



# TRAFFIC NOISE EVALUATION PROCESS



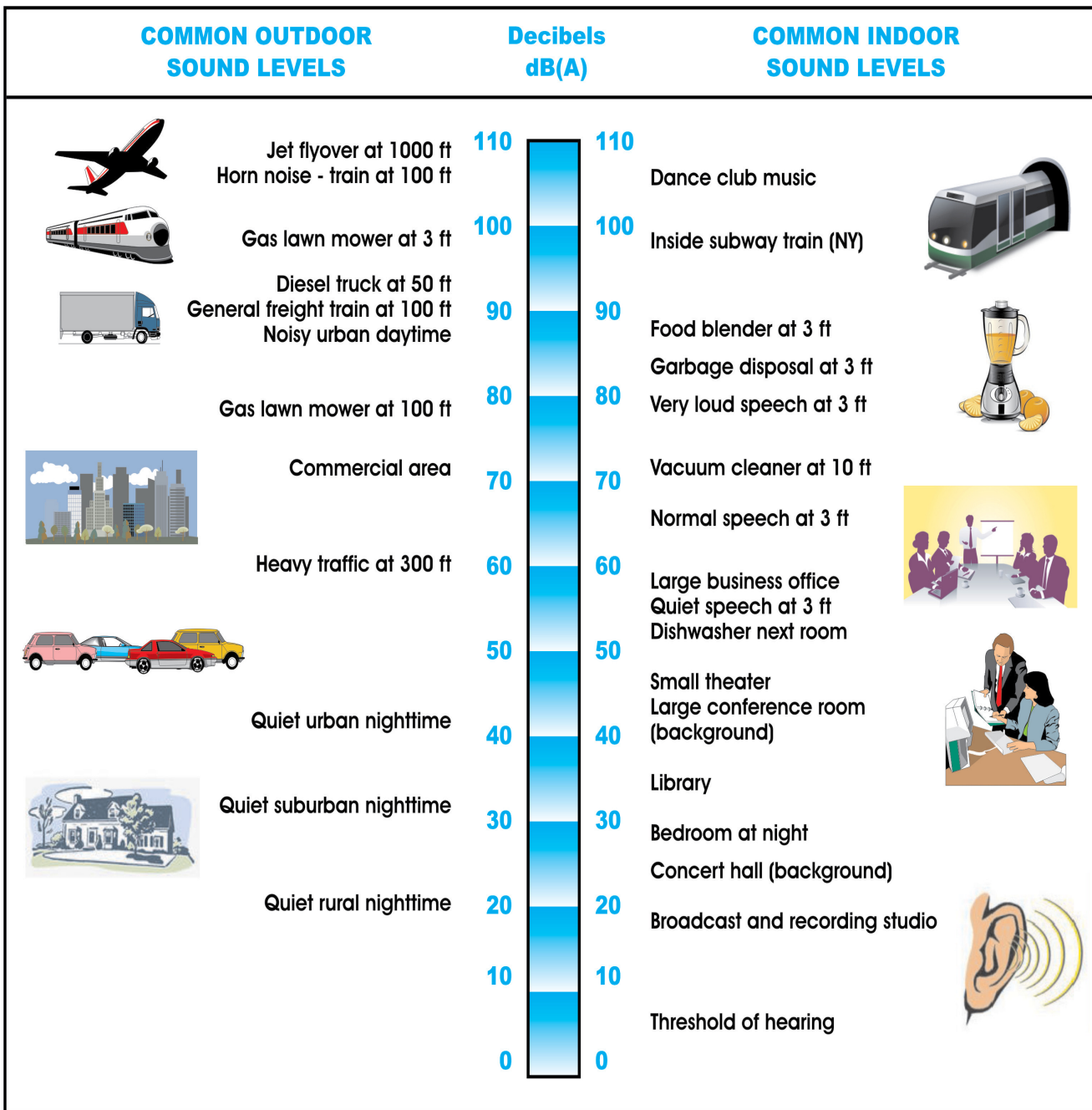
The Florida Department of Transportation (FDOT) performs traffic noise impact evaluations using Federal Highway Administration (FHWA) approved methodology. Highway projects evaluated for traffic noise impacts include the following:

- 1) Construction of a highway on new location;
- 2) Physical alteration of an existing highway which substantially changes either horizontal or vertical alignment; or
- 3) Physical alteration of an existing highway that increases the number of through traffic lanes, adds an auxiliary lane or expands or relocates interchange ramps.

## STEP 1:

### Identification of noise sensitive sites

FDOT gives primary consideration to exterior areas where frequent human use occurs. Typical noise sensitive sites include exterior areas of residences, schools, churches and recreational facilities.



## **STEP 2:**

### **Determination of traffic noise impacts**

The department determines future traffic noise levels that are attributed to the proposed highway project and compares the levels to FHWA noise abatement criteria. Typical noise sensitive sites with predicted noise levels that reach or exceed 66 decibels [dB(A)] or experience an increase of 15 dB(A) above existing noise levels require abatement consideration.

## **STEP 3:**

### **Consideration of abatement measures**

Federal regulation requires consideration of a noise barrier as a traffic noise abatement measure. A noise barrier is a concrete wall constructed on public right-of-way between the proposed highway improvements and the noise sensitive site.

FDOT is required by federal regulation to consider feasibility and reasonableness factors when evaluating a noise barrier. First, engineering constraints are reviewed to identify conflicts that may limit or preclude construction of a noise barrier. Noise barriers must provide a reduction in traffic noise of at least 7 dB(A) at an affected noise sensitive site to be considered feasible.

Once feasibility is determined, the department then gives consideration to cost effectiveness and viewpoints of property owners and residents. It is FDOT's responsibility to use prudent judgement when considering the expenditure of public funds. Finally, viewpoints regarding proposed noise barriers are solicited.

## **STEP 4:**

### **Commitments to abatement measures**

Following completion of the noise impact evaluation, the methodology and results are documented in the project's Noise Study Report.

If the department determines an abatement measure is potentially feasible and reasonable, a commitment is made to further evaluate the measure during the design phase of the project.

## **TRAFFIC NOISE EVALUATION PHASES**

### **Project Development and Environment (PD&E) phase**

FDOT begins the noise evaluation process during the PD&E study phase. The department developed this engineering and environmental process, which includes a preliminary analysis of alternatives developed for a project. We present the alternatives at a public information workshop. After the workshop, FDOT selects a preferred build alternative and performs a detailed noise analysis on this alternative. This analysis includes an evaluation of noise abatement measures with results presented at a public hearing.

### **Design phase**

During the design phase of a project, FDOT develops detailed highway plans, right-of-way requirements are determined, and the right-of-way acquisition process begins. When plans are approximately 60 percent complete, engineering details are sufficient to allow for a thorough assessment of abatement measures determined to be potentially feasible and reasonable during the PD&E phase. Following public coordination, we incorporate all feasible and reasonable measures into the final design plans.

### **Construction phase**

FDOT includes feasible and reasonable traffic noise abatement measures as part of the construction project.

### **Examples of noise barriers**

