



Memorandum

U.S. Department of Transportation
Federal Highway Administration

Subject: INFORMATION: Release of FHWA Roadway Construction Noise Model (FHWA RCNM) Version 1.0

From:
April Marchese
Director, Office of Natural and Human Environment

Date: February 15, 2006

Reply to: Attn. of: HEPN-20

To:
Division Administrators
Federal Lands Highway Division Engineers

Construction noise must be considered as part of the development of any transportation facility. Roadway construction is often conducted in close proximity to residences and businesses and should be controlled and monitored in order to avoid excessive noise impacts. Construction noise can threaten a project's schedule if not adequately analyzed and if the concerns of the community are not addressed and incorporated. In general a project's schedule can be maintained by balancing the type, time of day and duration of construction activities; adhering to local noise control requirements; and being proactive to community concerns. To aid in this process, the FHWA has developed the FHWA Roadway Construction Noise Model (FHWA RCNM) Version 1.0. This model is not required to be used on Federal-aid projects; however this model is a screening tool that can be used for the prediction of construction noise during the project development and construction phases.

The FHWA RCNM is based on the construction noise prediction spreadsheet developed for the Central Artery/Tunnel Project in Boston, Massachusetts (CA/T Project or "Big Dig") by Parsons Brinckerhoff Quade & Douglas, Inc. The CA/T Project is the largest urban construction project ever conducted in the United States (U.S.) and has the most comprehensive noise control specification ever developed in the U.S. The FHWA RCNM incorporates the CA/T Project's noise limit criteria and extensive construction equipment noise database, where these parameters can be modified according to each user's needs. Users can also activate and analyze multiple pieces of equipment simultaneously and define multiple receptor locations, including land-use type and baseline noise levels, where the FHWA RCNM will calculate sound level results for multiple metrics.

The intended use for the FHWA RCNM is as a construction noise-screening tool. It is based on the CA/T prediction spreadsheet, not on the FHWA Traffic Noise Model® (FHWA TNM) or the FHWA Highway Construction Noise Computer Program (HICNOM, developed in 1982). The FHWA RCNM predicts noise from highway construction operations based on a compilation of empirical data and the application of acoustical propagation formulas. It enables the calculation of construction noise levels in more detail than manual methods while avoiding the need to collect extensive amounts of project-specific input data (as is required by HICNOM, a data-intensive and more comprehensive method for construction noise prediction).

The FHWA RCNM is a Windows-based program that is available without cost or obligation for use in predicting noise for highway construction projects of varying complexity. The FHWA RCNM v1.0 model and [user's guide](#) can be downloaded.

Questions and comments on the FHWA RCNM should be directed to Mark Ferroni (mark.ferroni@dot.gov) at (202) 366-3233 or Chris Corbisier (chris.corbisier@fhwa.dot.gov) at (202) 366-1473.

cc: Directors of Field Services