

Next stop: quieter communities.

HIGHWAY SOUNDWALLS Fact Sheet

Metro's Highway Soundwall Program

In 1999, Metro inherited a nearly \$1 billion backlog of highway soundwall projects without corresponding funding. In 2000, the Metro Board of Directors adopted a policy for prioritizing, funding, and constructing these soundwalls. As of 2017, there are approximately 230 miles of freeways that are eligible for soundwalls and this list keeps growing. Metro continues to seek funding to build more soundwalls.

What is traffic noise?

Traffic noise is a combination of the noises produced by vehicle engines, exhaust and tires. The level of highway traffic noise depends on several things:

- > Traffic volumes – Roads with more vehicles are generally louder.
- > Traffic speeds – Traffic becomes louder with higher speeds.
- > The number of heavy trucks on the road.
- > Road conditions – Conditions, like a steep incline, can cause heavy laboring of vehicle engines.

Traffic noise levels can be reduced by distance, terrain, dense vegetation, natural and manmade obstacles.

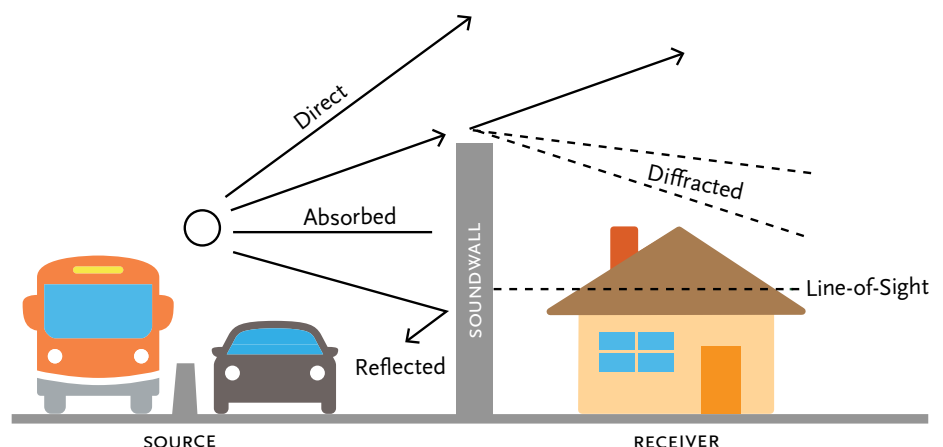
What is a soundwall?

Soundwalls are noise barriers built between a noise generator and a sensitive receptor, such as a residential community, in order to reduce the level of noise transmitted from the generator to the receptor. Along a freeway, soundwalls are typically constructed of solid materials, such as concrete, brick and masonry block, and typically constructed between 8-16 feet in height.

How do soundwalls work?

Soundwalls can be designed to absorb or reflect noise. The design is dependent on the topography and the location of homes or sensitive receptors within the area that qualifies for soundwalls. Soundwalls could be designed to reflect noise if the impact to the other side does not exceed the threshold for soundwall qualifications and/or there are no sensitive receptors. However, some soundwalls could be designed with absorptive materials when reflective soundwalls have noise impacts to the opposing side of the highway. Soundwalls must be tall enough and long enough to block the "line-of-sight" of the highway from the area that it is protecting.

A general rule, shown in the graphic below, is: "if you can see it, you can hear it." As such, soundwalls provide little benefit for homes on a hillside overlooking a highway.



How effective are soundwalls?

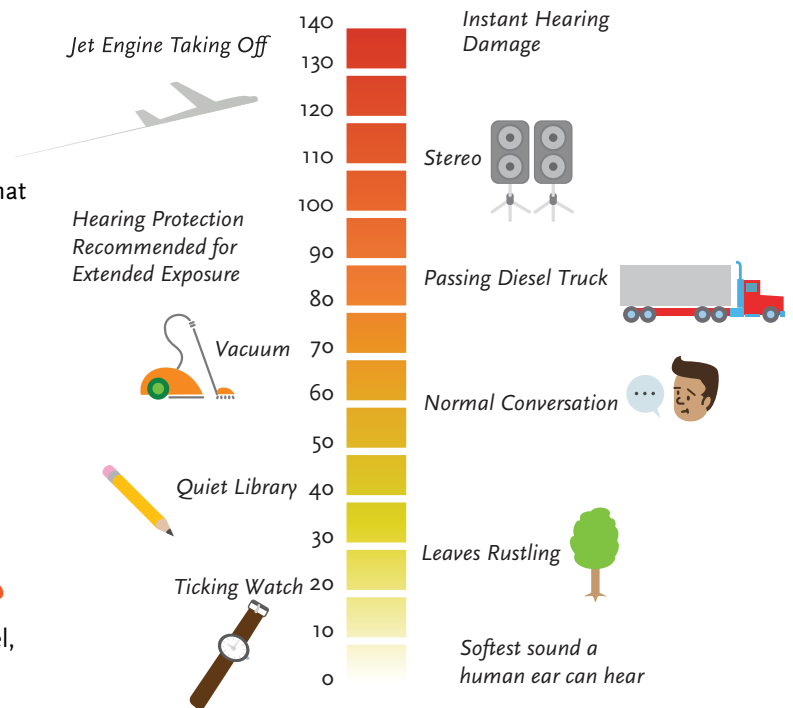
This depends on the distance between the receptor and the soundwall. For residents located adjacent to a soundwall, the perceived noise level could be cut in half. The benefit of a soundwall decreases as the listener moves away from the soundwall. Soundwall benefits are insignificant at distances greater than 500 feet away from the soundwall, typically where traffic noise is usually not a problem.

What is the criteria to warrant a soundwall?


- > The location is along residential property and/or schools that existed prior to the construction of a highway or proposed improvements of a highway.
- > The hourly noise levels at the location exceeds a 67-decibel threshold.
- > The soundwall will result in a minimum five-decibel noise reduction.
- > The soundwall cost is below “reasonable allowance” as calculated using established Caltrans criteria, which is currently \$170,000 per benefited dwelling.

Why was the impact level set at 67 decibels?

The 67-decibel threshold was chosen because above this level, conversations between two people standing next to each other, speaking in a normal voice, is impaired.



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