

NOISE EVALUATION

Roadway projects must follow state and federal guidelines for evaluating traffic noise.

Noise abatement in the form of a noise barrier, also known as a sound wall, can reduce impacts for receivers near the roadway.

Any proposed noise barrier must be studied to determine if it meets certain criteria.

✗ A noise barrier is **not** built if the **criteria are not met**

✓ A noise barrier can be built if the **criteria are met**

Follow along → **to understand the process.**

ILLUSTRATIONS ARE NOT TO SCALE.

START

Determine Receivers

Are there **noise sensitive land uses** along the corridor?

Buildings and obstructions closer to the roadway may cut down on noise levels for properties farther away

State guidelines give primary consideration to receivers closest to the roadway

No noise sensitive land uses are identified along the corridor; **noise barrier is not proposed**

Determine Receiver Activity Category

What is the **primary use of the specified property?**

Each category has noise guidelines specific to its use, known as Noise Abatement Criteria (NAC).



Necessary Serenity and Quiet



Residential



Public Outdoor Areas



Public Indoor Areas



Businesses



Industrial, Agricultural, Airports, Etc.
(Noise barrier not permitted)



Undeveloped Lands
(Noise barrier not permitted)

Noise barrier is considered based on land use NAC

Noise barrier is **not permitted** based on land use NAC

Measure Impact to Receivers

Is there a **noise level increase for receivers**?

Is the impact absolute, relative, or both?

Analysis is done using traffic counts and future projections.

Absolute Impact?

Receiver's predicted noise level approaches, equals or exceeds NAC.

"No" for both means a noise barrier is **not permitted**

Relative Impact?

Receiver's predicted noise level exceeds existing noise levels by 10 decibels or more.

Evaluate Noise Barrier Feasibility

Can a noise barrier **adequately reduce the noise decibel level, or dB(A)?**

Blocking the line of sight between the source and receptor usually provides a **5 dB(A)** noise reduction

No Benefit Noise Reduction Scale Greatest Benefit

Receivers **300-500 ft.** away or more from the roadway would not see noise reduction even with the presence of a noise barrier



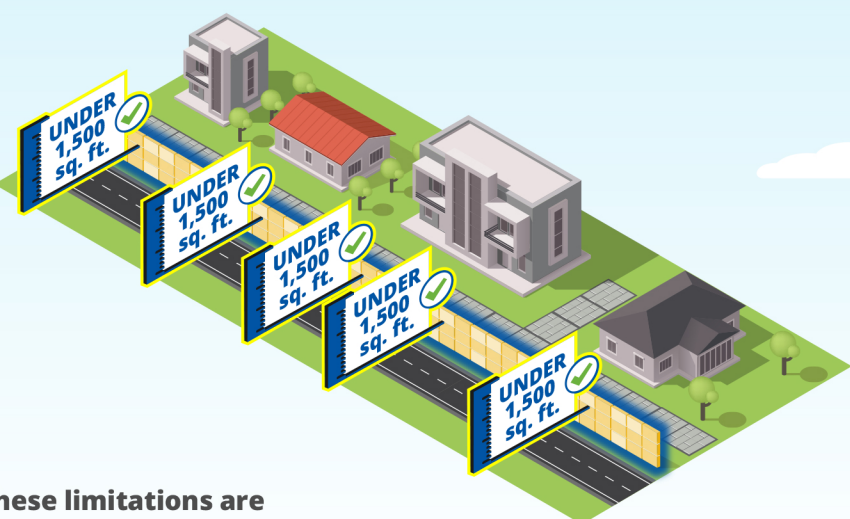
Reduce the noise level by at least **5 dB(A)** ...

... for more than 50% of impacted first-row receivers

Considered walls do **not** meet criteria, noise barrier is **not permitted**

Evaluate Abatement Reasonableness

Can receivers **get the minimum noise level reduction** within the **Standard Barrier Cost** limitations?



These limitations are imposed by state and federal guidelines to ensure fairness.

Standard Barrier Cost limitations are met:

The size of the needed noise barrier does not exceed **1,500 sq. ft.** for each receiver benefited* ...

... and least one impacted first-row receiver benefits from a **7 dB(A)** reduction

*If construction costs are believed to be unreasonably high, an **Alternate Barrier Cost** analysis may be performed. To learn about **Alternate Barrier Cost**, view the Noise Policy on TxDOT's website.

Considered walls do **not** meet criteria, noise barrier is **not permitted**

Acquire Consensus

Do more than **50% of owners/residents** in the first row of properties agree to the construction of a noise barrier?

A majority vote determines whether a noise barrier is built.

Noise barrier is built

If a noise barrier is justified, affected property owners and residents will be given a voice during subsequent noise barrier workshops.

Consensus is not reached, noise barrier is **not built**

For the complete set of FHWA rules and regulations regarding noise barrier, please visit [fhwa.dot.gov/environment/noise/noise_barriers/](https://www.fhwa.dot.gov/environment/noise/noise_barriers/)