



Noise Fact Sheet

Transportation projects may be a source of noise in neighborhoods, both during construction activities and as a result of traffic associated with proximity to roads and highways. Noise is considered exposure to unwanted or disturbing sounds and sound levels.

Established regulatory procedures and requirements determine what analysis must be completed regarding noise for the I-5 Rose Quarter Improvement Project. The [Environmental Assessment](#) for the project focused on analyzing existing and future noise conditions and identified ways to minimize impacts in the project area.

Key Findings

- Existing noise levels in the project area exceed national standards. Noise levels are generally expected to worsen with or without the project as traffic volumes increase over time.
- Noise increases with the project would be less than sound levels detectable by the human ear. Small increases in noise levels would occur due to changes in traffic patterns resulting from improvements to the roadway network and shifts in roadway alignment.
- The project proposes two sound walls that would reduce noise around Lillis Albina Park, Harriet Tubman Middle School, and residential neighborhoods near I-5 in the project area.

Noise Analysis

The project has conducted preliminary noise analysis and will work to continue to investigate ways to mitigate increased noise levels.

Noise levels were modeled in the future both with and without the project (the build and no-build alternatives). Noise levels for the peak impact hour were modeled using traffic data for the year 2045.

Long-term noise level increases with the project would not be heard by the average human ear. Long-term noise levels with the project are predicted to increase by no more than 3 dBA in some locations along the corridor and in other locations would decrease by 1 dBA. For context, a 3 dBA increase in sound is barely perceptible to humans. Per the [ODOT Noise Manual](#), a 10 dBA increase over existing noise levels is required for a noise level increase to be considered a substantial impact. As an example, noise levels near Harriet Tubman Middle School and Lillis Albina Park are anticipated to increase slightly (1 dBA) - at a level not perceptible to the human ear.



Example sound wall. Sound walls reduce noise for neighborhoods, students, and businesses.

Long-Term Mitigation Measures

The Federal Highway Administration regulates noise levels by land use type, particularly for sensitive groups like children, and when noise levels are expected to be substantially higher than existing levels (Noise Abatement Criteria).

Sound walls reduce noise levels by reflecting sound back toward the source, directing it away from what is behind the wall. Based on the noise analysis in the Environmental Assessment, ODOT and the



I-5 ROSE QUARTER IMPROVEMENT PROJECT

Federal Highway Administration have committed to two sound walls, as listed below. The adjacent property owners will confirm whether they would like the sound walls constructed.

- A 22-foot-high and approximately 1,101-foot-long sound wall along the eastern edge of I-5 from about N Russell to N Flint.
- A 23-foot-high and approximately 1,715-foot-long sound wall along the eastern edge of I-5 between NE Weidler and south of NE Holladay.

With the sound walls, noise near the walls will be lower than it is today. The two sound walls proposed along the eastern edge of I-5 would reduce existing and future traffic noise levels in the project area, including at Harriet Tubman Middle School and Lillis Albina Park. With the proposed sound walls, there is a benefit of at least a 5 dBA reduction in noise. Further evaluation of these two noise walls will be made during the final phase of design, including a more detailed analysis of constructability, cost estimates, and public involvement in the process.

Short-Term Mitigation Measures

Some temporary, short-term noise impacts may occur during construction. The Environmental Assessment included mitigation measures to minimize construction noise impacts. Temporary noise during construction of the project will result from normal construction activities. These noise levels for these activities could range from approximately 70 to 100 dBA at sites fifty feet from the activities.

Typical Construction Equipment Noise (dBA)

Types of Equipment	Noise Levels at 50 Ft
Concrete mixers	75-87 dBA
Generators	71-82 dBA
Bulldozer	77-96 dBA
Dump Truck	82-94 dBA
Paver	86-88 dBA

Proposed noise wall locations with the Project



During construction, ODOT will require the construction contractor to minimize short-term noise impacts through the duration and timing of work and the type of equipment used. ODOT is also actively considering additional mitigation measures provided in the [Environmental Peer Review Report](#) to address short-term noise impacts.