

Georgia State-Funded Projects: Historic Property Noise Policy

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The policy for the assessment of highway traffic noise and its effects on historic properties for state-funded projects was developed to guide historians through the process of evaluating project types that are noise generating and, of those projects, which should be considered to have effects to historic properties. The guidance will assist historians with calculating project-related highway traffic noise and its effects on historic properties for the State-Funded Program, the parameters of which will be used in the Assessment of Effects (AOE) document for historic properties identified under both Section 106 for federally permitted projects and State-Funded projects when there is no federal nexus. This guidance was developed with the assistance of the Department's Noise Subject Matter Experts (SMEs).

State-Funded Projects with a Federal Action

For historic properties located within federal jurisdiction (i.e. the USACE, FTA, etc.), 36 CFR Part 800 will apply. These considerations include "Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features... [36 CFR 800.5 (v)]". Noise effects must be considered for all eligible historic properties in any federally permitted action.

State-Funded Projects without a Federal Action

For historic properties subject to Georgia Code Section 12-16-2 (Environmental Policy Act of 2006 referenced in SB 346) audible effects will be taken into consideration when adverse effects are likely given the project type (as defined in Appendix A). The effects of highway traffic noise can diminish the viability of an eligible historic property's use. The thresholds for noise tolerance for State-Funded projects were guided by the Noise Control Act (1972).

Project Types and Calculating their Audible Effects

As defined in Appendix A (attached), for the purpose of assessing the effects of highway traffic noise to eligible historic properties, State-Funded transportation projects are categorized based on their potential to affect the existing noise environment. Some projects do not warrant noise analyses, such as resurfacings, traffic signal upgrades and other such actions designated as Type (B) projects (see Appendix A). These projects are expected to have no impact to the existing noise environment and therefore will not be evaluated for their potential to cause noise impacts. However, projects that widen or substantially alter the alignment of an existing roadway such as new location and major reconstruction projects, new interchange projects, and other projects designated as Type (A) projects (see Appendix A), will be assessed for their potential to cause adverse audible effects to eligible historic properties.

Type (A) Projects

These projects, as detailed in Appendix A, require further analyses to determine if the project has the potential for effects, based on project type. In order to assess effects to eligible historic properties for

Type (A) projects, the historian should use the Noise Calculation Table (Appendix B). This table includes the number of lanes to be added + hourly traffic (current and projected) + speed (current and projected) + distance of historic property from edge of pavement (existing and proposed).

Type (A) Projects Resulting in an Adverse Effect

A Type (A) project will result in an “Adverse Effect” if the noise level increases fifteen or more decibels total over existing conditions or five or more decibels over 67 dBA LEQ. If the project of concern is classified as a Type (A) project and results in a finding of “Adverse Effects” due to a noise level increase of fifteen-decibels or more, the following language should be used in the AOE:

“Project implementation would audibly affect the [name of property], and this effect would be adverse. The existing noise level at this property is estimated to be (from the lookup table; # of lanes+ hourly traffic+ speed+ distant of property from edge of pavement) ___ dBA LEQ. The no build noise is estimated to be ___ dBA LEQ (existing conditions + projected traffic for the design year). The build noise level at this resource is estimated to be (from the lookup table; # of lanes+ design year hourly traffic+ speed+ distant of resource from edge of pavement) ___ dBA LEQ. This fifteen-decibel increase would occur over twenty years and would be noticeably perceptible to the human ear. This fifteen-decibel increase is considered to be substantial. Therefore, project implementation would result in an adverse audible impact to the (name of property).

OR

If the noise level increase extends five-decibels over the 67 dBA LEQ threshold for residential and commercial properties the following language should be used in the AOE:

“Project implementation would audibly affect the [name of property], and this effect would be adverse. The existing noise level at this property is estimated to be (from the lookup table; # of lanes+ hourly traffic+ speed+ distant of property from edge of pavement) ___ dBA LEQ. The no build noise is estimated to be ___ dBA LEQ (existing conditions + projected traffic for the design year). The build noise level at this resource is estimated to be (from the lookup table; # of lanes+ design year hourly traffic+ speed+ distant of resource from edge of pavement) ___ dBA LEQ. This five-decibel increase would occur over twenty years and would be noticeably perceptible to the human ear. This five-decibel increase, although not substantial, extends over the substantial noise increase of 67 dBA LEQ for residential/commercial properties. Therefore, project implementation would result in an adverse audible impact to the (name of property).”

Type (A) Projects Resulting in a No Adverse Effect

A Type (A) project will result in a “No Adverse Effect” if the noise level increases fourteen or less decibels over existing conditions or less than five-decibels over 67 dBA LEQ. If the project of concern is

classified as a Type (A) project and results in a finding of “No Adverse Effects” due to a noise level increase of fourteen decibels or less, the following language should be used in the AOE:

“Project implementation would result in an increase in noise at [name of property]; however, this effect would not be adverse. The existing noise level at this property is estimated to be (from the lookup table; # of lanes+ hourly traffic+ speed+ distant of property from edge of pavement) ___ dBA LEQ. The no build noise is estimated to be ___ dBA LEQ (existing conditions + projected traffic for the design year). The build noise level at this resource is estimated to be (from the lookup table; # of lanes+ design year hourly traffic+ speed+ distant of resource from edge of pavement) ___ dBA LEQ. This ___-decibel increase would occur over twenty years and would not be noticeably perceptible to the human ear. This ___-decibel increase would not be considered substantial. Therefore, project implementation would result in a no adverse audible impact to the (name of property).

OR

If the noise level increase extends less than five-decibels over the 67 dBA LEQ threshold for residential and commercial properties the following language should be used in the AOE:

“Project implementation would result in an increase in noise at [name of property]; however, this effect would not be adverse. The existing noise level at this property is estimated to be (from the lookup table; # of lanes+ hourly traffic+ speed+ distant of property from edge of pavement) ___ dBA LEQ. The no build noise is estimated to be ___ dBA LEQ (existing conditions + projected traffic for the design year). The build noise level at this resource is estimated to be (from the lookup table; # of lanes+ design year hourly traffic+ speed+ distant of resource from edge of pavement) ___ dBA LEQ. This ___-decibel increase would occur over twenty years and would not be noticeably perceptible to the human ear. Although this ___-decibel increase extends over the substantial noise increase of 67 dBA LEQ for residential/commercial properties, the increase would not be substantial. Therefore, project implementation would result in a no adverse audible impact to the (name of property).”

Type (B) Projects

Type (B) Projects (No Audible Effects) – These projects, as detailed in Appendix A, do not require further analyses to determine if the project has the potential for Adverse Audible Effects, based on project type.

A Type (B) will result in a “No Effect” finding for the AOE. The following language should be used in the AOE:

“Project implementation would not result in the introduction of audible elements that diminish the integrity of the properties’ significant historic characteristics or features. The proposed project is not noise generating as determined in consultation with GDOT Noise SMEs; therefore, consideration of audible effects is not required.”

If an AOE is not required for a Type (B) project, then consideration of audible effects for properties is not required based upon the expectation for the project to not affect the existing noise environment.

Mitigation for Adverse Effects

Where increased traffic noise results in an adverse effect, noise abatement in the form of noise barriers will not be recommended. Other mitigation such as historic narratives, brochures, etc. can be considered depending on the effect and the property on a case-by-case basis.

Appendix A:
Definitions and Projects Types

Definitions

Design Year: The future year used to estimate the probable traffic volume for which a highway is designed. (*Georgia highways are typically designed to function for 20 years beyond the year a project is opened to traffic.*)

Existing Noise Levels: The worst noise hour resulting from the combination of natural and mechanical sources and human activity usually present in a particular area.

Leq: The equivalent steady-state sound level for a stated period of time that contains the same acoustic energy as the time-varying sound level during the same time period, with $Leq(h)$ being the hourly value of Leq .

Receptor: A discrete or representative location of a noise sensitive area, for any of the land uses listed in Table 1.

Substantial noise increase: One of two types of highway traffic noise impacts. For a Type (A) project, an increase in noise level of 15 dB(A) in the design year over the existing noise level is considered substantial.

PROJECT TYPES

Type (A) Project:

- (1) The construction of a highway on new location; or,
- (2) The physical alteration of an existing highway where there is either:
 - (i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,
 - (ii) Substantial Vertical Alteration. A project that removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway, raising a bridge height by more than 5 feet, or by altering the topography between the highway traffic noise source and the receptor; or,
- (3) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a (high occupancy vehicle (HOV) lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,
- (4) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
- (5) The addition of a new weigh station.

Type (B) Project:

State-aid highway projects that do not meet the classifications of a Type (A) project. Type (B) projects do not require the preparation of a noise study or of highway noise impact. Type (B) projects include, but are not limited to, the following:

- (1) Bridge Replacements with no horizontal or vertical alignment/elevation shifts of changes

- (2) Bridge Maintenance/Rehab
- (3) Road Maintenance (resurfacing, pavement markers, etc.)
- (4) Signage Projects
- (5) Addition of right-turn lanes
- (6) Lighting projects
- (7) ITMS projects