

Professional Qualifications

Michael Hankard



Education:

B.S., Electrical Engineering
University of Maine, 1990

Professional Affiliations:

Institute of Noise Control Engineering
Acoustical Society of America

Agency Experience:

Federal Highway Administration
Colorado Department of Transportation
Utah Department of Transportation
Nebraska Department of Roads
Various Cities and Counties
BLM

Background:

Mr. Hankard has been practicing in the field of noise control engineering for the past 15 years. He has completed over 125 noise control projects, ranging from small impact assessments to large corridor studies. He has conducted noise analyses for projects in the highway, rail, mining, gas development, power generation, entertainment, and manufacturing industries.

Mr. Hankard has experience in almost all aspects of environmental noise, including measurement, prediction, impact assessment, and mitigation design. He has measured existing noise levels and predicted future levels from highways, light and heavy rail systems, compressor stations, mining operations, and other industrial facilities. Modeling experience includes FHWA's TNM and STAMINA programs, FTA procedures, and various ANSI and ISO standards. Mr. Hankard has conducted impact assessments as part of small, noise-specific studies, as well as EA's and EIS's. Mitigation design experience includes the specification of wayside barriers and berms for linear sources such as highways and rail lines, and barriers and full enclosures for sources such as gas compressors.

Experience:

Roadway Noise Analysis and Mitigation Design

Extensive experience in all aspects of roadway noise analysis, including measurements, modeling, impact assessment, and mitigation design. Measurement experience includes baseline conditions (both short term and long term studies), model validation (measurement of noise levels, as well as traffic volumes and speeds and site conditions), noise barrier performance per ANSI S12.8 (measurement of actual barrier insertion loss), and pavement noise characteristics (comparison of different pavement types, and before-after studies). Mitigation design experience includes noise walls and berms, as well as the use of highway facilities such as ramps as barriers.

Extensive STAMINA and TNM modeling experience, including model validation and comparison studies. Modeled projects ranging from small, simple sites, to mountainous corridors. Completed extensive model accuracy and comparison studies. Completed impact assessments per FHWA, CDOT, UDOT, NDOR and other agency and industry criteria. Developed TNM Users Guide for Colorado.

Mitigation design experience includes noise walls and berms, as well as the use of highway facilities such as ramps as barriers. Conducted preliminary design work for feasibility studies, as well as detailed design for final design projects. Experienced with specifying the placement, length, and height of noise walls, as well as architectural elements.

Architectural Acoustics Analyses

Experience includes the measurement of sound transmission loss and reverberation in both laboratory and in-situ environments. Analysis of new construction and existing facilities. Design of noise reduction elements such as wall partitions, HVAC silencers, and reverberation treatments.

Industrial Noise Analysis and Mitigation Design

Conducted noise impact analyses for various industrial facilities, including mining operations, gas compressor stations, manufacturing plants, and power generating stations. Measured noise levels from existing facilities, generated International Standards Organization (ISO) models of facilities using both measured and published data, and provided mitigation solutions including structural enclosures and ventilation upgrades.

Public Presentations

Conducted noise-specific presentations to both large audiences and focus-groups. Experience with both openhouse and formal presentation styles. Presented results at meetings where noise was the main public issue, and mitigation was not forthcoming. Participated in citizen advisory group programs.

Expert Witness Testimony

Provided expert witness testimony related to highway noise impact issues. Work included researching issues and the sites, conducting independent analyses, and testifying in court.