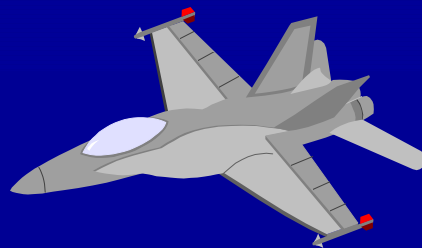
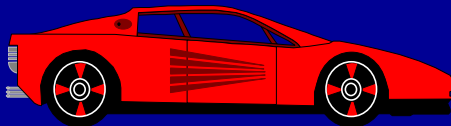


U.S. Transportation Noise Control Research & Policy-Making: A Preliminary Agenda for the Next Decade

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Transportation Noise Research & Policy-Making : A Preliminary Agenda for the Next Decade

Background

- Transportation Noise is the Largest Contributor to Community/Environmental Noise
- Human Effects are the Major Driver of the Need for Research and Policy-Making Activities (i.e., “Protection of the Public Health”)
- Noise Exposure is Still Increasing
- No National Agenda or Coordinated Funding Support
- Little Coordination between Stakeholders
- Some Progress is Still Being Made, but the Pace is Very Slow
- New European Commission Directives will Impact the US

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Background (2)

- Current Status of Research & Policy-Making in the US
 - Noise Measurement/Monitoring/Modeling - Good Progress
 - Research on Effects of Noise on Humans, Animals, Structures - Decreased Progress
 - National Policy Efforts Slowed Down since 1974 EPA “Levels Document”, virtually stopped since 1982
 - EPA Office of Noise Abatement and Control (ONAC) No Longer Funded
 - Current Policies Need to be Updated & Better Coordinated

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Background (3)

- How Does the the US Compare with the Rest of the World?
 - New World Health Organization “Guidelines”
 - European Commission Initiatives
 - Progress in Individual Countries in Europe, Asia, etc.

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Research & Development Requirements

- Better understanding of effects of noise exposure on humans, animals, & structures
- Standardized exposure prediction & impact assessment methodologies
- Improved techniques for control of noise at the source
- Less expensive noise barriers & sound insulation techniques
- Improved active/passive noise reduction & noise cancellation technologies
- Design guidelines/tools for architects, engineers, & city/urban/environmental Planners
 - “Soundscapes”
- *Public Education/Awareness Programs*

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

R&D - Noise Measurement/Monitoring/Modeling

- Agreement on Appropriate Metrics
- Modeling Exposure to Combined Noise Sources
- Weather/Seasonal Variation & Terrain
- Models for Unique Noise Sources (e.g., helicopters, rotocraft/hovercraft)
- Remote Area Monitoring
- Source Identification Algorithms for Major Noise Sources
- Personal Noise Monitor for Portable Monitoring

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Research on Effects of Noise on Humans

- Need to Consider Noise as a Public Health Problem
 - *Need to Quantify the Economic Impacts of Noise*
- Health Effects
 - *Non-Auditory (Cardiovascular) Health Effects*
 - Auditory Effects
- Community Annoyance (one vs. three curves?)
- Sleep Disturbance
- Speech/Communication Interference
- Task/Job Performance

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Research on Effects of Noise on Humans (2)

- Combined Noise Effects & Combined Environmental Stressors
- School Classrooms - “Learning Environments”
- Recreational Noise
- Effects at Levels Below 65 dB(A) DNL
- Noise Exposure Policy/Noise Control Evaluation Research
 - International Initiative to Evaluate Effectiveness of Noise Policies & Noise Control Technologies (I-INCE, ICBEN, WHO, UN, etc.)

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Support Requirements

- Need Congress to Identify Agencies with Responsibility for National Noise Control Policy --->DoT, EPA, DoC
- Need to Clarify Relationship between National, State, & Local Authorities –for both Policy-making and Enforcement
- Need Coordinated Research & Development Programs to Support Policy-Making Activities
- Need Increased Participation in Development of National & International Noise Control Guidelines, Regulations, Standards
 - Need Support from Employers
 - Improved Coordination with European and other Foreign Governmental Agencies

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Opportunities for Professional Coordination within the US

- ANSI Standards Committees - S3 (Bioacoustics) & S12 (Noise)
- ASA TCN
- INCE TCCN
- NCAC
- SAE (A-21, etc.)
- ***NRC TRB***

- ICBEN
- WHO (Geneva)
- UN

Transportation Noise Research & Policy-Making: A Preliminary Agenda for the Next Decade

Summary

- The U.S. was the world's leader in addressing environmental/community/transportation noise for nearly fifty years, but this momentum has been lost
- Noise must be considered a significant environmental "Public Health" problem - Most of the world's developed countries accept this and are making good progress on managing noise exposure
- The US population needs for involved federal agencies and professional organizations to make a renewed commitment to addressing noise control problems in the 21st Century
- *The NRC TRB can be a major player in making this happen!*