



Christopher W. Menge

Senior Vice President / Principal Consultant

Experience

Since 1972, Mr. Menge's career has focused on the analysis and control of noise from a variety of transportation and entertainment sources. His most extensive experience encompasses highway noise prediction and barrier design, outdoor entertainment sources such as theme parks and amphitheaters, and ground-based noise sources at airports and national parks. He is known for his knowledge of outdoor sound propagation and addressing community response to new noise sources.

For the Federal Highway Administration, Mr. Menge developed the acoustical algorithms and finalized the Traffic Noise Model (TNM), FHWA's next-generation highway noise prediction software. Mr. Menge has also extended the TNM's propagation algorithms for use with other ground-based noise sources.

Education

B.S., Physics, University of New Hampshire, 1972.

Graduate study, Mechanical Engineering, Massachusetts Institute of Technology, 1974, and Northeastern University, 1975-1977.

Affiliations

Board of Directors, Institute of Noise Control Engineering (INCE)
Member, Acoustical Society of America

Representative Projects

Entertainment Projects

- California Motocross Park Noise Analysis, Placer Co, CA
- Racetrack Noise Impact and Community Reaction Analysis, Tamworth, NH
- Q Prime Amphitheater Noise Intrusion Analysis, Wildlife Refuge, Scott County, MN
- Racetrack Noise Intrusion and Soundscape Analysis, Appalachian Trail, PA
- Universal Studios Islands of Adventure Park-wide Acoustical Modeling and Noise Abatement Design and Implementation, Orlando, FL
- Black Dog Amphitheater Sound Propagation and Background Measurement and Analysis, Bloomington, MN
- Wolf Trap Pavilion, Noise Intrusion Analysis and Abatement Design, Vienna, VA
- Tanglewood Music Shed, Community Impact of Pop Music Concerts, Lenox, MA

Highway Projects

- Development and Implementation of the Traffic Noise Model (TNM) Acoustical Algorithms, Federal Highway Administration.
- I-495 Capitol Beltway Widening EIS Noise Analysis, Fairfax Co., VA
- I-95 / I-395 / I-495 Springfield Interchange Noise Barrier Designs, Springfield, VA
- Dallas North Tollway System-wide Noise Abatement Study, Dallas, TX
- Massachusetts Turnpike System-wide Noise Barrier Priority Program, MA

National Park Projects

- Winter Use Plan EIS on Over-snow Vehicle Noise, Yellowstone and Grand Teton National Parks, WY
- Watercraft Noise Studies, Glen Canyon National Recreation Area, AZ & UT
- Overflight Noise Model Validation, Grand Canyon National Park, AZ
- Development of National Park Soundscape Management Plan, NPS, USDOJ

Airport Ground Noise Projects

- Portland International Airport Engine Run-up Enclosure Design and Testing, OR
- Logan Airport Many Ground-operations Noise Studies, 1978-2006, MA
- Pease International Jetport Engine Run-up Enclosure Design, NH
- LaGuardia Airport Western Boundary Noise Barrier Design, NY

HARRIS MILLER MILLER & HANSON INC.

Consultants in Noise and Vibration Control



Representative Publications and Presentations

- "Assessment of Community Reaction to Proposed Club Racetrack," paper no. 3PNCa3, proceedings of Noise-con 2005, Congress on Noise Control Engineering, Minneapolis, MN, October 17-21, 2005.
- "Noise Data from Snowmobile Pass-bys: The Significance of Frequency Content," Society of Automotive Engineers paper no. 2002-01-2765, SAE International Publication SP-1726, 2002.
- "Residential impact criteria and abatement strategies for roller coaster noise," paper no. 598, proceedings of Inter-Noise 2002, International Congress and Exposition on Noise Control Engineering, Dearborn, MI, USA, August 19-21, 2002.
- "Status of the International-INCE Initiative on Recreational Noise and Progress on Quantifying Noise Intrusions in Parks," paper no. 61, proceedings of Noise-Con 2001, Congress on Noise Control Engineering, Portland, ME, October 2001.
- "Experiences with USDOT's Traffic Noise Model (TNM)," paper no. 493, proceedings of Inter-Noise 2001, International Congress and Exposition on Noise Control Engineering, The Hague, The Netherlands, August 27-30, 2001.
- "Measurement and Modeling of Snowmobile Noise and Audibility at Yellowstone and Grand Teton National Parks," paper no. 2aNSa8, proceedings of Noise-Con 2000, Congress on Noise Control Engineering, Newport Beach, CA, Dec. 2000.
- "Technical Assessment of the Effectiveness of Noise Walls," International Institute of Noise Control Engineering Working Party on the Effectiveness of Noise Walls, I-INCE publication 99-1, *Noise/News International*, 7 (5) 1999 September, pp.137-161.
- FHWA Traffic Noise Model, Technical Manual, Federal Highway Administration Report No. FHWA-PD-96-010, February 1998.
- Noise from amusement park attractions: Sound level data and abatement strategies, *Noise Control Engineering Journal*, 47 (5) 1999 Sep-Oct.
- "Barrier Diffraction and Sound Propagation in USDOT's new Traffic Noise Model", Proceedings of Inter-noise 96, the 1996 International Congress on Noise Control Engineering, Liverpool, U.K., July, 1996.
- "Traffic Noise Model Propagation Algorithms: Some Interesting Characteristics," presented at the Annual Meeting of the Transportation Research Board, Washington, D.C., January 1995.
- "La Guardia Airport Ground-Noise Abatement Study," *Transportation Research Record 1444*, Transportation Research Board, National Research Council, 1994.
- "Low-Noise Windscreen Design and Performance," Proceedings of National Conference on Noise Control Engineering, Ft. Lauderdale, FL, May 1994.
- "Barrier Priority Program for the Massachusetts Turnpike," presented at the Annual Meeting of the Transportation Research Board, Washington, D.C., January 1993.
- "Fairness in Noise Barrier Policy and Design: A Case Study on the Dulles Toll Road," presented at the Annual Meeting of the Transportation Research Board, Washington, D.C., January 1991.
- "Wind Effects on an Airport Noise Barrier," presented at the Summer Meeting of the Transportation Research Board Committee on Noise and Vibration (AIFO4), Princeton, New Jersey, July 1987.
- "Noise Barrier Cost Reduction Procedure, STAMINA 2.0/OPTIMA: User's Manual," Federal Highway Administration Report NO. FHWA-DP-58-1, April 1982.
- Highway Noise: Sloped Barriers as an Alternative to Absorptive Barriers, *Noise Control Engineering*, 14:74, March-April 1980.
- "Barrier Cost Reduction Program: A Supplement to FHWA's STAMINA Program," *Transportation Research Record 740*, Transportation Research Board, National Research Council, 1980.