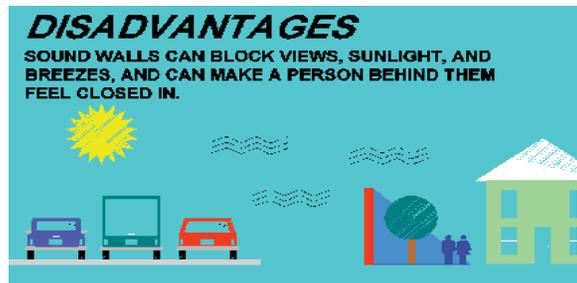
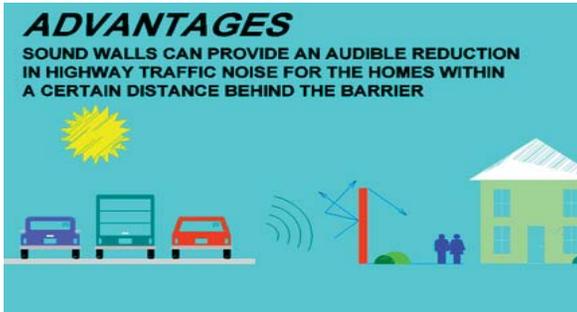


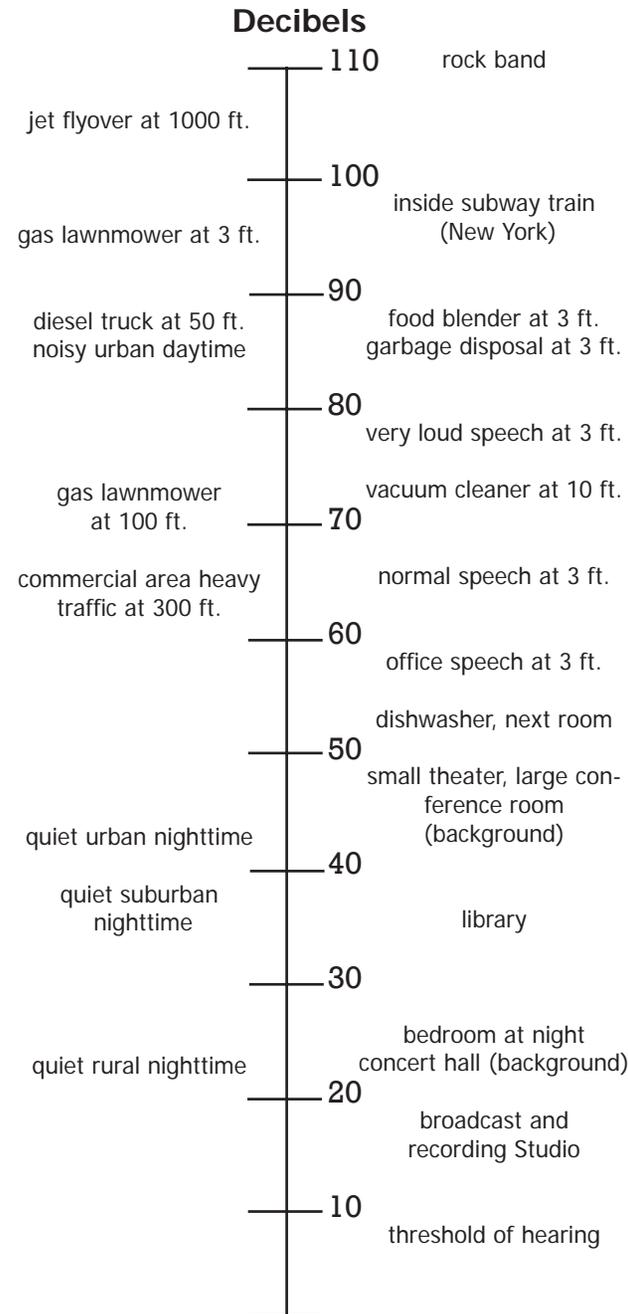
## Property Owner Approval

Those people who own property adjacent to the walls and who are benefitted will be asked to vote whether or not they desire the wall. The property owners will be given information about the general location, height and look of the wall. They may not desire a wall because walls can block light and air. A vote is taken. If a majority of the property owners want the wall, then the wall will be designed and constructed. If a majority of owners do not want the wall, then a wall will not be built.



### Common Outdoor Sound Levels

### Common Indoor Sound Levels



# Sound Walls



## A look at Why, When & Where



## WHY build sound walls?

Driving through large metropolitan areas such as Saint Louis or Kansas City, drivers may notice sound walls built along the highways. Sound walls were warranted in these areas. Warranting a sound wall usually has a lot to do with dense residential development next to highways with very high traffic volumes. Sound walls will not take away traffic noise but can help lessen it for those property owners adjacent to the highway in some cases.

Sound walls are not even considered until noise levels exceed 66 decibels for property owners next to a highway. At this noise level, it is difficult to hear normal speech. Effective sound walls can reduce noise levels by up to 10 to 15 decibels. The decibel scale is “exponential,” meaning a 10 to 15 decrease in decibels will cut loudness in half.

## WHEN is a study needed?

MoDOT noise policy is based on federal guidelines and regulations for determining where and when sound walls can be placed. Numerous criteria must be met for a sound wall to be installed. There are two types of sound wall projects.

A TYPE I project is triggered by a MoDOT road improvement where added lanes or a new highway will be constructed. Criteria that must be met to warrant installation of sound walls on Type I projects are listed below under Type I Sound Wall Criteria. **All** criteria must be met for a sound wall to be constructed. When all of the criteria are met, the walls can be funded as part of the highway project.

A TYPE II project is initiated and mostly funded by the local government. Numerous criteria must also be met in a Type II project for a wall to be installed. Type II projects must be funded at least 75 percent by the local government. MoDOT contributes up to 25 percent of the funding for walls costing \$30,000 or less per benefitted property owner. Criteria needed for Type II sound walls to be constructed are listed under the Type II Sound Wall Criteria.

### TYPE I Sound Wall Criteria (New lanes or new highway)

- The noise level must be 66 decibels or higher for residences closest to the highway.
- A sound wall must reduce the noise level by at least 5 decibels.
- A sound wall must benefit more than one property owner.
- A sound wall cannot have gaps in it for access because gaps allow noise to get through.
- A sound wall must have a feasible cost-benefit ratio.
- A sound wall cannot pose a traffic hazard.
- A sound wall cannot exceed 18 feet in height.
- A majority of the property owners who would benefit from a sound wall must vote in favor of the structure (one vote per property).

### TYPE II Sound Wall Criteria (Initiated and funded locally)

- The noise reduction must meet all of the new road construction criteria.
- A local government must request the project and show a commitment to carry it through to completion.
- The majority of the residents who benefit must agree that a sound wall is desired.
- Any required adjustment to the existing highway will be considered part of the cost of the project.
- The local government agency must provide 75 percent of the design and construction cost.
- MoDOT will provide the 25 percent matching funds.  
If the construction of the sound wall project exceeds \$30,000 per benefitted property owner, the local government must pay 100 percent of the cost above \$30,000.
- Although not required, MoDOT and the local government agency will work with the Ozarks Transportation Organization for inclusion in MoDOT's 5-Year Statewide Transportation Improvement Program (STIP).
- If the project does not qualify as a cooperative project, the sound wall may still be built on MoDOT property if funded entirely by the local government.

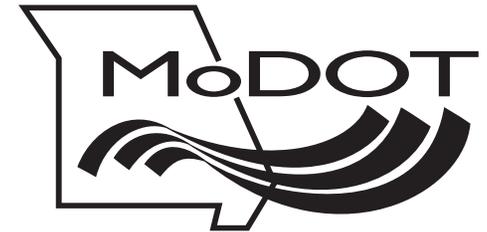
## Where Sound Walls Are Located

MoDOT's first choice is to locate sound walls about five feet inside of the public right-of-way. Placing the wall a few feet inside the MoDOT property allows room for installation, maintenance and drainage. This location works to block noise in instances where adjacent residences are nearly level with or higher than the roadway.

However, when residences are lower than the roadway, the sound walls need to be closer to the roadway to be effective. Sound travels similar to a line of sight. Sound walls can be a maximum height of 18 feet. In some cases due to the height restriction and the lay of the land, homeowners may still see the traffic and the noise levels may still seem loud. No system will completely remove the noise.

Whether a sound wall should be located at the MoDOT property line or closer to the road depends on where it would be most effective in blocking the noise. The location and height of the wall is determined in the same study that determines when walls are warranted.

Sound barriers such as earth mounds can be attractive but require a wide area of land. Trees can give the perception of noise reduction, but foliage is not an effective sound barrier until it is 100 feet or more wide. For these reasons, vertical walls are most often the only cost effective option for reducing noise.



For more information:  
417-895-7600 or 1-888-275-6636 (ASK MoDOT)  
[www.modot.org/springfield](http://www.modot.org/springfield)