Central Ave & Parsons Rd Improvements

# Traffic Noise Mitigation

Our Path to Progress
Dorchester County Transportation Sales Tax Program

## Why Evaluate Traffic Noise?

The Central Avenue and Parsons Road Widening Projects are administered by Dorchester County and are not currently federally funded. The traffic noise analysis follows FHWA and SCDOT standards to be consistent with state and national guidelines should federal reimbursement be awarded in the future.

Roadway improvements can affect traffic volumes, speeds, and truck activity, which may change traffic noise levels near surrounding properties.

Traffic noise studies are performed to:

- Identify potential noise impacts to homes, parks, schools, and other noise sensitive land uses
- Provide a consistent and standardized evaluation process
- Inform project planning and design decisions

FHWA traffic noise procedures are the recognized national standard for evaluating roadway noise.

## Noise Standards Applied to this Project

The following standards and tools were applied:

- *FHWA Traffic Noise Regulation (23 CFR 772)*
- *SCDOT Traffic Noise Abatement Guidance*
- *FHWA Traffic Noise Model (TNM) Version 2.5*

These standards define how noise impacts are identified and how mitigation is evaluated.

## How is Traffic Noise Evaluated?

Traffic noise analysis follows a standardized process.

### 1 MONITOR
Existing Conditions

- Identify nearby noise-sensitive locations (homes, parks, schools)
- Collect traffic data and representative noise measurements along the project corridor

### 2 MODEL
Noise Change

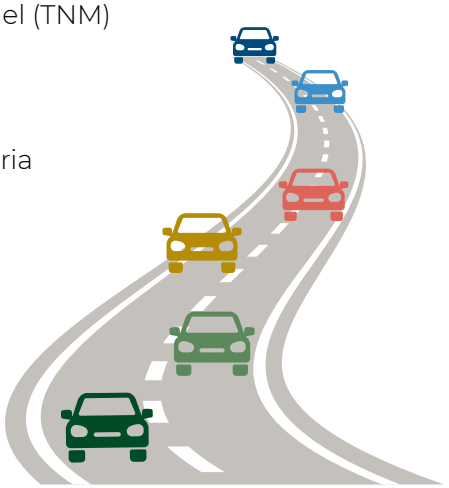
- Develop an FHWA Traffic Noise Model (TNM) to represent existing roadway conditions
- Validate the model by comparing predicted noise levels to measured noise levels
- Update the TNM model to reflect future traffic conditions with the proposed project
- Predict future noise levels using FHWA's Traffic Noise Model (TNM)

### 3 IDENTIFY
Noise Impacts

- Compare predicted levels to established FHWA noise criteria
- Determine whether a traffic noise impact occurs

### 4 CONSIDER
Noise Reduction Measures

- Evaluate potential noise mitigation (noise barriers)
- Document findings and share results with the public



## Understanding Noise Impacts – What is a Traffic Noise Impact?

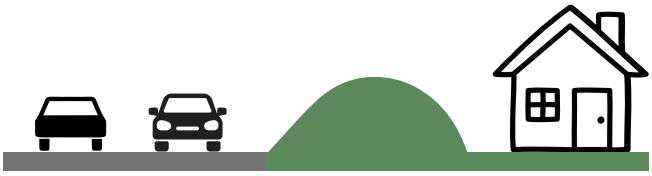
A traffic noise "impact" does not mean a violation or unsafe condition. It identifies locations where noise reduction measures may be considered under national guidelines.

A traffic noise impact can occur when:

- Predicted future noise levels approach or exceed established criteria, or
- Noise levels substantially increase due to the project (SCDOT requires an increase of 15 dB(A))

## Potential Mitigation Measures

### EARTH BERM EXAMPLE



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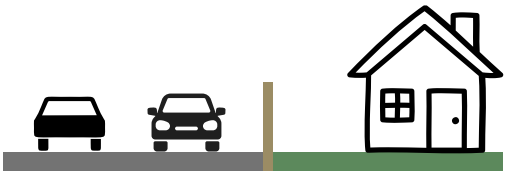
### NOISE BARRIER EXAMPLE



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## How Noise Mitigation is Considered?

Factors that determine when Noise Mitigation Measures can be implemented:

- **Feasibility** - Noise walls must be:
  - Acoustically feasible (SCDOT requires a noise reduction of at least 5 dB(A) for at least 3 impacted receptors to be acoustically feasible)
  - Constructible – walls must be feasible from an engineering perspective

- **Reasonableness** – Noise walls must also be:
  - Reasonable in cost and benefit (SCDOT requires noise walls to achieve a noise reduction of 7 dB(A) for one or more benefitted receptors)
  - Supported by affected residents
    - Affected property owners and residents are given the opportunity to vote once walls are deemed feasible

**Federal standards do not allow mitigation of existing noise alone.*

## What This Means for This Project

✓ Traffic noise was evaluated for future conditions
✓ Noise-sensitive areas were identified and analyzed
✓ Potential noise impacts were assessed using FHWA/SCDOT criteria
✓ Noise mitigation in the form of noise walls were evaluated consistent with those standards

**Not all locations analyzed will qualify for noise walls. Eligibility depends on meeting feasibility and reasonableness criteria defined by FHWA and SCDOT.*

## What Comes Next?

A final decision regarding the installation of noise mitigation measures will be made upon completion of the project design and the ongoing public involvement process. Opportunities for public input will continue as design progresses, and final noise wall decisions will be communicated to affected residents.