2011-IESALC
Wilmington, NC

TRANSPORTATION RESEARCH BOARD

ACRP

Airport Cooperative Research Program

2011 IES Aviation Lighting Committee Fall Conference
Wilmington, N C October 16-20

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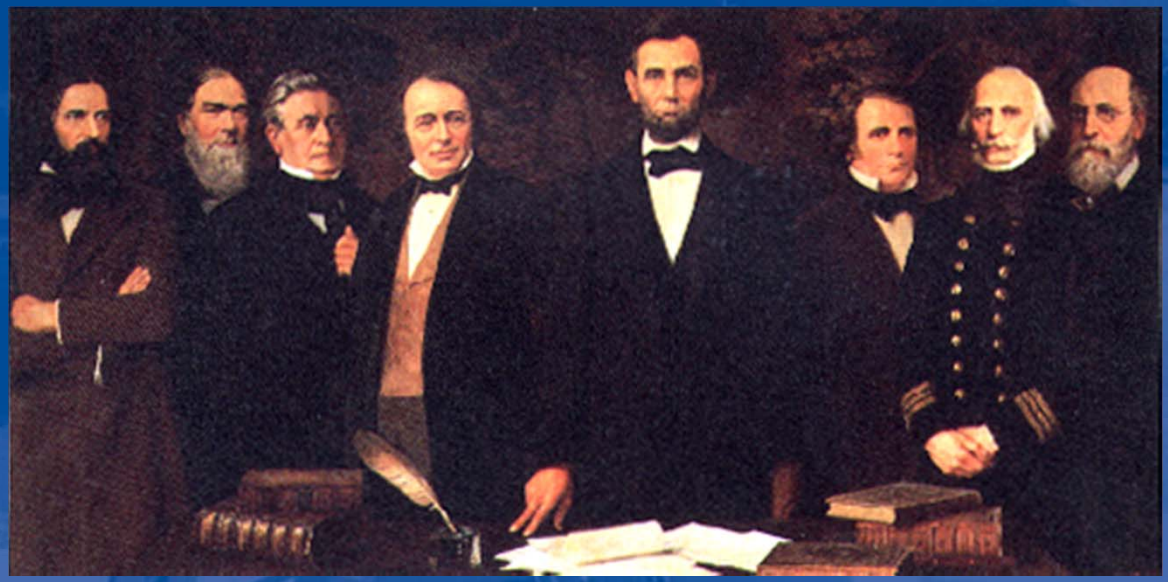
1863 Founding of the National Academy of Sciences



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1920 Advisory Board on Highway Research Established

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Airport Cooperative Research Program

- Authorized by Congress.
- Sponsored (funded) by FAA.
- Driven by and for the airport industry.
- ACRP Oversight Committee reviews, selects, and funds projects.

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Airport Cooperative Research Program

Sponsor:	FAA
Program Manager:	TRB
Governing Board:	ACRP Oversight Committee
Customers:	Airport Operators
Subject:	Practical Problems
Objective:	Solutions through Applied Research
Timing:	Continuing

Funding:

- $ 3.0M (FY ‘05)
- $10.0M (FY ‘06)
- $10.0M (FY ‘07)
- $10.0M (FY ’08)
- $15.0M (FY ’09)
- $15.0M (FY’10)
- $15.0M (FY’11)
- $?? (FY’ 12)

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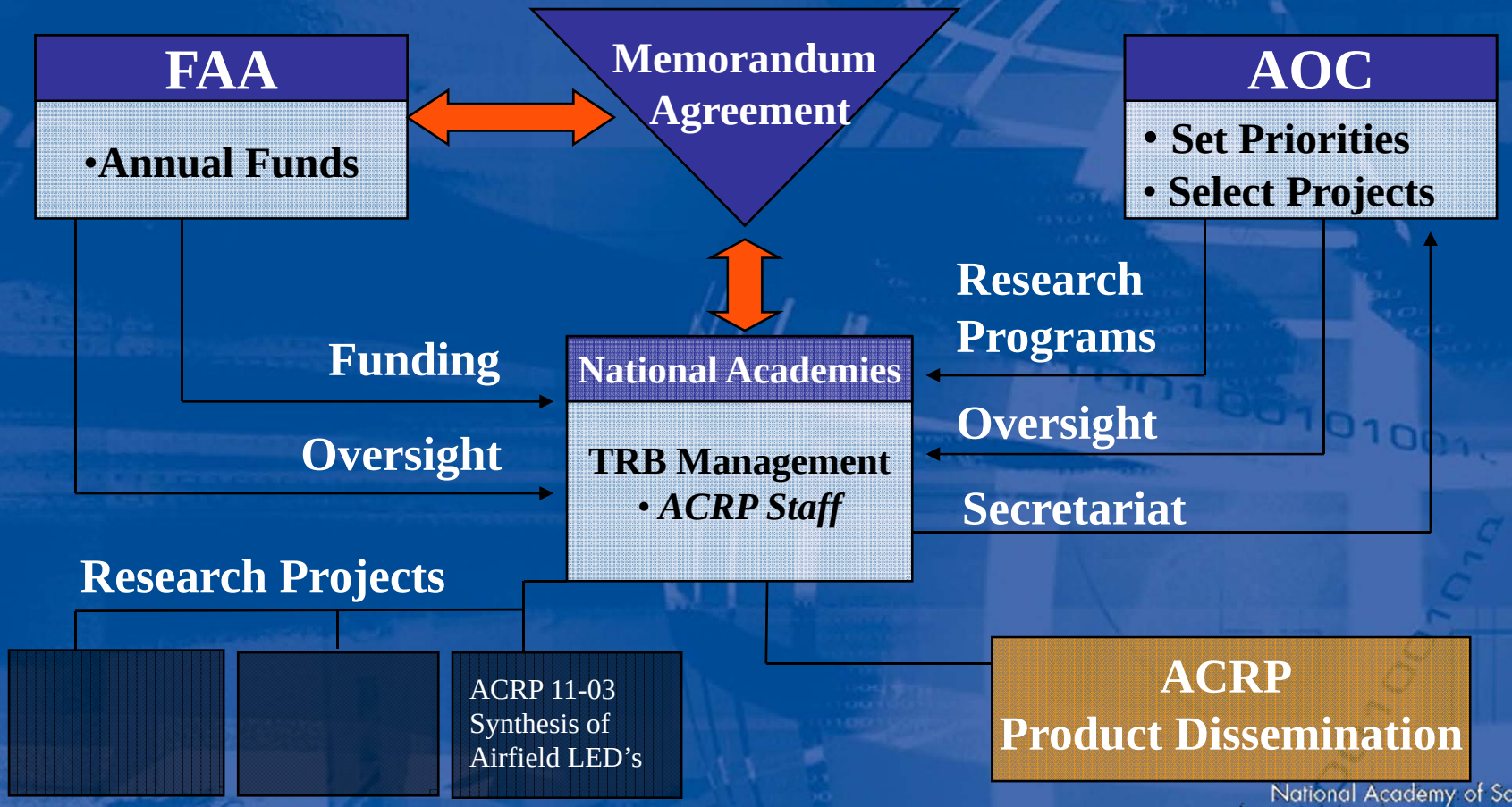
Organizational Structure



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ACRP Synthesis Projects FY'11

S11-02-06	Airport Climate Change Adaptation and Preparedness
S11-04-07	Lessons Learned from Airport Safety Management Systems Pilot Study
S11-04-08	Managing Aerial Firefighting Activities on Airports
S11-06-03	Managing Commuting Needs of Airport Employees
S11-09-03	Locating Underground Utilities at Airports and Geographic Information Systems
S11-09-04	**Issues with Use of Airfield LED Light Fixtures**
S11-10-07	Aircraft Recovery Equipment for Various Aircraft

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Basic Information

- The synthesis process is over eight months, and includes two one-day meetings.
- One one-hour with a consultant that is selected at the first meeting, and review of a work plan/report table of contents/proposed questionnaire/proposed survey recipients and a draft report.
- ***TRB pays for panelist travel to attend meetings.***
- All activities and meetings will be scheduled at the 1st panel meeting to accommodate experts' busy schedules.
- Travel info and a formal invitation letter is sent about one month ahead of the meeting so that you can reserve your flight and room and have it direct billed to TRB.

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ACRP Project 11-03/ Topic S09-04 Committee

Issues with the use of Airfield LED Light Fixtures

Ms. Gail Staba, AICP Transportation Research Board, Senior Program Officer

Mr. John D. Bullough Sr. Research Scientist, Rensselaer Polytechnic Institute Lighting Research Center

Mr. Alvin Logan, Electrical Engineer, FAA, Interested Observer

Mr. Thomas Mai, Electrical Engineer, FAA Liaison

Frank Barczak, Manager/Electrical Systems, Orlando International Airport

Mr. Somnath Mukherjee, PE, Sr. Engineer, Port Authority of New York & New Jersey

Mr. Steve Pittman, PE, Deputy Airport Dir., Fac. Eng. & Maint, Raleigh-Durham Inter. Airport

Mr. Ed Runyon, Advanced Technology Manager, ADB Airfield Solutions

Mr. Verne R Skagerberg, Transportation Planner I, Alaska Department of Transportation & Public Facilities

Mr. Thomas Zeidlik, Associate Professor, University of North Dakota

Mr. Alex Baker, Lighting Program Manager, US Environmental Protection Agency

Mr. Richard A. Cunard, P.E., Engineer of Traffic, Transportation Research Board

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Issues with Use of Airfield LED Light Fixtures

LEDs are cited as having advantages over traditional airfield fixtures, including energy savings versus incandescent bulbs and less need for fixture maintenance. Beginning in 2002, several U.S. airports have installed one or more types of LED airfield light fixtures.

The initial experiences of at least one airport with airfield LEDs have been that the lights may also have disadvantages. Potential problems include general reliability issues such as LED drivers, difficult installation, failed fixtures, vibration and load issues with in-pavement fixtures, glycol or similar de-icing fluid interactions, surge currents, EMI and RFI. In addition, performance during winter conditions and the potential need for heaters and thermostats are also of concern. Given the initial investment required, the potential for these and other problems could make it difficult for airport operators to justify the installation of airfield LED light fixtures.

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Synthesis Final Scope

- The objective of this study is to summarize the considerations in the decision to install LED fixtures, potential savings and benefits of LED fixture installation, problems that airports have faced in their use, as well as any solutions devised in response, lessons learned and responses to frequently asked questions.

- The research for the synthesis of practice would include a review of current literature on the use of LED airfield light fixtures, and a survey of airport staff where airfield LED light fixtures are being used.

- The synthesis report will describe current practice in the installation, operation, performance and maintenance of the fixtures; it will assist a reader in understanding the pros and cons of LED light fixtures; and it will help operators anticipate the benefits and problems through lessons learned by airports with prior experience.

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TIMELINE

- mid November 2011: contractor provides first draft of report to panel members
- early December 2011: contractor and panel members meet to discuss draft
- early January 2012: contractor provides second draft to panel members based on panel feedback
- late April 2012: contractor provides final draft to TRB based on feedback from second draft

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ACRP Synthesis
Topic Panel Contribution

- Synthesis final reports are regarded as authoritative, unbiased accounts of current practice and knowledge.
- The TRB gets good research principal investigators to do these.
- **Most important, the reader knows the work was extensively directed and reviewed by an experienced, knowledgeable panel.**

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  (requests for proposals)
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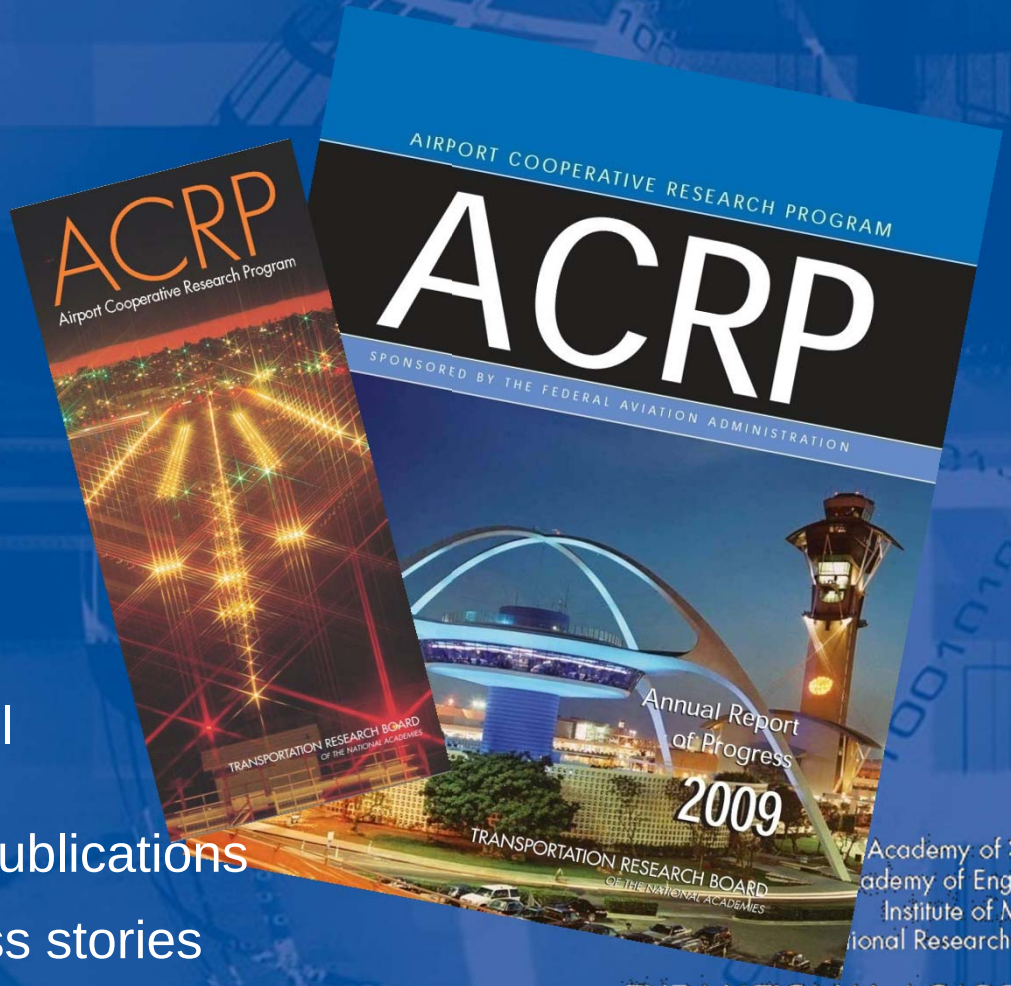
  - notification of RFPs
  - notification of new publications
- Online forum for success stories



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