



ROUTE 7 CORRIDOR  
IMPROVEMENTS



[www.connectroute7.org](http://www.connectroute7.org)

# Understanding the Noise Displays

## MODELED RECEPTORS



Not Impacted,  
Not Benefited



Benefited,  
Not Impacted



Impacted and  
Benefited



Impacted,  
Not Benefited

## What is a Receptor?

A discrete or representative location of a noise sensitive area(s), for any of the land uses listed in Table 1 of the Federal Noise Regulations. (23 CFR Part 772); typical receptors for this project include residential yards, parks, schoolyards, cemeteries, etc.. A single residential home with a backyard is typically one receptor.

## What is considered Impacted?

For residential areas to be considered impacted, and therefore warrant noise abatement evaluation, the property must experience either of the following conditions: projected 2040 design year traffic noise levels should be 66 dB(A) or greater, or projected 2040 traffic noise levels should be greater than existing noise level by 10 dB(A) or more.

**Benefited** receptors will receive at least 5 dB(A) of reduction in noise from constructed noise walls, while not exceeding the "reasonable" factor in noise abatement design goals.

## POTENTIAL BARRIERS



Feasible and  
Reasonable



Feasible,  
Not Reasonable



Not Feasible



Existing Barrier  
Location

## What does Feasible mean?

The proposed noise wall must reduce anticipated noise by 5 dB(A) or more for at least 50% of the impacted receptors.

In addition, the noise wall must also be able to be physically constructed and maintained based on site conditions, topography, location of utilities, drainage facilities, and accessibility.

## What does Reasonable mean?

A noise wall is considered reasonable if the total surface area of a proposed wall is less than or equal to 1600 square feet per benefited receptor.

At least one of the impacted receptors must obtain a noise reduction of 7 dB(A) from the proposed noise wall based on 2040 design year noise levels as projected in the computer noise model.

50% of the benefited receptors, who respond to a vote request, must vote in favor of the noise wall construction. Please note that in some cases partial noise walls may be constructed depending on the outcome of the democratic vote.

For more information on VDOT's noise abatement policy, please visit the following website:  
<http://www.virginiadot.org/projects/pr-noise-walls-about.asp>

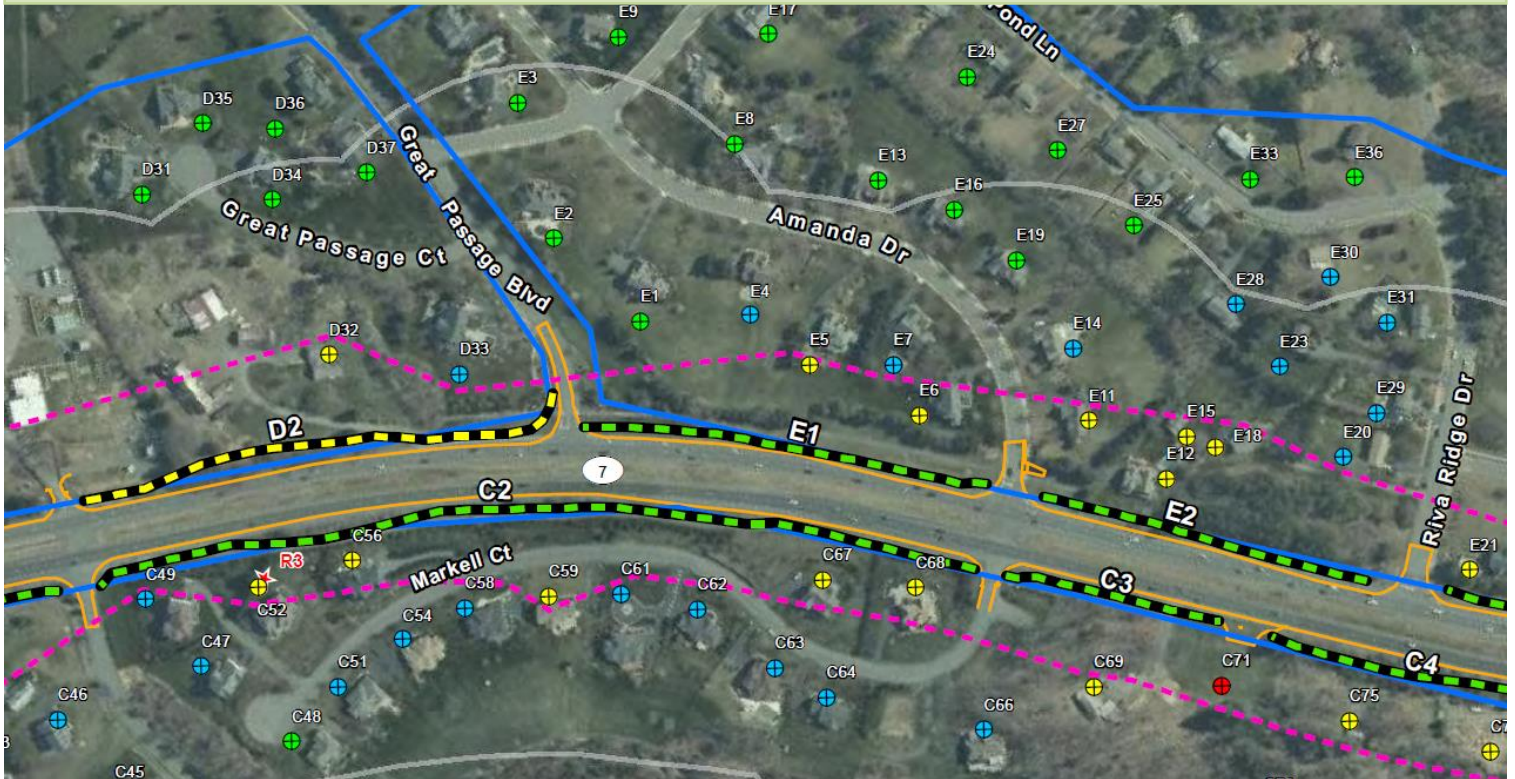


# ROUTE 7 CORRIDOR IMPROVEMENTS



[www.connectroute7.org](http://www.connectroute7.org)

# Understanding the Noise Displays



Monitoring Site



Design Edge of Pavement



66 dB(A) Contour



Common Noise Environment (CNE) Boundary



500 ft Boundary from Edge of Pavement (EOP)

## What is a Monitoring Site?

Monitoring sites are used to measure existing noise levels in order to validate the noise computer model.

## What is the significance of 66 dB(A)?

66 dB(A) is the noise level at which abatement consideration is warranted for residential areas, schools, places of worship, cemetery, parks. The noise level equivalent to 66 dB(A) is the loudness in which two people can hold a conversation standing at 3 feet apart without needing to raise their voices.

## What is the Common Noise Environment (CNE) Boundary?

A CNE is a group of receptors that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features. Generally, common noise environments occur between two secondary noise sources, such as interchanges, intersections, or cross-roads.

For more information on VDOT's noise abatement policy, please visit the following website:  
<http://www.virginiadot.org/projects/pr-noise-walls-about.asp>