Checklist of Noise Study & Abatement Processes
for Locality-Administered Projects
Using Federal Funds

I. Purpose

This document is guidance for Localities which prepare environmental documents on behalf of FHWA and the Department. The goal is to help the Locality secure FHWA approval of the Noise Technical Study portion of the Environmental Document and assist with mitigation processes. Noise studies and abatement designs must address Federal regulations and VDOT Noise Abatement Policy regarding mitigation of noise impacts.

II. Law & Regulations / Policy & Guidance

- Federal 23 CFR Part 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise
  http://www.fhwa.dot.gov/hep/23cfr772.htm
- National Environmental Policy Act (NEPA)
  http://www.fhwa.dot.gov/environment/nepa/nepa.htm
- Highway Traffic Noise Analysis and abatement Policy and Guidance June 1995
  http://www.fhwa.dot.gov/environment/polguid.pdf
- VDOT Noise Abatement Policy
  http://www.virginiadot.org/infoservice/resources/environ-noise-policy.pdf
- VDOT Road & Bridge Specifications
  http://virginiadot.org/business/const/spec-default.asp
- Special Provisions and Notes (project specific)
  http://virginiadot.org/business/locdes/rd-ii-memoranda-index.asp
- Locality-Department Agreement for Locality-Administered Projects
- VDOT Noise Abatement Fact Sheet
  http://www.virginiadot.org/infoservice/faq-noise-walls.asp

III. Locality Checklist for Performing Noise Study & Preliminary Abatement Design

1. Determine at Scoping if proposed project is (noise) Type I per FHWA regulations.
2. Identify noise sensitive properties per FHWA's Noise Abatement Criteria Table (FHWA NAC). Noise sensitive properties also include undeveloped parcels of land where Locality site plan approval preceded the CTB road approval (compare dates).
3. Perform field noise measurements for New Location projects (and for existing roadway improvement projects where necessary for model validation).
4. Identify all contributing noise sources for project study area, e.g. roadways, ramps, loops, rail, and aircraft. Determine if aircraft noise will be included per FHWA and VDOT consultation.
5. Determine worst traffic noise hour for the Design Year and describe method used to make worst hour determination in the noise technical study.
6. Choose study point locations to sufficiently identify and assess impacts that satisfy FHWA's guideline of "frequent human use". VDOT recommends study point locations should assume worst case, especially when decision involves whether a barrier design will be developed and to avoid modeling properties to be acquired by project.
7. Choose same study hour for Existing, Build & No-Build Design Year to make impact assessments.
8. Use TNM software to compute Existing, Design Year Build & No-Build noise levels.
9. Identify any NAC and/or Substantial Increase impacts per VDOT policy. All impact determinations involve comparison to the worst hour Design Year noise level.
10. Determine if impacts can be "mitigated" without employing sound walls, utilizing abatement measures identified in 23 CFR Part 772.
11. Determine benefited properties. (Benefited properties are those which are not noise impacted but receive at least a minimum of 5 dBA reduction from a proposed noise abatement measure.)
12. Develop cost estimate for mitigation of residential noise impacts; determine if cost is Reasonable as compared to VDOTcost-ceiling. The number of protected properties must include "impacted" and "benefited" sites. Material square-foot cost to be obtained from VDOT.
13. Develop cost estimate for mitigation of non-residential noise impacts. Cost Reasonableness for non-residential properties will be determined at the Joint FHWA/VDOT Noise Abatement Committee meeting.
14. Make preliminary determination regarding right-of-way needs and sound wall locations.
15. Submit electronic copies of noise study report, TNM data, and traffic directly to VDOT Environmental. Report must contain: study location graphics, discuss abatement feasibility type and reasonableness, site locations, identify 66-dBA noise contour, distance offset sound levels contours from roadway, Third Party participant language, and discussion of construction noise mitigation.

IV Final Abatement (Sound Walls)

1. Obtain VDOT Chief Engineer for Program Development Design Approval Letter to determine abatement eligibility.
   - Check abatement eligibility for any new developments added since initial study.
   - Design mitigation for eligible new developments.
2. Confirm right-of-way acquisitions with respect to noise sensitive properties
3. Use latest design year traffic assumptions to perform final abatement design.
4. Use latest road design plans and cross sections for developing sound wall acoustical profile. Profile must identify stationing, attenuation line (top elevation), and bottom wall elevation at minimum.
5. Confirm feasibility of abatement measures.
6. Electronically submit all final designs and TNM runs to VDOT Noise Abatement section.
7. Set-up meeting with Joint FHWA/VDOT Noise Abatement Committee. Final feasibility and cost reasonableness will be discussed.
8. Obtain approval from VDOT Chief Engineer.
9. Solicit input of affected property owners for each approved sound wall to determine desire for mitigation.
10. Obtain FHWA Concurrence to implement final abatement designs.
11. Make decision to remove any sound walls where (written) third party participation has not been expressed by date identified by issuing agency or final design where written participation expressed.
12. Make decision to remove all sound walls which have not received actual Third Party co-funding by Plans, Schedules, & Estimates (P,S & E) date.
13. Provide Profile of sound wall(s) to Project Design Manager.
14. Determine aesthetic requirements of sound wall
15. Incorporate all approved and funded sound walls into the road design plans
16. Use VDOT Road & Design Specifications, Special Provisions (VDOT Construction Division), and Copied Notes as guidance to prepare barrier plans for Advertisement, if needed