CONNECTICUT DEPARTMENT OF TRANSPORTATION

HIGHWAY TRAFFIC NOISE ABATEMENT

POLICY FOR PROJECTS FUNDED BY THE FEDERAL HIGHWAY ADMINISTRATION

October 2022

Bureau Chief

Connecticut Department of Transportation

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DEFINITIONS

Auxiliary Lane – The portion of the roadway adjoining the travel lanes used for speed change, turning, weaving, truck climbing, maneuvering or entering and leaving traffic and other purposes supplementary to through-traffic movement. An auxiliary lane facilitates the operations of the highway and is not intended to increase road capacity. Examples include any lanes that connect the on-ramp of one interchange with the off-ramp of the next interchange, truck climbing lanes, passing lanes, and acceleration and deceleration lanes.

Benefited Receptor – All receptors, both impacted and non-impacted, that receive a noise level reduction of 5 dB(A) or more through construction of a Noise Abatement Measure (as defined herein).

Build Condition – The proposed roadway configuration in the Design Year (as defined herein).

CEPA – The Connecticut Environmental Policy Act as codified in Sections 22a-1a through 22a-1h of the Connecticut General Statutes.

Common Noise Environment (CNE) – A group of receptors within the same Activity Category in Table 1 in 23 CFR 772 - Noise Abatement Criteria (NAC) 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.

Cost Effectiveness Index (CEI) – An index used to determine the reasonableness of noise barriers based on the cost and the number of Benefited Receptors protected.

CTDOT – The State of Connecticut Department of Transportation.

Date of Public Knowledge – For Federally-Funded Projects, the approval date of the Categorical Exclusion (CE), Finding of No Significant Impact (FONSI), or Record of Decision (ROD), as defined in 23 Code of Federal Regulations (CFR) Part 771. For State-funded projects, evaluated in accordance with Sections 22a-1a through 22a-1h of the Connecticut General Statutes, the date that the post-scoping notice is published in the *Environmental Monitor* shall be used as the Date of Public Knowledge. The Date of Public Knowledge is not affected by a NEPA reevaluation or the preparation of a Supplemental environmental document.

dB(A) – A-weighted decibel unit that is used to measure noise that best corresponds to the frequency response of the human ear.

Decibel (dB) – The logarithmic unit of the ratio of sound pressure to a reference pressure squared, also expressed as a measure of relative acoustic energy. The unit for the measure of loudness.

Design Year – The future year used to estimate the probable traffic volume for which a highway is designed.

Environmental Document – For Federally-Funded Projects, a report documenting the determination of the NEPA Class of Action for a project. Each Federal project will have one of the following Classes of Action: (1) Environmental Impact Statement (EIS) and ROD for projects which pose significant environmental impacts, (2) CE for projects which do not pose significant impacts, or (3) Environmental Assessment (EA) for projects where the level of impacts are initially uncertain. If impacts are determined not to require the preparation of an EIS, the decision is

documented by a FONSI. The NEPA Decision Date is the date that the Lead Federal Agency, or their lawfully Delegated Authority, approves the CE, FONSI, or ROD. Changes in project scope or limits, as well as new information relating to the project or project study area, may require a NEPA Reevaluation of the environmental documents. Substantial changes to the project may require the preparation of a Supplemental NEPA environmental document.

Environmental Monitor – Electronic publication maintained and published by the Connecticut Council on Environmental Quality in accordance with Section 22a-1b of the Connecticut General Statutes.

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

Feasibility – The combination of acoustical and engineering factors considered in the evaluation of a Noise Abatement Measure. Feasibility generally involves considering whether it is possible to provide noise abatement given the site constraints and whether the Noise Abatement Measure provides a reduction in noise levels.

FHWA – The Federal Highway Administration.

Impacted Receptor – Any receptor at which sound levels approach (within 1 dB(A)) or exceed the Noise Abatement Criteria for the corresponding land use category, or which is predicted to experience a Substantial Nosie Increase (as defined herein).

Insertion Loss – The amount of noise reduction achieved by a Noise Abatement Measure at each receptor.

Leq – Sound exposure level over some time period normalized by that time.

Leq(h) – The hourly value of Leq.

Likelihood – The act or state of something being probable.

Multifamily Dwelling - A residential structure containing more than one residence. Each residence in a multifamily dwelling shall be counted as one receptor when determining impacted and benefited receptors.

NEPA – The National Environmental Policy Act of 1969. 42 USC §§ 4321 *et seq*.

No Build Condition – Modeling Design Year traffic volumes using the existing roadway configuration.

Noise Analysis Area –A 500-feet radius of the project limits. If noise modeling indicates noise impacts beyond the 500-feet radius, the noise analysis area should be expanded to a point where the Design Year noise levels do not approach or exceed the NAC as a result of the project. If the CNE extends past the linear termini of the project, this may impact your noise analysis area, contact the CTDOT Office of Environmental Planning (OEP) for additional guidance.

Noise Abatement Criteria (NAC) - The thresholds set by the FHWA which are used to determine noise impact at various land use activity categories.

Noise Abatement Measure - Any FHWA-approved method used to mitigate or reduce highway traffic noise levels, such as noise barriers and earthen berms.

Noise Contour - A linear representation of equal noise levels, like elevation contour lines on a topographic map.

Noise Reduction Design Goal (NRDG)- The optimum desired dB(A) noise reduction determined from calculating the difference between Build Condition noise levels with abatement, to Build Condition noise levels without abatement. In accordance with 23 CFR 772.13(d)(2)(iii), the CTDOT defines a noise reduction design goal of 7 dB(A) for a minimum of two-thirds of the Benefitted Receptors.

Permitted – A definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit.

Reasonableness - The combination of social, economic, and environmental factors considered in the evaluation of a Noise Abatement Measure.

Receptor - A discrete or representative location of a CNE, for any of the land uses listed in Table 1 in 23 CFR 772 - Noise Abatement Criteria.

Residence - A dwelling unit, including a single-family residence or each dwelling unit in a multifamily dwelling.

Substantial Noise Increase – In accordance with 23 CFR 772.11(f), for highway project traffic noise impacts, an increase in noise levels of 15 dB(A) or greater in the Design Year over the existing noise levels.

Worst Noise Hour - The hour within a day in which the highest magnitude hourly equivalent sound level occurs, which is typically when traffic is flowing freely at a high volume relative to the peak traffic hour volume.

INTRODUCTION

This document sets forth CTDOT's Policy for highway traffic noise, construction noise and implements the requirements of the FHWAs noise regulations in 23 CFR Part 772 for highway construction projects in Connecticut (Policy).

PURPOSE

The purpose of this Policy is to provide procedures for CTDOT and its consultants to equitably evaluate traffic noise impacts and Noise Abatement Measures to help protect the public's health, welfare and livability, to supply Noise Abatement Criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways approved pursuant to U.S. Code: Title 23.

APPLICABILITY

This Policy applies to any highway project with a Date of Public Knowledge on or after the effective date of this Policy that is funded with Federal-aid highway funds or requires FHWA approval, regardless of the funding source. Any such project with an approved NEPA decision date prior to the effective date of this Policy shall continue to be governed by the Policy in effect as of that date. This Policy applies only to developed land and undeveloped land for which development is permitted before the Date of Public Knowledge. The date for determining when

undeveloped land is permitted for development is the issuance of a building permit by the appropriate governing entity. In accordance with 23 CFR 772.11(c)(2)(vii)(C), Federal and State governments are not responsible for providing Noise Abatement Measures for undeveloped lands that are not permitted for development by the Date of Public Knowledge.

This Policy also applies to all State-funded projects that require Public Scoping or an EIE under CEPA as identified in the CTDOT Environmental Classification Document (ECD). Therefore, if a project requires Public Scoping in accordance with provisions under Conn. Gen. Stat. § 22a-1b and involves activities consistent with a Type I project as defined by this Policy, then the project will be evaluated pursuant to the procedures of this Policy.

The highway traffic noise prediction requirements, noise analyses, Noise Abatement Criteria, and requirements for informing local officials in 23 CFR 772, as amended, and this Policy constitute the noise standards mandated by 23 U.S.C. 109(1). This Policy was developed to be consistent with the FHWA noise regulations. All highway projects which are developed in conformance with this Policy shall be deemed to be in accordance with the FHWA noise regulations.

FEDERALLY FUNDED PROJECTS

A Type I Project is defined as:

1) The construction of a highway on new location; or,
2) The physical alteration of an existing highway where there is either:
    a. 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,
    b. 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 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 of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
5) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
6) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
7) The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot, or toll plaza. For the purposes of this Policy, an existing weigh station, rest stop, ride-share lot, or toll plaza facility will be considered substantially altered where any of the following occur:

(i) Any physical alteration of an existing facility, including access roads into and exiting, or any relocation of parking areas within a facility, involving Substantial Horizontal Alteration as defined at 23 CFR 772.5 and in this Policy; or,

(ii) Any physical alteration of an existing facility, including access roads into and exiting, or any relocation of parking areas within a facility, involving Substantial Vertical Alteration as defined at 23 CFR 772.5 and in this Policy; or,

(iii) Increased capacity for overnight truck parking.

8) If a project is determined to be a Type I project under this definition, then the entire project area as defined in the environmental document is a Type I project.

Based on current FHWA guidance[1], the addition or extension of an auxiliary lane 2,500 feet in length or greater is considered to be a Type I project.

The removal of an existing Noise Abatement Measure, without construction of a replacement of the same dimensions, at the same location, would be considered a Type I project due to physical alteration as described in Parts 2(a) and 2(b) above

A Type II Project is defined as:

A Federal or Federal-aid highway project for noise abatement on an existing highway. For a Type II project to be eligible for Federal-aid funding, the highway agency must develop and implement a Type II program in accordance with 23 CFR 772.7(e).

Unlike Type I projects, Type II "retrofit" projects are not required under 23 CFR 772. **CTDOT currently does not have an approved Type II program.**

A Type III Project is defined as:

A Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis. The stand-alone replacement of an existing noise abatement structure with a replacement of the same dimensions, at the same location, would be a Type III project.

TRAFFIC NOISE PREDICTION

All traffic noise analyses performed by or for CTDOT must utilize the most current version of the FHWA Traffic Noise Model (TNM) or any other model determined by the FHWA to be consistent with the methodology of the TNM, pursuant to 23 CFR 772.9.

Average pavement type shall be used in the TNM for future noise level prediction unless CTDOT substantiates the use of a different pavement type for approval by the FHWA.

Noise Contours may be used for project alternative screening or for land use planning to comply with 23 CFR 772.17, but shall not be used for determining highway traffic noise impacts.

[1] Federal Highway Administration, Noise Policy FAQs - Frequently Asked Questions (2017). Retrieved October 27, 2022, from https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/faq_nois.cfm.

Traffic characteristics that would yield the Worst Noise Hour for the Design Year will be used in predicting noise levels and assessing noise impacts.

ACOUSTICAL ANALYST QUALIFICATIONS

Any individual or company responsible for the assessment of traffic noise impacts, traffic noise abatement, or review and approval of final noise reports shall at a minimum have a working knowledge of this Policy and 23 CFR 772, understand and be able to execute the relevant parts of the latest FHWA reports and guidance, and have completed the following NHI Web-based Training Courses, or equivalent as determined by the CTDOT Office of Environmental Planning (OEP):

142086 Acoustics of Highway Traffic and Construction Noise

142087 Highway Traffic and Construction Noise Regulations

142088 How to Measure Highway Traffic Noise

104089 Abatement and Design Considerations for Highway Traffic Noise

The individual or company must have and maintain a working knowledge of the most current approved FHWA noise model.

NOISE IMPACT DETERMINATION

Under 23 CFR 772.11(c)(1), a traffic noise impact analysis must be conducted for each project alternative considered in the Environmental Document. Under the requirements of NEPA, the no-build or no-action alternative also must be evaluated.

The steps of the traffic noise impact analysis to comply with 23 CFR 772.11(d)are summarized below:

1. Identify existing developed land uses and undeveloped land that is permitted for development which may be affected by highway traffic noise
2. Measurement of existing noise levels.
3. Validate predicted noise level through comparison between measured and predicted levels
4. Predict traffic noise levels using traffic characteristics that will yield the Worst Noise Hour for the Design Year using TNM and FHWA Highway Traffic Noise: Analysis and Abatement Guidance[2].
5. Receptors that are located beyond the 500 feet radius from the project area normally do not need to be considered for analysis unless there is a reasonable expectation that noise impacts would extend beyond that boundary. This may require subject matter expertise and engineering judgment, and supplemental noise measurements may be required to determine if noise impacts exist. If a CNE extends more than 500’ past the linear termini of the project, contact OEP for additional guidance.

[2] Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance (2011). Retrieved October 27, 2022, from https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf.

6. Determine whether traffic noise impacts are predicted at adjacent land uses based on the applicable NAC by comparing predicted Worst Noise Hour levels in the Design Year to Existing Noise Levels.

In accordance with 23 CFR 772.11(e)-(f), traffic noise abatement for CTDOT highway projects must be considered when traffic noise impacts are created by either of the following conditions:

a) The predicted Worst Noise Hour Leq(h) traffic noise levels for the Design Year approach (within 1 dB(A)) or exceed the NAC contained in 23 CFR 772 and in Table 1 of this Policy, or

b) The predicted traffic noise levels for the Design Year substantially exceed Existing Noise Levels by 15 dB(A) or greater.

Primary consideration shall be given to exterior areas where frequent human use occurs in the determination of traffic noise impacts. The number of dwelling units shall be determined for each residential structure.

For Nonresidential Receptors

CTDOT or its consultant shall contact the property owner to determine person-hours per day of use for the nonresidential facility. For publicly owned facilities and recreational areas, the local government shall be contacted to determine person-hours per day of use. If the property owner or local government does not have detailed information to provide for person-hours per day of use, CTDOT will estimate the number of people based on field observations and the establishment's hours of operation or estimated average time per visit. The number of receptors to be used in the noise analysis will be calculated by dividing the estimated person-hours per day of use by 61[3].

A traffic noise analysis shall be completed for each project alternative under detailed study and for receptors designated with land use categories A, B, C, D, and E as defined in Table 1 that are present in the Noise Analysis Area. Traffic noise analyses are not required for Activity Category F. Noise levels are required for Activity Category G in accordance with 23 CFR 772.17(a) only to inform local officials.

[3] According to the U.S. Census Bureau American Community Survey data for Connecticut between 2013 and 2017, there are, on average, 2.55 people per residential dwelling unit. Assuming that each nonresidential receptor is equivalent to the average number of people per dwelling unit for 24 hours of use per day, each non-residential receptor would count towards 61 person-hours of use.

TABLE 1

NOISE ABATEMENT CRITERIA

Hourly Equivalent A-Weighted Sound Level (decibels (dB(A))[4]

Activity Category	Activity Leq(h)	Criteria[5] L10(h)	Evaluation Location	Activity Description
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B [6]	67	70	Exterior	Residential
C [7]	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section4(f) sites, schools, television studios, trails, and trail crossings
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E[8]	72	75	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	--	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	--	Undeveloped lands that are not permitted

[4] Either Leq(h) or L10(h) (but not both) may be used on a project. CTDOT uses Leq(h).
[5] The Leq(h) and L10(h) Activity Criteria values are for impacted determination only and are not design standards for Noise Abatement Measures.
[6] Includes undeveloped lands permitted for this activity category.
[7] Includes undeveloped lands permitted for this activity category.
[8] Includes undeveloped lands permitted for this activity category.

For Activity Category D land uses with no defined outside areas of frequent human use, the building interior noise levels will be used to determine impact as defined under the Building Noise Reduction Factors (BNRF) set forth in Table 2 of FHWA's Highway Traffic Noise: Analysis and Abatement Guidance (HEP-10-025).

TABLE 2

BUILDING NOISE REDUCTION FACTORS[9]

Building Type	Window Condition	Noise Reduction Due to Exterior of the Structure
All	Open	10 dB
Light Frame	Ordinary Sash (closed)	20 dB
	Storm Windows	25 dB
Masonry	Single Glazed	25 dB
	Double Glazed	35 dB
*The windows of each building type shall be considered open unless there is firm knowledge that the windows are in fact kept closed almost every day of the year.		

[9] Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance (2011). Retrieved October 27, 2022, from https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf.

When analyzing special types of area noise sources such as service plazas, park and ride lots, toll plazas, and weigh stations where idling and stop-and-go operations occur, guidance from the National Cooperative Highway Research Program (NCHRP) Report 791[10] will be used for best modeling practices. Consultation with CTDOT is required prior to conducting any noise analyses related to these area sources.

ANALYSIS OF NOISE ABATEMENT MEASURES

When traffic noise impacts are identified, Noise Abatement Measures shall be considered and evaluated for feasibility and reasonableness.

FEASIBILITY & REASONABLENESS

All of the following conditions for feasibility and reasonableness must be met for noise abatement to be justified and incorporated into project design and construction, as applicable. Failure to achieve any single element of feasibility or reasonableness will result in the Noise Abatement Measure being deemed not feasible and/or reasonable, whichever applies.

Feasibility

The following criteria will be used to determine the feasibility of a Noise Abatement Measure:

(A) A noise reduction of at least 5 dB(A) for a minimum of two-thirds of the Impacted Receptors is achieved.

(B) Engineering feasibility of the Noise Abatement Measure(s) shall consider adverse impacts created by or upon property access, drainage, topography, utilities, safety, and maintenance requirements.

Reasonableness

The following criteria will be used to determine the reasonableness of a Noise Abatement Measure:

(a) Any receptor that receives a minimum noise reduction of 5 dB(A) due to Noise Abatement Measures shall be considered a Benefited Receptor.

(b) A minimum of two-thirds of Benefited Receptors must meet the NRDG of at least 7 dB(A).

(c) CTDOT will consider the cost of the Noise Abatement Measure cost effective if the Noise Abatement Measure will have a CEI that is less than or equal to the value of $55,000 per Benefited Receptor. The cost of the traffic noise barrier will be based on $60 per square foot of noise barrier. The costs for an earthen berm abatement measure will be determined based on the unit costs for the materials used.

[10] National Academies of Sciences, Engineering, and Medicine 2014. Supplemental Guidance on the Application of FHWA's Traffic Noise Model (TNM). Washington, DC: The National Academies Press. https://doi.org/10.17226/22284.

(d) Viewpoints of the benefited property owners and residents (Benefited Receptors) shall be solicited. For the abatement measure to be considered, a minimum of two-thirds of the returned solicited viewpoints must be in favor of the Noise Abatement Measure(s). CTDOT shall solicit viewpoints via direct mailings to the Benefitted Receptor addresses. Benefitted Receptors will be given a period of four (4) weeks following the date of the postmark on the mailers to indicate their level of support and provide any comments on the proposed Noise Abatement Measure.

DOCUMENTATION OF HIGHWAY TRAFFIC NOISE ABATEMENTS

Prior to CE approval or issuance of a FONSI or ROD, CTDOT shall identify in Environmental Documents:

a) Locations where noise impacts will occur, and

b) Locations where noise abatement is feasible and reasonable, and

c) Locations that have no feasible and/or reasonable Noise Abatement Measures.

d) Statement of likelihood based on the feasibly and reasonableness analysis. Whether it is "likely" or "unlikely" that Noise Abatement Measures will be installed for each CNE identified. "Likely" does not indicate CTDOT's commitment to installation or non-installation. The final decision on the installation of the abatement measures shall be made upon completion of the project design, the public involvement process, concurrence with the Policy, and FHWA approval.

DESIGN-BUILD

For design-build projects, the preliminary noise analysis shall document all considered and proposed Noise Abatement Measures for inclusion in the Environmental Document. The final noise analysis shall document Noise Abatement Measures that shall be considered, developed, and constructed in accordance with this standard and in conformance with the provisions of 40 CFR 1506.5(c) and 23 CFR 636.109.

THIRD PARTY PARTICIPATION

(a) Third party funding is not allowed on a Federal or Federal-aid Type I or Type II project if the Noise Abatement Measure would require the additional funding from the third party to be considered feasible and/or reasonable.

(b) Third party funding is acceptable on a Federal or Federal-aid Type I or Type II project to make functional enhancements, such as access doors or aesthetic enhancements, to a Noise Abatement Measure already deemed feasible and reasonable. To cover any additional costs, including but not limited to those relating to maintenance, of any functional or aesthetic enhancements requested by the third party, an agreement shall be duly executed by CTDOT and such third party, and the third party shall confer payment to CTDOT prior to the commencement of project construction.

PUBLIC INVOLVEMENT

Public involvement with a community regarding traffic noise impacts and possible noise abatement shall occur at the start of the noise analysis process and continue throughout the development of the project. CTDOT will inform the public of the requirements of 23 CFR 772, the noise analysis process, and project-specific information during public information meetings. The noise analysis report will be made available to the public following its completion upon request and will be discussed at the Public Information and Public Hearing Meetings, if available. Additionally, the concerns of benefited property owners and residents will be reasonably considered in the process for determining the likelihood of Noise Abatement Measures.

For State-funded projects, CTDOT is required to use its agency-specific Environmental Classification Document (ECD) to determine if a proposed project requires Public Scoping pursuant to § 22a-1a-6 of CEPA. The thresholds in CTDOT's ECD define when a Public Scoping process must occur.

COORDINATION WITH LOCAL OFFICIALS

CTDOT will provide noise compatible planning concepts to local government officials within whose jurisdiction a highway project is proposed as early in the project planning process as reasonably possible to protect future development from becoming incompatible with traffic noise levels. Environmental documents and noise reports will contain information identifying areas that may be impacted by traffic noise. For undeveloped lands or properties in the Noise Analysis Area of the project, CTDOT will provide predicted noise level contour information indicating estimated future noise levels at different distances from the highway. Local government officials will also be informed of the distance from the edge of the nearest travel lane at which noise levels will approach the exterior Noise Abatement Criteria in Table 1 as well as non-eligibility for Federal-aid participation for a Type II project.

CONSTRUCTION NOISE[11]

To minimize the impacts of construction noise on the public for Type I and Type II projects, CTDOT shall:

(a) Identify land uses or activities that may be affected by noise from construction of the project during the design of the project.

(b) Determine the measures that are needed in the plans and specifications to minimize adverse construction noise impacts to the community. This determination shall consider the benefits achieved and the overall adverse social, economic, and environmental effects and costs of the Noise Abatement Measures.

[11] Construction noise impacts and abatement measures shall be considered pursuant to the FHWA Construction Noise Handbook (August 2006).

(c) Consider construction techniques and scheduling to reduce construction noise impacts to nearby receptors and incorporate the needed Noise Abatement Measures in the project plans and specifications.

The following section from the CTDOT *Standard Specifications for Roads, Bridges and Incidental Construction* Form 818, as amended) (or the General Provisions of a Design-Build Contract) defines construction noise impact and abatement criteria:

> *1.10.05 – Construction Noise Pollution: The Contractor shall take measures to minimize the noise caused by its construction operations, including but not limited to noise generated by equipment used for drilling, pile-driving, blasting, excavation or hauling.*
>
> *All methods and devices employed to minimize noise shall be subject to the continuing approval of the Engineer. The maximum allowable level of noise at the residence or occupied building nearest to the Site shall be 90 decibels on the "A" weighted scale (dBA). The Contractor shall halt any Project operation that violates this standard at any time until the Contractor develops and implements a methodology that enables it to keep the noise from its Project operations within the 90-dBA limit.*

FEDERAL PARTICIPATION

Federal funds may be used for the costs of Noise Abatement Measures, with the Federal share being the same as that for the system on which the project is located, when:

(a) Traffic noise impacts have been identified; and

(b) Noise Abatement Measures have been determined to be feasible and reasonable pursuant to 23 CFR 772.13(d) and this Policy.

REVIEW OF POLICY

This Policy shall be reviewed by CTDOT at least every five (5) years.