect on

minority and low income populations. While not required under SEPA or by the federal executive order, additional data relating to the power line relocation element of the North Link project is provided below.

Low income status is determined by the poverty threshold reported annually by the U. S. Department of Health and Human Services. Along the North Link Segment A corridor from Husky stadium to the Northgate station area, the 2010 American Community Survey (ACS) indicates that 30% of households within 0.5 mile have incomes below the poverty level, with the highest concentrations being in the University District area. Similarly, the project alignment, including both where the transmission line would be removed and where the new line would be installed, lies within or adjacent to Census tracts where the poverty level is reported as 0-30% of the population.

In the North Link Segment A corridor, the 2010 Census indicates that minorities comprise 30% of the total population within 0.5 mile of the alignment. Among adjacent block groups, minorities comprise 12% to 55% of the population in any given block group, with the highest percentage of minorities occurring near the University (45-53%) and Northgate Stations (35-55%). The Census block group adjacent to where the transmission line would be removed has the highest percentage at 55% minority. The Census block groups along and adjacent to where the transmission line would be relocated has between 35% and 51% minority.

Potential effects of the transmission line relocation include localized construction impacts (noise, truck trips, sidewalk closures, and temporary utility impacts), and the long term visual impacts from the removal of existing poles and addition of new and relocated poles and wires overhead. Additionally, as noted in the Final SEIS, the establishment of the light rail project will benefit these minority and low-income populations with improved access to transit, reduced transit travel times, and improved access to employment.

The proposed transmission line relocation would not have significant adverse environmental impacts and the benefits of the Northgate Link Extension project would accrue to the same population segments where the new transmission line is being relocated. Accordingly, disproportionately high and adverse effects on minority or low income populations would not result from the project.

Property Values

Evaluation of economic factors is expressly not required under SEPA. Instead, SEPA focuses on *environmental* impacts and potential mitigation measures. Nonetheless, because a number of questions have been raised regarding the impact of the transmission line relocation on property values, additional information on this topic is provided below.

Many external factors affect property values, including such things as fluctuations in the economy and real estate market, proximity to schools, jobs, and services, as well as the presence of issues like traffic noise, odors, and visually unattractive features. At the same time, studies have shown that property values near light rail transit stations typically increase compared to those that are not near the station (TRB 2004). The multitude of factors affecting property values (both positive and negative) makes it very difficult to generalize the impact of any single factor on the value of a property.

In 2013, a study was conducted to assess the impact of transmission lines on property values, and that study included suburban areas of Seattle, Washington in its evaluation. The study concluded

that sales prices of average priced single family homes abutting BPA transmission lines were found to have "a very small negative and statistically insignificant [high voltage transmission line] price effect" compared to similar properties not abutting (Bottemiller and Wolverton 2013). A more pronounced negative effect was found for homes priced over $1 million, and the study concluded that the negative effect was highly correlated with the quantity of improved living space: the larger the home, the greater the negative effect adjacency to a high voltage transmission line had on sales price.

Given that the proposed relocated transmission line passes primarily through areas with rental apartments, commercial development, and average-priced single family homes, the effects of the placement of the transmission line on property values is expected to be small or unnoticeable. For the portions of the project on Meridian Avenue N north of Northgate Way and on N 115th Street, the transmission line would be added to an environment that already has overhead distribution lines, therefore any effect that the presence of overhead power lines would have is likely to be at least partially accounted for in the price of property already. Finally, all of the affected properties may benefit from their proximity to the light rail station at Northgate.

Environmental Health – Electrical and Magnetic Fields (EMF)

The relocation of the 115kV power line from the east side of I-5 to the west side of I-5 does not change the original conclusions regarding the effects of EMF discussed in the Final SEIS. Research on the subject (NIEHS 2002) states that the overall scientific evidence for human health risk in laboratory studies shows no consistent pattern of biological effect from exposure to power-frequency (60 cycles per second or 60Hz) EMF. Because of continued public concern, however, most electrical utilities, including SCL, have continued to support research and to minimize exposure using best practices. Although the EMF levels expected from overhead transmission lines is well below established guidelines for non-occupational exposure, use of tall poles, such as the 75- to 130-foot poles proposed for this relocation, helps to reduce the EMF reaching the ground, as does balancing of loads on transmission lines, which SCL does routinely on its system.

Utilities

The Final SEIS anticipated the potential for relocation of overhead electrical transmission and distribution lines along the Northgate Link corridor as project design was finalized. The proposed relocation of this segment of the 115kV transmission line is in direct response to these identified potential conflicts of the proposed Northgate Link project with the existing electrical grid. Sound Transit has coordinated with SCL on this design modification. The relocation will not have long-term effects on the power supply and distribution system in the city. No other utilities are expected to be affected by this design modification.

Construction Impacts

Construction activities associated with the relocation of the SCL transmission line are limited to the following:

- Removal of power poles and associated 115kV overhead transmission line that cross I-5 in two locations, and extend along 1st Avenue NE, and along the N. 105th Street utility right-of-way (Figure 1);

- Reducing the height of some existing power poles that will remain in place;
- Installation of new power poles and associated transmission line;
- Excavation of less than 50 yards of material, which will be disposed at an approved facility;
- Placement of approximately 20 yards of fill from a tested materials source;
- Limited tree trimming or replacement of one tree adjacent to N 115th Street;
- Establishing construction staging areas along Meridian Avenue N, N 115th Street, and 1st Avenue NE.

Impacts associated with these construction activities are similar to those identified in the 2006 Final SEIS, with the exception that relocation of this segment of power lines will occur west of I-5, which was not previously identified. Construction activities will take place intermittently over about a nine-month period likely using a 6-day-a-week schedule with some night-time activities. Contractors will work with residents and property owners to avoid and reduce disruptions to the extent practical. A summary of the major elements is provided below:

- Transportation/Parking/Access – Night-time rolling slow-downs can be expected on I-5 for removal of existing aerial power lines; night street closures will be required during installation of new power lines to new poles. Access to properties will be maintained. Driveways could be blocked for very short durations, but any blockages would be arranged in advance with adjacent property owners to minimize disruptions." Some on-street parking spaces may be temporarily displaced for staging but use of on-street parking will be short-term. Some sidewalk detours can be expected but no ingress/egress disruptions for businesses or residences are anticipated.

- Noise and Vibration –Construction, including removal and installation of power poles, will involve trucks and heavy equipment that generate noise. Noise limits from construction activities are governed by Seattle's Noise Ordinance which generally allows higher sound levels from construction during daytime hours (7 a.m. to 10 p.m. during weekdays and 9 a.m. to 10 p.m. on weekends and holidays) than during nighttime hours. No exceedances are expected during daytime construction activities. In the event that construction activities could exceed noise limits during nighttime hours, Sound Transit would obtain an appropriate noise variance from the City of Seattle. Potential vibration impacts from construction activity would be limited since no pile-driving is anticipated. Minor vibration could occur from jack-hammers or combustion engines but these activities are not expected to damage adjacent buildings or create an annoyance.

Conclusion

The analyses contained in this addendum indicates that potential impacts from relocation of the 115kV electric transmission line as part of the Northgate Link project are covered by the range of alternatives and impacts analyzed in the existing environmental documents. The relocated transmission line would not substantially change the analysis of significant impacts and alternatives in the Final SEIS and no new probable significant environmental impacts would arise.

References

Bottemiller, Steven C and Marvin L Wolverton. 2013. The Price Effects of HVTLs [High Voltage Transmission Lines] on Abutting Homes. The Appraisal Journal, Winter 2013.

Department of Commerce, Bureau of the Census. 2010. United States Census 2010. Washington D.C.

Department of Commerce, Bureau of the Census. 2013. American Community Survey 2013. Washington D.C.

Hamilton, Stanley W. and Gregory Schwan. 1995. Do High Voltage Transmission Lines Affect Property Values? Land Economics, Vol. 71, No. 4 (Nov 1995) pp. 436-444. University of Wisconsin Press.

National Institute of Environmental Health Sciences. 2002. Electric and Magnetic Fields Associated with the Use of Electric Power. Sponsored by the NIEHS/DOE EMF RAPID Program.

Public Service Commission of Wisconsin. 2011. Underground Electric Transmission Lines.

Sound Transit and FTA. 1999. Final Environmental Impact Statement. Central Link Light Rail Transit Project. Central Puget Sound Regional Transit Authority and U.S. Department of Transportation, Federal Transit Administration. November 18, 1999.

Sound Transit and FTA. 2006. North Link Final Supplemental Environmental Impact Statement. Central Link Light Rail Transit Project. Central Puget Sound Regional Transit Authority and U.S. Department of Transportation, Federal Transit Administration. April 7, 2006.

Sound Transit and FTA. 2013. Lynwood Link Extension Draft Environmental Impact Statement. Central Puget Sound Regional Transit Authority and U.S. Department of Transportation, Federal Transit Administration. July 26, 2013.

Southern California Edison. 2004. EMF Design Guidelines for Electrical Facilities.

TRB. 2004. Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. TCRP Report 102. Transit Cooperative Research Program, Transportation Research Board of the National Academies, Washington, D.C.

Figures

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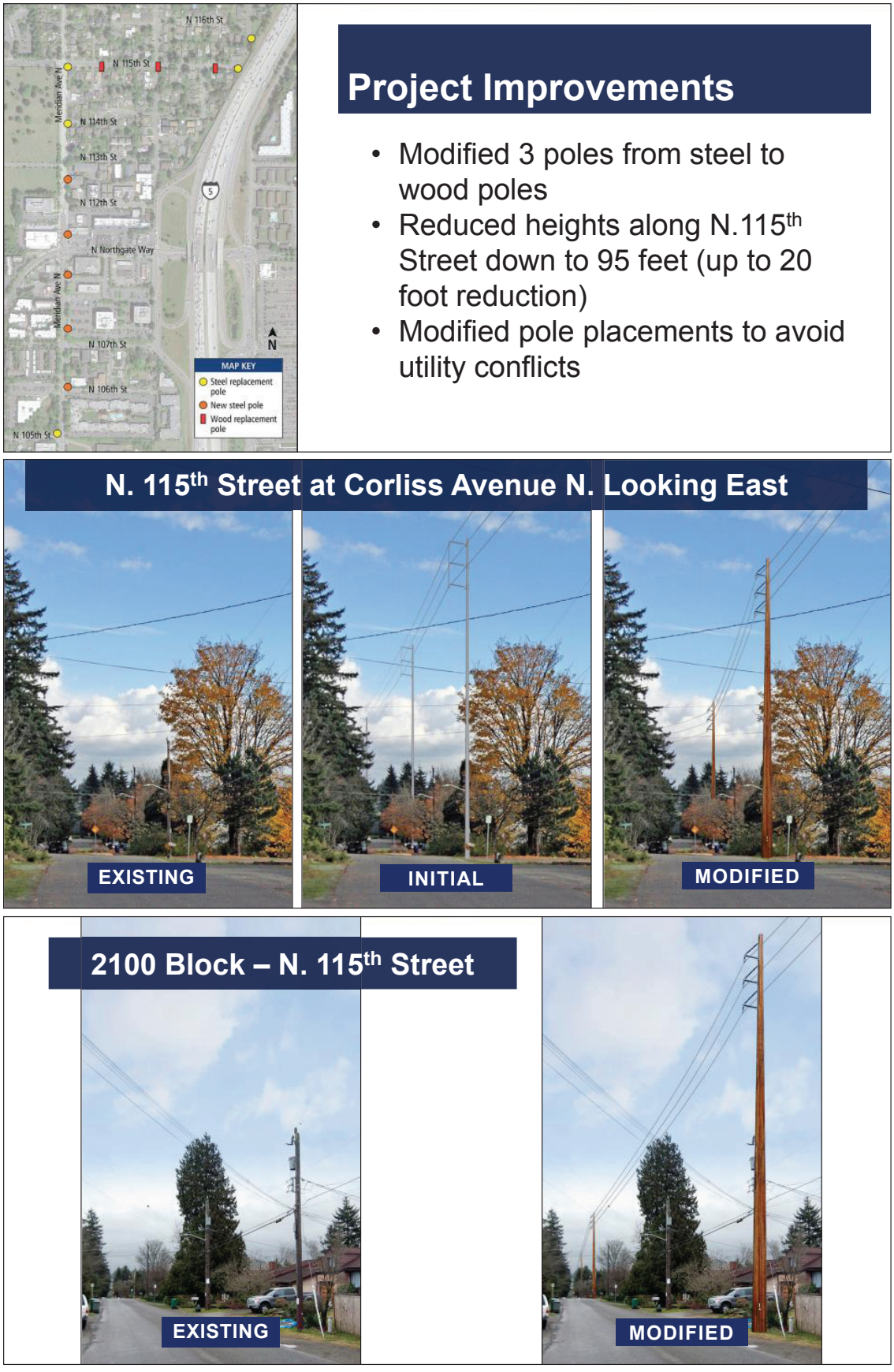
SOURCE: Sound Transit, 2012; Aerials Express, 2009 (Aerial)

ST North Link . 210184

Figure 1

Overhead Transmission Line - Proposed Relocation Line Route
Seattle, Washington



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SOURCE: Northgate Link Project/Transmission Line Relocation Update/Slide Presentation/Haller Lake Community Club, March 6, 2014/at http://www.soundtransit.org/Projects-and-Plans/Northgate-Link-Extension/Northgate-Link-Extension-document-archive

Figure 2
Visual Simulations
Seattle, Washington