Noise-Related Projects under the FAA’s “Airport Cooperative Research Program”

Presentation to:
Airport Noise Abatement Committee
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Topics

- What is the Airport Cooperative Research Program (ACRP)?
- What is the history of the ACRP?
- How does the ACRP work?
- Why do we need the ACRP?
- What noise-related projects has/is/will ACRP address?
  - Completed projects
  - Ongoing projects
  - Upcoming projects
- How do I learn more?
What is the “ACRP”

- An industry-driven, applied-research program that develops near-term, practical solutions to problems faced by airport operators.
- Managed by the Transportation Research Board (TRB) of the National Academies.
- Funded through annual FAA appropriations, based on authorizations from U.S. Congress.
- Research is conducted by contractors who are selected on the basis of competitive proposals.

From ACRP website (http://www.trb.org/acrp/acrp.aspx)
What is the history of the ACRP?

- March 2003 - [TRB Special Report 272: Airport Research Needs: Cooperative Solutions](http://www.trb.org/acrp/acrp.aspx) identified the need for ACRP.
- December 2003 – U.S. Congress authorized ACRP as part of “Vision 100 – Century of Aviation Reauthorization Act.”
- October 2005 – FAA executed a contract with the National Academies, acting through its Transportation Research Board (TRB), to manage ACRP, with program oversight and governance provided by airport operating agencies.
- Approx. $10-13 million in annual funding starting FY 2005.
- Approximately 200 projects funded to date.
- Approximately 10% of projects are noise-related.

Why do we need the ACRP?

- Airports are vital national resources. They serve key roles in the transportation of people and goods and in regional, national, and international commerce.
- Research is necessary to solve common operating problems, adapt new technologies from other industries, and introduce innovations into the airport industry.

**ACRP carries out applied research on problems shared by airport operators that are not adequately addressed by existing federal research programs.**

- ACRP undertakes research and technical activities in subject areas including design, construction, environment, maintenance, operations, safety, security, policy, planning, human resources, and administration.

From ACRP website *(http://www.trb.org/acrp/acrp.aspx)*
Any interested party may submit a “problem statement” defining a research idea to ACRP

- ACRP website provides guidance

ACRP Oversight Committee (AOC) selects topics to fund

- Emphasis is placed on topics important to airport operators and that will result in “applied research” products that airport operators will be able to use immediately upon completion of the research.

TRB-chosen Project Panels provide technical guidance

- Include experienced practitioners and research specialists; heavy emphasis is placed on members representing intended users of research products. Panels prepare project statements, evaluate proposals, select contractors, guide the projects, and review the reports. Panel members serve voluntarily without compensation.

From ACRP website (http://www.trb.org/acrp/acrp.aspx)
Types of Projects

- **Noise-related products to date largely fall into four categories:**
  - Research Study Reports: Main products of research studies. Often written as guidebooks or manuals. Typical budgets $100,000 - $600,000
  - Syntheses of Practice: Literature reviews and surveys of recent activities. Inform airport managers about innovations being used by others to solve problems. Limited budgets (typically ±$35,000).
  - Web-Only Documents: Searchable PDFs of contractor-prepared reports or supporting appendix materials.
  - Impacts on Practice: Examples of how practitioners are using ACRP research results.
# Completed Projects

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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>Stage</th>
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<tbody>
<tr>
<td>ACRP 02-05</td>
<td>Guidebook on Community Responses to Aircraft Noise: A Toolkit for Managing Community Expectations</td>
<td>Final</td>
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<tr>
<td>ACRP 02-09</td>
<td>A Comprehensive Development Plan for a Multimodal Noise and Emissions Model</td>
<td>Complete</td>
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<td>ACRP 02-12</td>
<td>Environmental Optimization of Aircraft Departures: Fuel Burn, Emissions, and Noise</td>
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<td>ACRP-02-24</td>
<td>Guidelines for Airport Sound Insulation Programs</td>
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<td>ACRP 02-27</td>
<td>Aircraft Taxi Noise Database for Airport Noise Modeling</td>
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<tr>
<td>ACRP 02-31</td>
<td>Assessment of Sound Insulation Treatments</td>
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<tr>
<td>ACRP 11-02/Task 08</td>
<td>Enhanced Modeling of Aircraft Taxiway Noise - Scoping</td>
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<tr>
<td>ACRP 11-03/S02-01</td>
<td>Effects of Aircraft Noise</td>
<td>Final</td>
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<tr>
<td>ACRP 11-03/S02-03</td>
<td>A Compilation of Airport Noise Programs in Areas Outside DNL 65 (HMMH Project)</td>
<td>Final</td>
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## Ongoing Projects

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<th>Project #</th>
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<tr>
<td>ACRP 02-26</td>
<td>Assessing Aircraft Noise Conditions Affecting Student Learning</td>
<td>Active</td>
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<tr>
<td>ACRP 02-35</td>
<td>Research Methods for Understanding Aircraft Noise Annoyance and Sleep Disturbance (HMMH project)</td>
<td>Active</td>
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<tr>
<td>ACRP 02-37</td>
<td>Integrated Noise Model Accuracy for General Aviation Aircraft (HMMH project)</td>
<td>Active</td>
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<tr>
<td>ACRP 02-44</td>
<td>Helicopter Noise Modeling Guidance</td>
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# Upcoming Projects

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<tr>
<td>ACRP 02-47</td>
<td>Assessing Aircraft Noise Conditions Affecting Student Achievement – Case Studies</td>
<td>Pending</td>
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<tr>
<td>ACRP 02-48</td>
<td>Assessing Community Annoyance of Helicopter Noise</td>
<td>RFP</td>
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<tr>
<td>ACRP 02-51</td>
<td>Evaluating Methods for Determining Interior Noise Levels Used in Airport Sound Insulation Programs</td>
<td>Pending</td>
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<tr>
<td>ACRP 02-52</td>
<td>Improving AEDT Noise Modeling of Hard, Soft, and Mixed Ground Surfaces</td>
<td>RFP</td>
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How do I learn more?

- **Monitor**  [http://www.trb.org/acrp/acrp.aspx](http://www.trb.org/acrp/acrp.aspx)
  - Search under “publications” using “noise” and “sound” keywords
  - Download and review scopes, reports, and other information

- **ACRP publishes newsletters with project summaries**

- See “How you can become involved in ACRP”

**Questions?**

*Thanks your attention, interest, and participation!*