Introduction

Noise is defined as sound that is perceived by humans as unpleasant or excessively loud. Loud noises may pose health concerns like hearing loss or sleep disturbances. Vibration occurs continuously, but usually at low levels that humans cannot feel. Vibration can become a problem when levels are strong enough to be noticed. Noise and vibration impacts can vary based on land uses. This fact sheet summarizes the potential impacts of the proposed project due to noise and vibration during construction and operation.

What was studied?

The study examined the volume of noise and vibration levels to determine the potential for annoyance to humans and damage to nearby structures from construction and operations of the proposed project. Noise sensitive receptors, like residences, recreation areas, hotels, schools, churches, libraries, and hospitals, were of particular interest when understanding the potential impacts of noise and vibration.

Sensitive receptors represent all land use activity categories where the Federal Transit Administration has established noise impact criteria for various types of noise sensitivity. Land use activity categories include residences, recreation areas, hotels, schools, churches, libraries, and hospitals.

What was the study area?

Noise Analysis

The area within approximately 1,500 feet of:

- Proposed project site
- Proposed wetland mitigation site
- Rail corridor (Anacortes Subdivision and Bellingham Subdivision to the Skagit/Snohomish county line)

Vibration Analysis

The area within 500 feet of:

- Proposed project site
- Proposed wetland mitigation site
- Rail corridor (Anacortes Subdivision and Bellingham Subdivision to the Skagit/Snohomish county line)

See the Proposed Project Fact Sheet for a map of the site.

How were impacts analyzed?

Existing noise levels were monitored at 11 locations spaced relatively evenly throughout the noise study area and near clusters of noise-sensitive receptors. Noise was measured in decibels (dB) (see Figure 3.9-5 of the draft EIS). The results of the noise monitoring were then compared to the expected noise levels during construction and operation of the proposed facility. Construction and operational vibration levels were calculated and compared to applicable thresholds for the proposed project.

Noise monitoring at the proposed project site

What are the potential impacts?

Construction Impacts

Construction of the proposed project and wetland mitigation sites would not exceed thresholds for noise impacts at any sensitive noise receptors; therefore, there would be no adverse noise impacts during construction. Also, construction activities at the proposed project and wetland mitigation sites would not exceed the thresholds for vibration that could result in structural damage to nearby buildings, or the thresholds for annoyance from vibration at nearby residences. Therefore, there would be no adverse vibration impacts during construction.

Operation Impacts

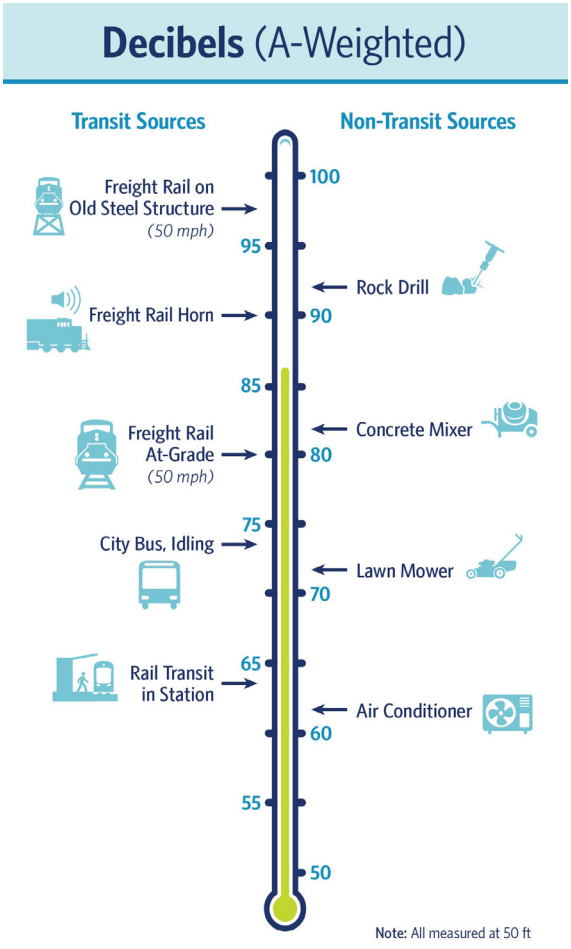
Operation of unit trains at the proposed project site would produce ground-borne vibration and noise; however, it would not exceed the thresholds for impacts. Operational noise from the unit trains along the rail corridor (Anacortes and Bellingham subdivisions) is predicted to result in moderate or severe impacts in residential areas within the study area.

The primary cause of these noise impacts would be the use of train horns at public at-grade crossings. Some 168 residential receptors are predicted to be impacted by noise that exceeds the moderate impact threshold; 44 would experience noise that

exceeds the severe impact threshold. Operation of unit trains would produce ground-borne vibration and noise along the Anacortes and Bellingham subdivisions. However, the levels produced would not exceed the thresholds for impacts.

Cumulative Impacts

The proposed project, combined with past, present, and reasonably foreseeable future actions, would result in a cumulative impact on noise levels. One identified reasonably foreseeable future action would add a total of 18 train trips per day to rail traffic on the Bellingham Subdivision. This action, combined with the proposed project, would add a total of 20 train trips per day, increasing the number of trains from 21 to 41. Primarily due to the increase in the frequency of train horns, this doubling of the train traffic would be expected to increase future noise levels on the Bellingham Subdivision by approximately 3 A-weighted decibels (dBA) relative to existing sound levels. For context, a 3 dBA increase is considered the minimum amount of change in sound level that is perceptible to humans.



Typical A-weighted (dBA) sound levels

What mitigation measures are proposed?

Avoidance and Minimization

Impacts from noise and vibration would be minimized by the implementation of the best management practices required as part of the Skagit County Grading Permit and the Shoreline Substantial Development Permit. For example, a complaint resolution procedure would be developed to rapidly address any noise issues that develop during construction.

Mitigation

Noise mitigation was evaluated to identify potential measures that could be implemented to reduce project-related operational noise along the rail corridor (Anacortes and Bellingham subdivisions). As described in Appendix D of the draft EIS, a number of specific measures were evaluated to mitigate operational noise, including establishment of Quiet Zones, installation of sound barriers, and a combination of both options.

The evaluation indicated that the most reasonable option would be the establishment of Quiet Zones. Skagit County Planning Department staff considered the possibility of implementing Quiet Zones at three at-grade crossings along the Anacortes Subdivision to mitigate for potential noise impacts. However, upon consultation with Skagit County Public Works Department staff, it was determined that the establishment and implementation of such Quiet Zones would not be feasible or recommended by the County Engineer.

Are there unavoidable significant adverse impacts?

All of the moderate and severe impacts along the Anacortes and Bellingham subdivisions would remain.

WHERE CAN I FIND MORE INFORMATION ABOUT THIS TOPIC?

Chapter 3.9 – Noise and Vibration of the draft EIS

The information in this fact sheet summarizes content from the draft Environmental Impact Statement; please review the full document for more detailed and complete information.

LEARN MORE shellraileis.com

To request ADA accommodation or materials in a format for the visually impaired, call Ecology at (360) 407-7668, Relay Service 711, or TTY (877) 833-6341. Si necesita información en español sobre el proyecto, por favor comuníquese con Gretchen Newman, (360) 407-6097, preguntas@ecy.wa.gov.