

Impacts to Tree Canopy

Abstract

A lot has changed since PSE first proposed Energize Eastside five years ago. During that time, alternatives to meet peak demand have been developed and implemented across the United States that would not have the devastating impact to the environment as transmission lines. In 2019, Washington State enacted the Clean Energy Transformation Act (CETA). This bears on Energize Eastside because it would require PSE to invest in cleaner sources of electricity and smart technology to address demand peaks.

The proposed transmission line will require the removal of 3600 trees along an 18-mile corridor predominately in residential areas¹. In the Renton segment, the permit under consideration, 350 trees would be removed: 58 percent of tree canopy. These trees must be removed to accommodate new poles and transmission lines, but also to adhere to rules limiting vegetation encroachment onto electric transmission line corridors. Removal of these trees not only creates an unacceptable environmental impact, but violates plans and policies to protect tree canopy in Renton and other cities. Suggested mitigation of planting small shrubs and trees, in place of mature, established trees would significantly reduce the amount of carbon sequestration.

Recognizing these technological and legislative developments and **denying** PSE's application to build Energize Eastside would have a positive impact on the Eastside's environment, including Renton.

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¹ http://www.energizeeastsideeis.org/uploads/4/7/3/1/47314045/chapter_4.4_plants_and_animals.pdf page 12

1. Tree Removal as Planned by PSE for its Transmission Lines

The proposed new transmission line will require the removal of trees for two reasons. First trees will be removed to allow for the new towers for transmission lines. Second, and more substantially, the new 230 kV lines will require the removal of trees to provide a clear area to prevent interference by vegetation, i.e. establishing so called “clear zones.” A number of these trees are considered significant. The percentage of trees subject to removal ranges between 41% and 80% within the PSE proposed alignment. This includes:

- Renton - 58%²
- Richards Creek substation - 41%
- Redmond - 80%
- Bellevue north - 60%
- Bellevue central - 70%
- Bellevue south - 68%
- Newcastle - 64-68%

These numbers reflect tree removal projected for construction of the PSE 230kV transmission line. The corridor as it currently exists has regular maintenance checks for vegetation with very few trees removed because the predominate zone-use districts are residential, with well-maintained properties.

With the PSE proposal, in Renton 350 trees would be removed, of which 250 were determined to be significant, 3 from critical areas and 38 from critical area buffers.³ The FEIS references “significant tree” as defined by the trunk diameter (measured at 4 feet above existing ground.) In Bellevue, a significant tree has at least, an 8-inch diameter; in Newcastle, at least, an 8-inch diameter for an evergreen or 12-inch diameter for a deciduous tree; in Renton, at least a 6-inch diameter tree or, at least, an 8-inch diameter for alder or cottonwood trees.

The current PSE Application has been bifurcated to include only the areas in Bellevue south, Newcastle and Renton. Should PSE apply for applications covering Bellevue north and Redmond, an even greater tree canopy would be impacted.

PSE asserts that the project is needed because of growth in Bellevue’s downtown and commercial areas. But single-family residential land use predominates in the zones for the proposed 230kV transmission line and towers. From the EIS: “Based on a linear-feet breakdown of the study area for PSE’s proposed alignment, the most common existing land uses include:”

² http://www.energizeeastsideeis.org/uploads/4/7/3/1/47314045/chapter_4.4_plants_and_animals.pdf page 10-11

³ http://www.energizeeastsideeis.org/uploads/4/7/3/1/47314045/chapter_4.4_plants_and_animals.pdf pages 17-22.

- Residential (single-family and multi-family) (49%)
- Vacant land (17%)
- Industrial (9%)
- Institutional (9%)^{4 5}

Substantially fewer trees would be removed if an alternative to the proposed 230kV transmission line were implemented, such as energy storage and/or conservation. Alternatives should be located in commercial or industrial areas as suggested by many residents commenting in the EIS, including CENSE.

It has also been documented that a mature tree canopy assists in carbon dioxide exchange, improves water quality, reduces air pollution and reduces energy use (shade in summer months; wind reduction in the winter). Trees constitute a useful weapon in the battle over greenhouse gases and climate change.^{6 7}

This tree removal not only impacts the character and appearance of residential areas, but these trees offer habitat to many bird species and other small animals. The proposal for "clear zones" prescribed would decimate residential landscapes - many with 40-50-year-old well maintained trees, water features, rock gardens and specialty plantings, slow-growing alpine trees that in 40 years are just reaching 15-20 feet, professional landscape plans and even vegetable gardens. The "Energize Eastside" Vegetation Analysis notes that while some trees and other vegetation may be planned as mitigation, any newly planted trees are limited to those that do not exceed certain heights.

2. Renton Policies Related to Tree Canopy

From Renton's Staff Report to the Hearing Examiner on tree retention (page 6)

"The city's adopted Tree Retention and Land Clearing Regulations (4-4-130) exempts maintenance activities, including routine vegetation management and essential tree removal for public and private utilities, road, right of way and easements in public parks."

The Renton Staff Report recommends approval of the application on the basis of a final Landscape and Tree Replacement Plan.

Of cities on the Eastside, Renton has the third lowest percentage of tree canopy, making it even more important to preserve existing trees.

⁴ http://www.energizeeastsideeis.org/uploads/4/7/3/1/47314045/chapter_4.1_land_use_and_housing.pdf page 3

⁵ <http://powerline-zoning.s3-website-us-west-2.amazonaws.com>

⁶ <http://www.naturewithin.info/urban.html>

⁷ <https://www.nature.com/news/tree-growth-never-slows-1.14536>

Comparing Tree Canopy Cover in King County, WA Communities

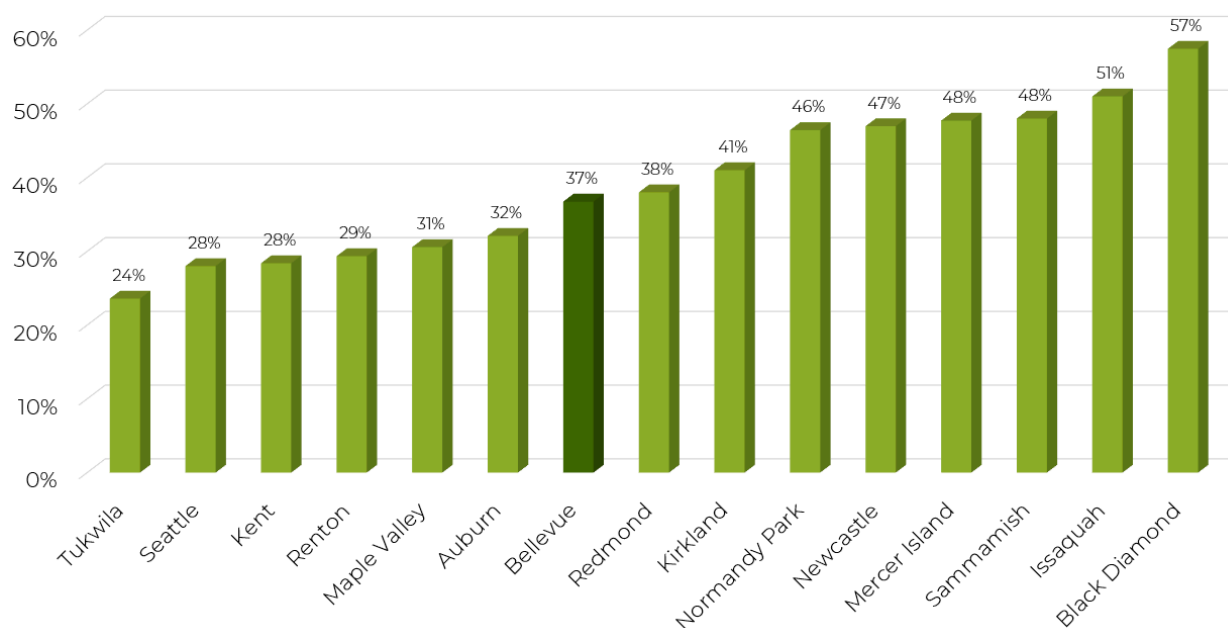


Figure 1 Twenty nine percent of Renton's land area is covered by tree canopy.

3. Replacement Plantings Insufficient to Mitigate Tree Loss

Mitigation measures are inadequate to offset the loss of trees as described above. Any substitute measures are limited because no trees will be planted that would be of the size and breath of existing trees.

Moreover, some mitigation proposals call for new plantings some distance from the corridor, or simply the payment of money, a pay in-lieu fee to the cities, providing no relief for adjacent property owners and neighborhoods.⁸

It is also important to identify that the “Energize Eastside” project is proposed to deal with a limited time of peak power shortages, in very short periods of very high or low temperatures. As discussed elsewhere in this notebook, it is likely that within the next decade that other means of addressing possible peak power shortfalls will be put into place. However, the tree loss will essentially be permanent. The Department of Ecology EIS comment letter of June 19, 2015 (Fig. 6) expressed concern that this proposed project would permanently result in the conversion in the plant community from a tree strata to a shrub strata. All habitat functions would be permanently affected by the tree removal of between 41% and 80% along the Eastside.

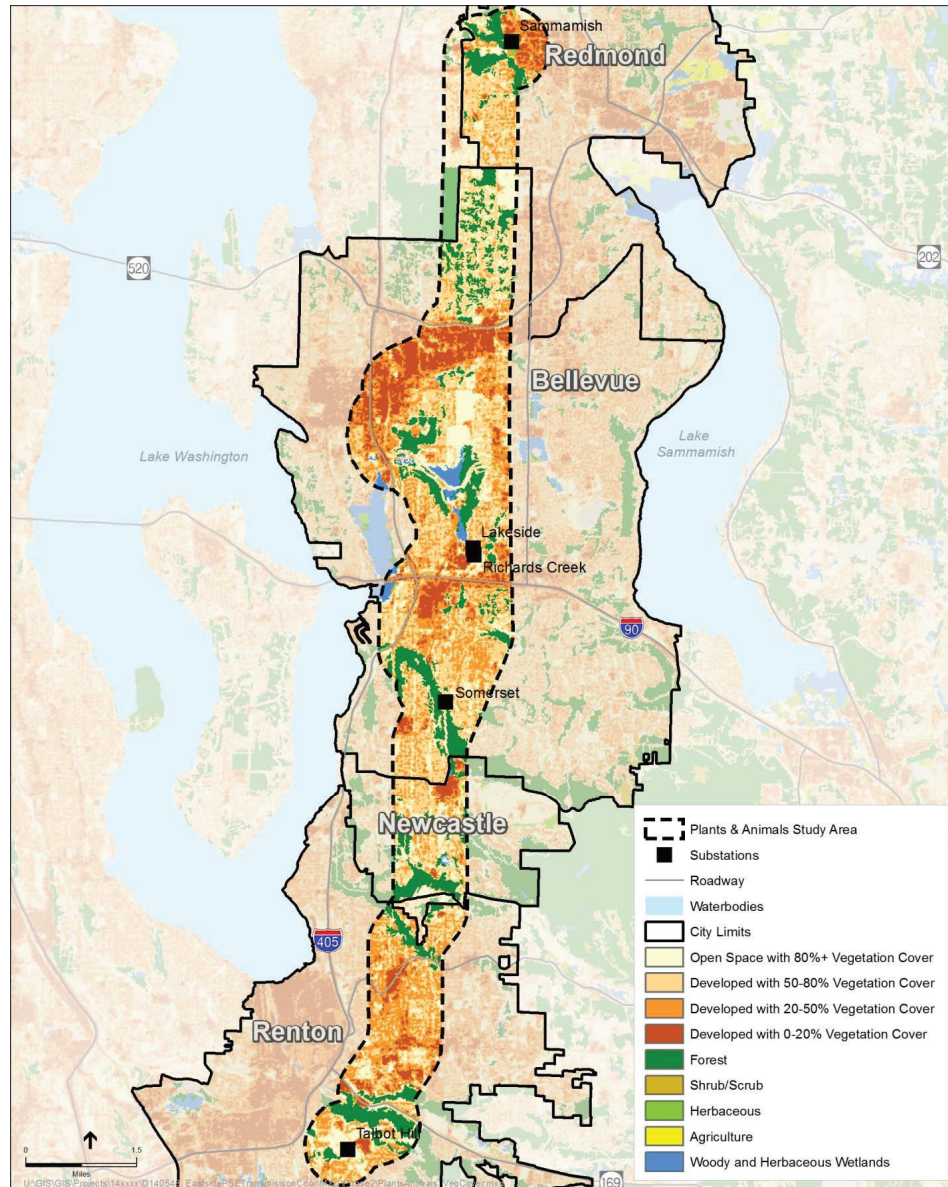
⁸ http://www.energizeeastsideeis.org/uploads/4/7/3/1/47314045/section_3.4_plants_and_animals.pdf page 33.

4. Conclusion

PSE's proposal for Renton would result in a 58% loss of trees, along with ground vegetation, principally in single family residential areas. Such losses are contrary to established city policy. The significant loss of trees valued for their natural features, habitat, shading and cooling cannot be justified under the circumstances. Mitigation for the loss of substantial tree canopy is not sufficient to off-set these losses. The use of alternatives such as energy storage would not require the extensive tree canopy removal. The loss of substantial numbers of significant trees, when combined with the overall environmental impact supports denial of this proposal under SEPA guidelines.

5. Appendix

Study area and land cover for plants and animals ⁹



Source: King County, 2015; Ecology, 2014.

Figure 2 Path of transmission line would impact areas with 50-80% vegetation cover, eliminating biomass important for CO₂ sequestration.

⁹ http://www.energizeeastsideis.org/uploads/4/7/3/1/47314045/section_3.4_plants_and_animals.pdf