



730.02.POL

MEMO

February 6, 2019

To: District Engineers

From: Carlos Swonke
Division Director, Environmental Affairs Division (ENV)

Subject: TxDOT 2019 Traffic Noise Policy

The Texas Department of Transportation's (TxDOT's) 2019 Traffic Noise Policy was approved by the Federal Highway Administration (FHWA) on December 31, 2018. The purpose of this memo is to provide a summary of the changes to the noise policy and to advise you of the effective date for applying the 2019 Traffic Noise Policy.

The 2019 Traffic Noise Policy will be effective on **December 31, 2019**. Any traffic noise analysis, noise reevaluation, or noise workshop started on or after this date must comply with the 2019 Traffic Noise Policy. For projects currently in mid-development or environmentally cleared with proposed abatement, the attached flowchart (Attachment 1: Noise Policy Decision Tree) describes how to apply this effective date to an existing project.

A copy of the 2019 Noise Policy has been posted on TxDOT's Environmental Compliance Toolkits website. This new policy and a forthcoming Traffic Noise Implementation Guidance document will replace the previous 2011 *Guidelines for Analysis and Abatement of Roadway Traffic Noise*. The Traffic Noise Implementation Guidance is in development and will be posted prior to the effective date of the 2019 Traffic Noise Policy.

The attached table (Attachment 2: Noise Policy Changes) provides a detailed list of changes and their potential effects on current traffic noise analysis processes. Major changes from the 2011 *Guidelines* to the 2019 Traffic Noise Policy include:

- Required validation of existing condition TNM noise models with field measurements
- A proposed barrier must benefit at least two impacted receptors to be acoustically feasible.
- Updates to the Cost Effectiveness (reasonableness) criteria, based on a 2017 study
- An optional method (Alternate Barrier Cost) to consider actual construction costs as part of cost reasonableness
- Formalizing Cost Averaging as an option to provide more abatement along a corridor with many impacted receptors
- Updates to noise workshop and voting requirements and procedures for proposed barriers

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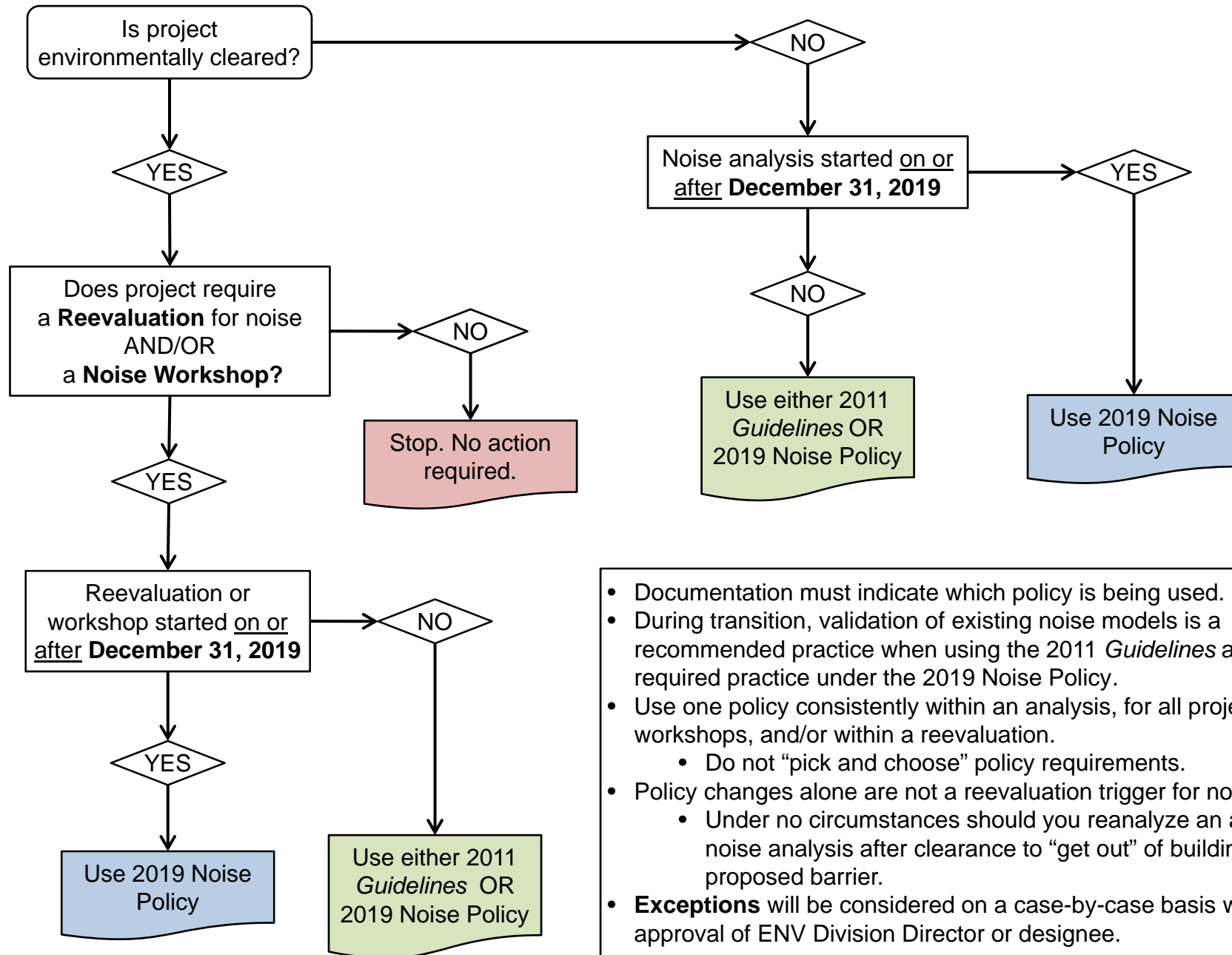
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Please share this information with your consultant engineering contractors. Contact Ray Umscheid, Environmental Specialist, at (512) 416-3025, or Ray.Umscheid@txdot.gov, if you have any questions.

Attachments

CC: District Environmental Coordinators
District TP&D

Attachment 1: Noise Policy Decision Tree



- Documentation must indicate which policy is being used.
- During transition, validation of existing noise models is a recommended practice when using the 2011 *Guidelines* and a required practice under the 2019 Noise Policy.
- Use one policy consistently within an analysis, for all project noise workshops, and/or within a reevaluation.
 - Do not “pick and choose” policy requirements.
- Policy changes alone are not a reevaluation trigger for noise!
 - Under no circumstances should you reanalyze an approved noise analysis after clearance to “get out” of building a proposed barrier.
- **Exceptions** will be considered on a case-by-case basis with the approval of ENV Division Director or designee.

Attachment 2: Noise Policy Changes

How will the 2019 Noise Policy change the traffic noise analysis process?

Change	Differences between 2019 Policy and 2011 Guidelines	Effect on noise analysis & documentation
Format	<ul style="list-style-type: none"> • Separates policy (requirements) from guidance (procedures and best practices). • Policy was streamlined to include only the requirements outlined in 23 CFR 772 that must be specified by state DOTs and approved by FHWA. • The goal is a more flexible, robust, and defensible traffic noise program 	<ul style="list-style-type: none"> • The Implementation Guidance will be a more user-friendly document, with discussion, instructions, examples, and other guidance for implementing the policy requirements. • By separating the Policy and the Implementation Guidance, we do not have to get FHWA approval every time we want to make a change to our guidance.
Model Validation	<ul style="list-style-type: none"> • Incorporated by reference in the new 2019 Policy • 23 CFR 772.11(d)(2): “For projects on new or existing alignments, <u>validate</u> predicted noise levels through comparison between measured and predicted levels” • Implementation guidance will include instruction and discuss recommended best practices for performing the validation. 	<ul style="list-style-type: none"> • This requires existing condition field work, additional model run(s) for validation, and additional documentation for the noise tech report and project file. • Field work would require one or more sound level measurements (minimum 15-minute measurement). • Traffic counts and average traffic speeds would also be recorded during the measurement.
Feasibility	<ul style="list-style-type: none"> • Abatement must now benefit a minimum of two impacted receptors to be acoustically feasible. 	<ul style="list-style-type: none"> • Still required to identify impacts for isolated or individual receptors. • Not required to test/model barriers for isolated/individual impacted receptors. • This change will save time and effort on many rural projects with scattered impacts. • Abatement paragraphs (recommended text) for isolated receptors will be a standard statement indicating that abatement is not feasible.

Change	Differences between 2019 Policy and 2011 Guidelines	Effect on noise analysis & documentation
Cost Reasonableness	<ul style="list-style-type: none"> • New costs approved by FHWA memo 12/19/2017 • Changing focus to square footage rather than “cost” • Standard Barrier Cost allowance of 1,500 square feet per benefited receiver • “Behind the scenes” = Index current cost of \$35/sqft, equivalent to \$52,500 per benefited receptor (compare to previous <i>Guidelines</i>, which used \$18/sqft and \$25,000 per benefited receptor) 	<ul style="list-style-type: none"> • Change to how cost reasonableness is determined (different criteria) • Change to recommended text (discussing square footage rather than “cost”)
Cost Reasonableness – Constructability	<ul style="list-style-type: none"> • Formalizes into policy an Alternate Barrier Cost determination option. • This is for when a barrier should not be proposed due to higher than ordinary costs directly associated with construction of that barrier. • A barrier may no longer be cost reasonable if the Alternate Barrier Cost is greater than two times the Standard Barrier Cost. 	<ul style="list-style-type: none"> • Optional method • The Standard Barrier Cost determination is still the first step. • To use this option, complete the new Site Constraints Assessment Worksheet • Would need to obtain cost estimates for issues directly associated with construction of a barrier that could affect barrier reasonableness (such as additional ROW, utility adjustments, and additional design elements) • Timing: before or after environmental clearance – whenever you have constructability information available.
Cost Averaging	<ul style="list-style-type: none"> • Formalizes into the policy the Cost Averaging Methodology (2013) • TxDOT has the option to cost average noise abatement among benefited receptors if: <ul style="list-style-type: none"> ○ No single common noise environment (CNE) exceeds two times TxDOT’s cost reasonableness criteria, AND ○ Collectively, all CNEs being averaged do not exceed TxDOT’s cost reasonableness criteria. 	<ul style="list-style-type: none"> • Optional method • New recommended text to explain cost averaging • Additional documentation needed (cost averaging summary table) to show cost averaging analysis.

Change	Differences between 2019 Policy and 2011 Guidelines	Effect on noise analysis & documentation
Noise Workshop Timing	<ul style="list-style-type: none"> • Must conduct at least one noise workshop • Timing of noise workshops will be discussed in the Implementation Guidance. 	<ul style="list-style-type: none"> • The recommended best practice is still to hold noise workshops after the public hearing or after environmental clearance. • Implementation Guidance will discuss the risks of holding a noise workshop before public hearing or environmental clearance.
Views of Benefited Receivers (Reasonableness)	<ul style="list-style-type: none"> • Updates to balloting and decisional requirements • For a proposed abatement, ballots will be distributed to all benefited receptors and non-benefited receptors bordering or directly adjacent to the proposed abatement • For residential receptors, both property owners and non-owner residents may vote. • One total vote per residential receptor, with 90% of vote to property owner and 10% of vote to resident/renter. • Second round of voting required if response rate is less than 25% of eligible votes received. • Decision is made based on results of ballots received, with the majority determining the decision to build or not build. • Ballots for nonresponsive voters are never counted either for or against an abatement measure. • If less than a 25% response rate after two rounds of voting, then decision made after required consultation between TxDOT division subject matter experts and TxDOT division and district director level management. 	<ul style="list-style-type: none"> • Verify that barrier analysis is sufficient to identify all benefited receptors for voting purposes. • Changes to how votes are solicited and counted • Implementation guidance will have recommended best practices for soliciting votes from property owners and non-owner residents. • New process for a final decision when experience a low response rate.

Change	Differences between 2019 Policy and 2011 Guidelines	Effect on noise analysis & documentation
Noise Workshop re-voting	<ul style="list-style-type: none"> • New for the 2019 Policy • After a decision has been made to build or not build an abatement measure, TxDOT will only consider re-voting under the following conditions: <ul style="list-style-type: none"> ○ An error was found in the original noise workshop voting process ○ There are substantial constructability or substantial design changes to a noise abatement proposal since the original workshop, or ○ An approved barrier has not been constructed within five years of a noise workshop, due to project delays. • Any decision to re-vote would require consultation between TxDOT division subject matter experts and TxDOT division and district director level management. 	<ul style="list-style-type: none"> • New requirements for when re-voting would occur for a previously approved abatement measure.
Absorptive Treatments	<ul style="list-style-type: none"> • New for the 2019 Policy • Noise barriers, retaining walls, bridges, and any other structure may require consideration for application of a sound absorptive material. • When the width between two noise barriers is less than 10 times the height of the noise barriers, the incorporation of sound absorptive treatments shall be considered to reduce acoustic reflections that may degrade barrier performance. 	<ul style="list-style-type: none"> • As part of analysis, verify whether proposed barriers meet the requirements for consideration of absorptive treatments.

Change	Differences between 2019 Policy and 2011 Guidelines	Effect on noise analysis & documentation
Category B and Multi-family residential	<ul style="list-style-type: none"> • Clarifies receiver placement for single-family and multi-family residential receptors (NAC Category B) • Default placement of modeled receivers for single-family residences is within the backyard outdoor activity area. • Each residence in a multifamily dwelling within line-of-sight of the roadway shall be counted as an individual receptor when determining impacted and benefited receptors. • If no individual patio or multi-story balcony exists, an exterior common gathering area should be used. • If no individual or common exterior gathering areas exist, then the multifamily residential land use would not be analyzed. 	<ul style="list-style-type: none"> • Make sure that models for impact determination and barrier analysis appropriately consider residential receivers, especially for multi-family housing
Category C benefited receptors	<ul style="list-style-type: none"> • Clarification on receiver placement and methodology for NAC Category C abatement analysis. • Model receivers for impact analysis at actual locations of frequent outdoor human activity. If no defined gathering areas exist, place receiver at the centroid of a reasonable area of land use. • To determine benefited receptors for cost reasonableness, TxDOT will identify average representative lot size of residential development within the project area and the approximate impacted area within the NAC C land use. • To determine the equivalent number of impacted receptors, the impacted land area of the NAC C receptor will be divided by the area of the representative lot size. 	<ul style="list-style-type: none"> • Make sure that models for impact determinations appropriately consider receiver locations for schools, churches, parks, trails, sport areas, and cemeteries. • Verify that abatement paragraphs for Category C impacted receptors have sufficient detail on equivalent receiver methodology for cost effectiveness determination. • Plan to add examples to future versions of the implementation guidance

Change	Differences between 2019 Policy and 2011 Guidelines	Effect on noise analysis & documentation
Category E receptors	<ul style="list-style-type: none"> • Clarification on receiver placement and methodology for NAC Category E abatement analysis. • Modeled locations must be representative of areas of frequent external activity at the receptor. • For a restaurant, an outdoor dining area is an appropriate exterior activity area. • Hotels with outdoor activity areas will be evaluated in a manner similar to multifamily residences. • In determining cost reasonableness, for restaurants and offices, each establishment is equivalent to one receptor. • Cost effectiveness for hotels will be determined in a manner similar to multifamily residences. 	<ul style="list-style-type: none"> • Make sure that analysis for impact determinations and abatement appropriately consider these land uses.