

# Transportation Research Board 83rd Annual Meeting

SESSION - 292

Aircraft Noise/Emissions  
Interrelationships Panel

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# TRB Aviation Environmental Design Tool (AEDT) Study

Wesley Harris

AEDT Study Chair

Professor of Aeronautics, MIT

# AEDT Committee

- M. J. Benzakein, NAE, GE
- L. W. Craig, Boeing
- G. E. Faeth, NAE, University of Michigan
- A. Gittens, Miami-Dade Aviation Department
- W. L. Harris, NAE, MIT (Committee Chair)
- I. Jopson, U.K. Civil Aviation Authority
- D. N. Mavris, GaTech
- J. E. Putnam, Kaplan Kirsh & Rockwell, LLP
- J. Schmidt, Center for Clean Air Policy
- R. Valeika, Delta Air lines, Inc
- M. L. Vigilante, Synergy Consultants, Inc

# AEDT Committee

- Sponsor
  - L. Q. Maurice, FAA
- NRC Liaison
  - J. A. Breen, TRB, Aviation Group
  - P. Johnson
  - N. Doyen

# AEDT Study

- FAA Objective
  - Develop a tool that provides a seamless, transparent, integrated capability of computing/identifying interrelationships between noise and emissions and amongst emissions at the aircraft, local, regional, and global levels **and that includes economic impact to justify environmental policy**
- AEDT Committee
  - Analyze AEDT requirements
  - Engage relevant stakeholders
  - Recommend methodology/scope/boundaries of AEDT
  - Assessment of FAA plan

# AEDT Study

- Tabula rasa vs. brown field
  - Existing limitations in knowledge of basic physics of emission processes
  - Fidelity of existing tools
  - Complexity
  - Verification and validation
  - Sustainability and upgradeability
  - Stakeholders and metrics (**atmospheric modeling**)
    - High quality data input

# AEDT Study

- Next steps
  - Refinement of AEDT objectives, requirements, needs
  - Continued engagement of national and international stakeholders
  - Assist FAA in planning and execution of Spring 2004 workshop
    - Relationship of anticipated outcomes to recommended objectives, requirements, and metrics