

AIRPORT COOPERATIVE RESEARCH PROGRAM

# ACRP

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Annual Report  
of Progress

**2008**

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\*Membership as of October 2008.

\*Membership as of November 2008.

AIRPORT COOPERATIVE RESEARCH PROGRAM

# ACRP

Annual Report  
of Progress  
**2008**

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WASHINGTON, D.C.

2008

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The **National Academy of Engineering** was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Charles M. Vest is president of the National Academy of Engineering.

The **Institute of Medicine** was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, on its own initiative, to identify issues of medical care, research, and education. Dr. Harvey V. Fineberg is president of the Institute of Medicine.

The **National Research Council** was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both the Academies and the Institute of Medicine. Dr. Ralph J. Cicerone and Dr. Charles M. Vest are chair and vice chair, respectively, of the National Research Council.

The **Transportation Research Board** is one of six major divisions of the National Research Council. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board's varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation. [www.TRB.org](http://www.TRB.org)

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## **CONTENTS**

### **Third Annual Report of Progress, 1**

- Background, 1
- Program Participants, 1
- Selection of Research, 2
- Program Management, 3
- Project Panels, 3
- Selection of Contractors, 3
- Funding, 4
- Products, 4
- Status, 4

### **Publications of the Airport Cooperative Research Program, 14**

#### **ACRP Project Status, 16**

- Summary of Project Status Through December 31, 2008, 17

#### **Address and Contact Information, 31**

#### **How to Order, 32**

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The cover photograph, courtesy of Dave Friedrich of National Airviews, Inc., was taken following the October 2007 opening of the Runway Improvement Program at Hagerstown Regional Airport in Maryland. The Runway 27 and the Taxiway A extensions were built overtop of U.S. Route 11.



## AIRPORT COOPERATIVE RESEARCH PROGRAM

# Third Annual Report of Progress

December 31, 2008

### BACKGROUND

The Airport Cooperative Research Program (ACRP) conducts applied research on problems important to airport operators. The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. The Program is sponsored by the Federal Aviation Administration (FAA) and managed by the National Academies, acting through its Transportation Research Board (TRB), with program oversight provided by an independent governing board (the ACRP Oversight Committee) including representatives of airport operating agencies.

Airports are vital national resources. They serve a key role in transportation of people and goods and in regional, national, and international commerce. They are where the nation's aviation system connects with other modes of transportation and where federal responsibility for managing and regulating air traffic operations intersects with the role of state and local governments that own and operate most airports. Research is necessary to solve common operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the airport industry.

The ACRP carries out applied research on problems that are shared by airport operating agencies and are not being adequately addressed by existing federal research programs. The need for ACRP was identified in *TRB Special Report 272: Airport Research Needs: Cooperative Solutions* in 2003, based on a study sponsored by the FAA. The ACRP undertakes research and other technical activities in a variety of airport subject areas, including design, construction, maintenance, operations, safety, security, policy, planning, human resources, and administration.

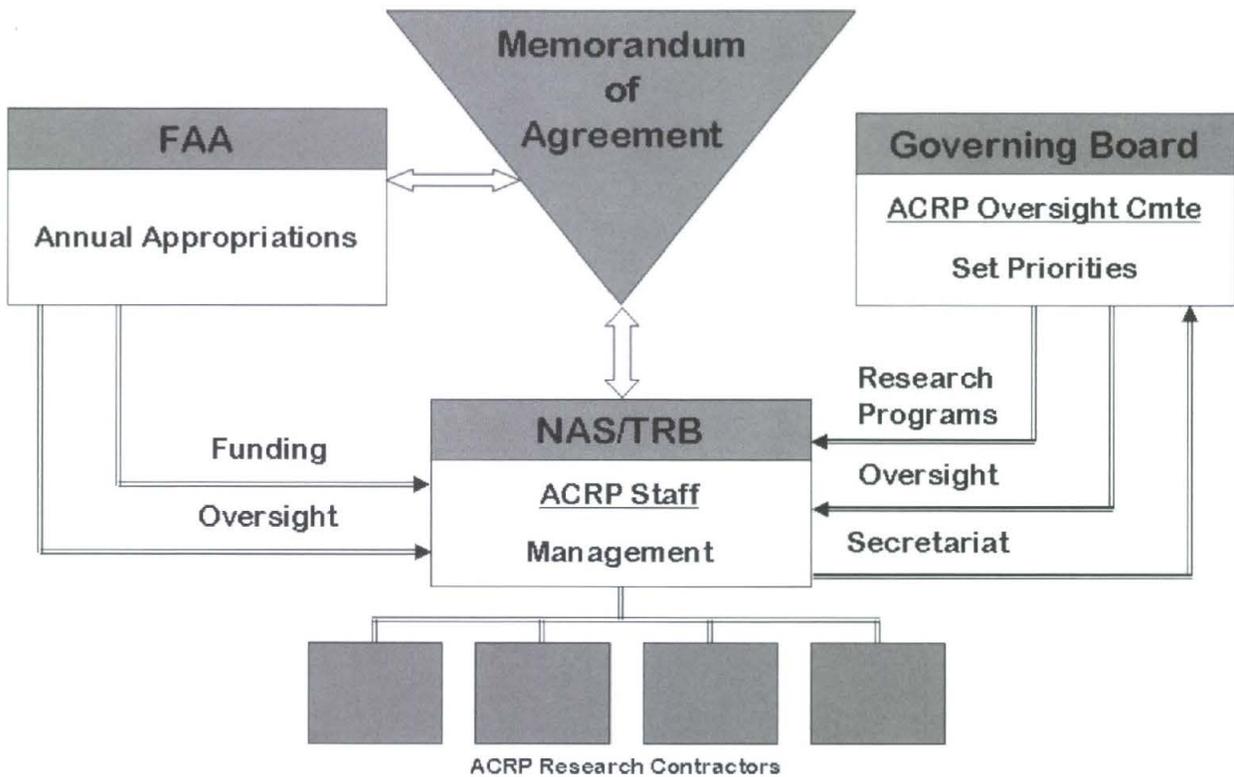
### PROGRAM PARTICIPANTS

The primary participants in the ACRP are (1) an independent governing board, the ACRP Oversight Committee (AOC), appointed by the Secretary of the U.S. Department of Transportation with representation from airport operating agencies, other stakeholders, and relevant industry organizations such as the Airports Council International-North America (ACI-NA), the American Association of Airport Executives (AAAE), the National Association of State Aviation Officials (NASAO), and the Air Transport Association (ATA) as vital

links to the airport community; (2) the TRB as program manager and secretariat for the governing board; and (3) the FAA as program sponsor. Figure 1 illustrates the ACRP organizational structure.

The ACRP benefits from the cooperation and participation of airport professionals, air carriers, shippers, state and local government officials, equipment and service suppliers, other airport users, and research organizations. Each of these participants has different interests and responsibilities, and each is an integral part of this cooperative research effort.

**Figure 1  
Airport Cooperative Research Program  
Organizational Structure**



## SELECTION OF RESEARCH

Research problem statements for the ACRP are solicited periodically but may be submitted to the TRB by anyone at any time. It is the responsibility of the AOC to formulate the research program by identifying the highest priority projects and defining funding levels and expected products.

## **PROGRAM MANAGEMENT**

The ACRP is managed by the TRB using procedures modeled after those used in managing the National Cooperative Highway Research Program and the Transit Cooperative Research Program. Day-to-day program management includes the following tasks:

1. Assisting the AOC in identifying and prioritizing research needs;
2. Appointing and coordinating expert technical panels to guide research projects;
3. Developing and distributing Requests for Proposals;
4. Processing and evaluating proposals to select the best-qualified research agencies;
5. Executing contracts with the selected researchers;
6. Guiding the research;
7. Reviewing research reports;
8. Publishing and disseminating research reports; and
9. Promoting the application of research results.

## **PROJECT PANELS**

Each ACRP project is assigned to a panel, appointed by the TRB; the panel provides technical guidance and counsel throughout the life of the project. Panels include experienced practitioners and research specialists; heavy emphasis is placed on including airport professionals, the intended users of the research products. The panels prepare Requests for Proposals and select contractors based on evaluation of the proposals received; the panels also guide the projects and review the reports. As in other TRB activities, ACRP project panel members serve voluntarily without compensation.

## **SELECTION OF CONTRACTORS**

The process for selecting ACRP researchers has been used by the TRB in managing cooperative research programs for more than 45 years. This open process allows all potential research agencies to compete on the basis of technical merit and ensures that all proposers are treated fairly and that the program has access to the best talent available for each project. Proposals from potential research contractors are evaluated by the project panels. The evaluation considers the following: (1) the proposer's demonstrated understanding of the problem; (2) the merit of the proposed research approach and experiment design; (3) the experience, qualifications, and objectivity of the research team in the same or closely related areas; (4) the plan for promoting application of results; (5) the proposer's plan for involvement of disadvantaged business enterprises; and (6) the adequacy of the facilities.

## **FUNDING**

The Vision 100-Century of Aviation Reauthorization Act authorized \$10 million per year for the ACRP in Fiscal Years (FY) 2004 through 2008. Given the timing of the approval of the Act vis-a-vis the FY 2004 appropriation process, no funds were appropriated for the program in FY 2004. ACRP funding of \$3 million was appropriated for FY 2005. In FY 2006, FY 2007, and FY 2008, \$10 million was appropriated for each. An additional \$10 million is anticipated for FY 2009. Funding for FY 2009 and beyond, however, will be contingent upon the reauthorization of the Vision 100 legislation, which is under consideration as of this writing.

## **PRODUCTS**

Primary emphasis is placed on disseminating ACRP results to the intended end-users of the research: airport operating agencies, service providers, and suppliers. The ACRP will produce a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties, and industry associations may arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by airport-industry practitioners.

## **STATUS**

The ACRP officially started in October 2005. A Memorandum of Agreement was executed by the FAA and the TRB, and the ACRP governing board was appointed by the Secretary of the U.S. Department of Transportation, according to the terms of the Memorandum of Agreement.

Some 115 statements of research need were assembled for consideration in formulating the ACRP agenda for Fiscal Years 2005 and 2006, and the governing board met on January 30 and 31, 2006, to establish operating procedures for the ACRP and to select FY 2005/2006 research projects. An additional 68 statements of research needs were received in the first half of 2006. The governing board met again on July 30 and 31, 2006, and on January 31, 2007, to select FY 2007 research projects.

During the first half of 2007, an additional 139 potential research topics, totaling over \$45 million in research needs, were received in response to an industry-wide solicitation of the airport community. The ACRP governing board met on July 22 and 23, 2007, and selected the FY 2008 research program from among the topics received.

In 2008, 147 potential research topics were received for consideration totaling over \$53 million. The ACRP governing board met on July 20 and 21, 2008, to select the FY 2009 research programs from among these topics.

A total of 119 projects have been authorized to date in the ACRP (74 regular projects, 17 syntheses, 14 legal research projects, and 14 “quick-response” studies). See the section on ACRP Project Status.

Eleven research fields are used to classify ACRP research.

- Administration
- Environment
- Policy and Planning
- Safety
- Security
- Human Resources
- Design
- Construction
- Maintenance
- Operations
- Special Projects

The distribution of all projects and syntheses through December 2008 is shown in Table 1.

**Table 1. Distribution of Projects and Syntheses by Research Field Through December 31, 2008**

Research Fields	Number of Projects	Number of Syntheses
1. Administration	12	1
2. Environment	15	4
3. Policy and Planning	17	5
4. Safety	10	3
5. Security	1	0
6. Human Resources	1	0
7. Design	6	0
8. Construction	1	0
9. Maintenance	1	1
10. Operations	9	3

Table 2 shows the origin of potential research topics (i.e., problem statements) submitted through the FY 2009 cycle. In addition, this table identifies the sources of the problem statements that have been selected by the ACRP governing board.

**Table 2. Origin of Problem Statements**

ORGANIZATION	FY 2005/2006		FY 2007		FY 2008		FY 2009		SELECTED TO DATE (Thru FY 2009)	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Airport Operator	23	20.0	9	13.2	16	11.5	29	19.7	15	20.2
State DOT	13	11.3	5	7.4	8	5.8	4	2.7	3	4.1
FAA	0	0.0	0	0.0	8	5.8	8	5.4	11	14.9
Industry Associations Staff/Committee	13	11.3	2	2.9	11	7.9	13	8.8	15	20.2
TRB Committee	1	0.9	0	0.0	6	4.3	6	4.1	5	6.8
Industry	1	0.9	6	8.8	23	16.5	19	12.9	4	5.4
University	30	26.1	15	22.1	22	15.8	30	20.4	6	8.1
Consultant	29	25.2	26	38.2	30	21.6	37	25.2	10	13.5
Other	5	4.3	5	7.4	15	10.8	1	0.8	5	6.8
Totals	115	100	68	100	139	100	147	100	74	100

Table 3 displays project panel composition by affiliation, race, and gender through the FY 2008 research program (FY 2009 project panels have not yet been formed as of this writing). Over 400 individuals from the airport industry are volunteering their time and effort to participate in the ACRP. This industry participation helps to ensure that the research products are useful to airport industry practitioners.

**Table 3. Panel Composition of Active Projects**  
(56 Project Panels, 404 Members)

	No.	%
<b>AFFILIATION</b>		
Airport Operator	139	34.4
State Gov't	39	9.8
Local Gov't/MPO	22	5.4
Federal Gov't	15	3.6
Industry/Consultants/Private Sector	139	34.4
University	33	8.3
Association	17	4.1
<b>RACE</b>	<b>Members/Chairs</b>	<b>Members/Chairs</b>
White	289/47	83.1/83.9
Minorities	59/9	16.9/16.1
<b>GENDER</b>	<b>Members/Chairs</b>	<b>Members/Chairs</b>
Male	276/39	79.2/69.6
Female	72/17	20.8/30.4

During 2008, 21 ACRP publications were released. These publications include 8 in the ACRP Report series, 8 in the Synthesis of Practice series, 4 in the Legal Research Digest series, and 1 TRB Conference Proceedings. Table 4 provides a listing of all currently available ACRP publications as of December 31, 2008.

The following ACRP activities of particular interest were completed during 2008. Table 5 provides a summary of all ACRP research projects selected, along with their status as of December 31, 2008.

### **Airport Terminals and Facilities**

*ACRP Synthesis 8: Common Use Facilities and Equipment at Airports* provides a summary of the state of common use throughout the world and the knowledge currently available and how it is currently employed in the United States. It identifies the advantages and disadvantages to airports and airlines, and touches on the effects of common use on the passenger. The synthesis attempts to present the views of both airlines and airports so that a complete picture of the effects of common use can be gathered.

The information in this synthesis will be supplemented by the results of ACRP Project 10-05, "Understanding Common-Use Approaches at Airports." This project, scheduled for completion and publication in late 2009, will develop a reference guide for airports, airlines, and other stakeholders to identify and understand the financial, operational, liability, safety, customer service, and competitive elements of a common-use approach to the utilization of airport facilities and the provision of services. The guide will provide detailed analyses and information enabling individual airports and airlines to evaluate the feasibility and applicability of implementing a common-use approach. It will also provide common practices for evaluating, implementing, operating, and maintaining common-use facilities and services. For purposes of this project, the term common-use approach refers to non-exclusive facilities available to more than one tenant and certain airport-provided services to tenants.

*ACRP Report 10: Innovations for Airport Terminal Facilities* develops new concepts that will stimulate design innovation for terminal landside facilities at FAA-designated large- and medium-hub airports to improve passenger accessibility and level of service between ground transportation and the secure parts of the terminal.

### **Airport Safety**

*ACRP Report 2: Evaluation and Mitigation of Aircraft Slide Evacuation Injuries* provides guidance on reducing injuries and improving safety and coordination during aircraft slide evacuation events. The report examines available data regarding commercial aircraft slide deployments with particular focus on injuries to aircraft crew and passengers incurred during aircraft slide evacuations. A better understanding of the types and potential causes of injuries will help airport first responders, such as Aircraft Rescue and Fire Fighting

personnel, and airport and aircraft operators to better prepare for commercial aircraft slide deployments and possibly prevent some injuries from occurring.

*ACRP Report 3: Analysis of Aircraft Overruns and Undershoots for Runway Safety Areas* examines historical data related to both overrun and undershoot occurrences to airport operators and airport planners in identifying conditions that may contribute to overruns and undershoots occurrences at airports. This report uses a probabilistic approach—a quantitative assessment—to analyze the runway safety area (RSA) and begins a discussion on how alternatives to a standard 1,000-foot RSA may adequately mitigate risk. The report also assesses the factors that increase the risk of such accidents occurring, helps with understanding how these incidents may happen, and suggests that aircraft overrun and undershoot risks are related to specific operational factors. The report suggests that significant improvement to airport operations safety may be achieved by monitoring and managing these operational factors for both RSA planning and during actual aircraft operations, and it provides recommendations for collection and reporting of data in future accident and incident investigations and reporting to allow future improvements to these models.

*ACRP Report 5: Quarantine Facilities for Arriving Air Travelers: Identification of Planning Needs and Costs* discusses facility issues, security considerations, and estimated costs (including operating costs) that would need to be considered by airport operators and policymakers in planning for the potential quarantine of arriving air travelers at a U.S. international airport. The laws that govern quarantine and the nine diseases for which the federal government can order quarantine are addressed, along with examples of symptoms and incubation times. The physical requirements of space, privacy, communications, food, water, and sanitary conditions are discussed. Operational considerations are described in the form of a standard of care to illustrate many of the issues that could develop if a diverse group of travelers was required to live together in close proximity under medical surveillance. Finally, estimates of the costs for an airport to establish a facility for quarantining up to 200 people for a maximum of 2 weeks are itemized.

*ACRP Report 8: Lightning-Warning Systems for Use by Airports* addresses the use of lightning detection and warning systems at commercial airports for aircraft ramp safety. The report includes a quantitative means to assess the operational benefits associated with delay reductions that lightning detection and warning systems can generate. It enables an assessment of whether such systems are cost-beneficial on an individual airport or airline basis. This report will be of particular interest to airline and airport personnel responsible for aircraft ramp safety.

*ACRP Synthesis 12: Preventing Aircraft-Vehicle Incidents During Winter Operations and Periods of Low Visibility* provides a compendium of existing practices, procedures, training, and systems that airport operators use to reduce the risk of vehicle-aircraft incidents during winter/low-visibility

operations. The synthesis addresses airports with operating full-time, part-time, or without airport traffic control towers (ATCTs) and includes airports ranging in size from general aviation to large hub. Information is provided in the following areas: (1) communication protocols and systems currently in use between winter operation vehicles, winter operation vehicles and Air Traffic Control (both the ATCT and approach control), winter operation vehicles and aircraft especially at airports without an operating ATCT; (2) training that is provided to winter/low-visibility operations vehicle drivers on airfield operations to avoid conflicts with aircraft; (3) winter operation protocols such as closing runways, avoiding entering crosswind runways, assuring all winter operation vehicles are clear of a runway or a particular area, any prohibitions on using cell phones or listening to AM/FM radios, CD's, etc., during winter operations, and any steps to limit driver fatigue; and (4) commercial systems that are or can be used to prevent vehicle-aircraft incidents.

*TRB Conference Proceedings 41: Interagency-Aviation Industry Collaboration on Planning for Pandemic Outbreaks* provides the results of a workshop held among individuals involved in planning and responding to pandemic events—from both the public sector (federal agencies and state and local agencies, including public airports) and the private sector (airlines and consultants with expertise in various facets of aviation). The workshop goals were to examine (a) the action items included in the section on Transportation and Borders in the May 2006 National Pandemic Plan that directly or indirectly affect air transportation, (b) the current state of the practice for pandemic planning by airports and airlines, (c) coordination among various agencies and the aviation sector to implement these plans, and (d) potential areas for public-private cooperation in pandemic planning.

### **Airport Maintenance**

*ACRP Synthesis 6: Impact of Airport Pavement Deicing Products on Aircraft and Airfield Infrastructure* reports on how airports chemically treat their airport pavements to mitigate snow and ice, and the chemicals used; reviews the effects of pavement deicing products (PDPs) on aircraft and airfield infrastructure; and describes critical knowledge gaps in the subject. Effects of PDPs on airport components include description of catalytic oxidation of carbon-carbon composite brakes; cadmium corrosion; and chemical interaction of aircraft deicing and anti-icing fluids on airfield infrastructure, including concrete and asphalt pavements and metal and composite fixtures such as runway lights.

*ACRP Synthesis 11: Impact of Rubber Removal Techniques on Runways* provides a summary of industry practices associated with the removal of rubber from runways. The synthesis contains: (1) results of a literature review of rubber removal and damage to grooves; (2) specifics of rubber removal programs by airport, including pavement type (concrete or asphalt); frequency of airport rubber removal; time of year rubber removal is usually accomplished; rubber removal methods employed and reasons for

choosing method; types and number of equipment used and crew size; surface area of rubber removal and duration of runway closure; contracting method employed or in-house, and value of contract and unit price; (3) other potential impacts on airport operations and airport maintenance functions (e.g., runway availability, chemical impacts on landings, equipment, disposal issues, weather, cost, production rates); and (4) performance criteria specified to contractor or rubber removal team; any damage reports to runways that could be attributed to rubber removal operations and techniques; applicability of methods employed and trade offs; case studies from surveyed airports with excellent results and poor results; and method-specific details (e.g., water pressure, chemicals, nozzle size, type of shot, cleaning swath, method of waste stream recovery, disposal and environmental impact).

### **Airport Environmental Challenges**

*ACRP Report 6: Research Needs Associated with Particulate Emissions at Airports* provides guidance on the most important research needed by the airport community in the area of particulate emissions. The report examines the state of the industry research on aviation-related particulate matter emissions and identifies knowledge gaps that existing research has not yet bridged. These gaps and related research needs are then prioritized based on the ability of research in those areas to address airports' needs for more thorough and accurate aviation-related particulate matter emissions inventories.

*ACRP Report 7: Aircraft and Airport-Related Hazardous Air Pollutants: Research Needs and Analysis* provides guidance on the most important projects to the airport community in the area of hazardous air pollutants (HAPs). This report examines the state of the latest research on aviation-related HAP emissions and identifies knowledge gaps where future research is needed. These gaps are prioritized based on the ability of research in those areas to provide airports with a better understanding of the relationship of the type and amount of HAPs being emitted and their impacts.

*ACRP Report 9: Summarizing and Interpreting Aircraft Gaseous and Particulate Emissions Data* summarizes, analyzes, and interprets the scientific data available from the Aircraft Particle Emissions Experiment (APEX) 1-3 and the Unnamed Airport-Unnamed Airline (UNA-UNA) experiment. The results are presented in a comprehensive report to help the airport community and general public understand the data's ability to contribute to developing better air quality assessments in the airport environment.

*ACRP Synthesis 9: Effects of Aircraft Noise: Research Update on Selected Topics* provides an update on aviation noise research that has been conducted since 1985 when the FAA published its *Aviation Noise Effects* report. Information is provided on health effects (e.g., psychological, physiological, hearing loss, sleep effects); annoyance (e.g., speech interference, operational frequency, time of day); effects on noise sensitive,

non-residential facilities (e.g., schools, hospitals, care homes, parks); effects on property values; effects on wildlife and domestic animals; effects of low frequency noise and vibration; effects of meteorological conditions on noise propagation and human perception (e.g., wind, cloud cover, temperature, humidity, fog); and effects of topography and acoustic hard surfaces on noise propagation and human perception (e.g., canyons, water bodies).

*ACRP Synthesis 10: Airport Sustainability Practices* provides information about a range of airport sustainability practices gathered from a literature review and web-based survey. It specifically targets airport operators and provides a snapshot of airport sustainability practices across the triple bottom line of environmental, economic, and social issues.

ACRP Project 2-02, “Managing Runoff from Aircraft and Airfield Deicing and Anti-Icing Operations” provides planning guidelines incorporating an array of best management practices (BMPs) for the practical, cost-effective control of runoff from aircraft and airfield deicing and anti-icing operations. These planning guidelines and BMPs are consistent with the laws and regulations for protecting water quality and ensuring flight safety; provide practical technical guidance to airports and local, state, and federal regulators; and support the U.S. EPA's ongoing efforts to gain better information on how airports manage ADAF-affected stormwater runoff. This report will be published in 2009.

## **Airport Planning**

*ACRP Report 4: Ground Access to Major Airports by Public Transportation* provides tools and information to assist airport managers in improving ground access to large airports. The report provides a wealth of information about the current status of public transportation services and their use at large airports in the United States and around the world. Chapter 1 summarizes for airport managers the key elements in the creation of a six-step market-based strategy for improving the quality of public mode services at U.S. airports, which focuses on the needs of air traveler who uses airport ground access services. This traveler makes decisions that are affected by a lack of knowledge about the non-home end of the trip, the amount of baggage being carried, the sense of apprehension about the reliability of the trip and arriving on time, and the total trip costs. The market-based strategy was designed to support the development of public transportation services unique to the needs of the airport and to the users of the airport. The balance of the report addresses the context for public transportation to major airports; explores the attributes of successful airport ground access systems; presents an airport-by-airport summary of air traveler ground access mode share by public transportation services (i.e., rail, bus, and shared-ride vans) for major U.S., European, and Asian airports (modes excluded from this review include hotel and rental car vans, limousines, and charter buses); discusses integrated baggage and airline ticketing strategies; applies market research to planning public transportation services to airports; reviews strategies for improving

airport landside ground transportation services, including addressing institutional challenges for implementing these strategies and identifying potential funding sources; describes ways to improve the public transportation mode share for airport employees; examines new and evolving information technology to bring airport ground access information and ticketing options to the traveler; and identifies opportunities for further research that tie back to the six-step process described in Chapter 1.

*ACRP Synthesis 5: Airport Ground Access Mode Choice Models* documents the state of the practice for airport ground access mode choice models. The synthesis examines the characteristics of existing models and discusses the issues involved in the development and use of such models to improve the understanding and acceptance of their role in airport planning and management.

*ACRP Synthesis 7: Airport Economic Impact Methods and Models* documents how airport economic impact studies are currently conducted. It focuses specifically on the methods and models used to define and identify, evaluate and measure, and communicate the different facets of the economic impact of airports. The synthesis discusses various analysis methods, models, and tools that are available for local airport economic studies, as well as applicability and tradeoffs, including limitations, trends, and recent developments.

## **Legal Aspects of Airport Programs**

ACRP Project 11-01, “Legal Aspects of Airport Programs,” provides authoritatively researched, specific, limited-scope studies of legal issues and problems having national significance and application to airports. During 2008, the results of four research topics were published.

*ACRP Legal Research Digest 1: Compilation of Airport Law Resources* provides an index of legally related topics, substantive areas, and/or issues that airport attorneys encounter and provides a bibliography of sources that airport lawyers may consult for purposes of keeping informed of developments in airport-related legal issues. The sources may be web based or in print, may be published as part of a series (such as a newsletter or law review), or may be in a single issue.

*ACRP Legal Research Digest 2: Theory and Law of Airport Revenue Diversion* describes the issue of airport revenue diversion, what prompted Congress to address it, how it has manifested itself, and how the prohibition against revenue diversion has been enforced.

*ACRP Legal Research Digest 3: Survey of Laws and Regulations of Airport Commercial Ground Transportation* compiles and synthesizes available guidance, including regulations, statutes, policies, and decisions pertaining to commercial ground transportation. The digest focuses on the 67

busiest and most-regulated U.S. airports, including all airports designated by the FAA as large- or medium-sized hubs.

*ACRP Legal Research Digest 4: Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 31, 2007* synthesizes Parts 13 and 16 determinations and related documents, including FAA Chief Counsel and DOT General Counsel's Opinions related to airports. This report is a searchable document that contains the full text of each subject indexed as well as a short summary of the outcome. The database allows for searches by topic, date, author (where applicable), type of proceeding, FAA region, and by individual word or words.

**Table 4**  
**Publications of the Airport Cooperative Research Program**

<b>REPORT</b>	
No.	Title, Project No., Pages, Publication Year
1	Safety Management Systems for Airports, Volume 1: Overview (Proj. 11-02), 30 p. (2007)
2	Evaluation and Mitigation of Aircraft Slide Evacuation Injuries (Proj. 11-02), 77 p. (2008)
3	Analysis of Aircraft Overruns and Undershoots for Runway Safety Areas (Proj. 4-01), 50 p. (2008)
4	Ground Access to Major Airports by Public Transportation (Proj. 11-02), 210 p. (2008)
5	Quarantine Facilities for Arriving Air Travelers: Identification of Planning Needs and Costs (Proj. 11-02), 34 p. (2008)
6	Research Needs Associated with Particulate Emissions at Airports (Proj. 2-04), 60 p. (2008)
7	Aircraft and Airport-Related Hazardous Air Pollutants: Research Needs and Analysis (Proj. 2-03), 55 p. (2008)
8	Lightning-Warning Systems for Use by Airports (Proj. 4-02), 72 p. (2008)
9	Summarizing and Interpreting Aircraft Gaseous and Particulate Emissions Data (Proj. 2-04A), 90 p. (2008)
10	Innovations for Airport Terminal Facilities (Proj. 7-01), 70 p. (2008)
<b>RESEARCH RESULTS DIGEST</b>	
No.	Title, Project No., Pages, Publication Year
1	Synthesis of Information Related to Airport Practices (Proj. 11-03), 4 p. (2007)
2	Model for Improving Energy Use in U.S. Airport Facilities (Proj. 11-02), 20 p. (2007)
3	Synthesis of Information Related to Airport Practices (Proj.11-03), 4 p. (2007)
<b>LEGAL RESEARCH DIGEST</b>	
No.	Title, Project No., Pages, Publication Year
1	Compilation of Airport Law Resources (Proj. 11-01), 38 p. (2008)
2	Theory and Law of Airport Revenue Diversion (Proj. 11-01), 29 p. (2008)
3	Survey of Laws and Regulations of Airport Commercial Ground Transportation (Proj. 11-01), 195 p. (2008)
4	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 31, 2007 (Proj. 11-01), stand-alone <i>CRP-CD-68</i> , 3,000 pp (10/08)

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**SYNTHESIS**

No.	Title, Project No., Pages, Publication Year
1	Innovative Finance and Alternative Sources of Revenue for Airports (Proj. 11-03), 43 p. (2007)
2	Airport Aviation Activity Forecasting (Proj. 11-03), 32 p. (2007)
3	General Aviation Safety and Security Practices (Proj. 11-03), 44 p. (2007)
4	Counting Aircraft Operations at Non-Towered Airports (Proj. 11-03), 33 p. (2007)
5	Airport Ground Access Mode Choice Models (Proj. 11-03), 104 p. (2008)
6	Impact of Airport Pavement Deicing Products on Aircraft and Airfield Infrastructure (Proj. 11-03), 58 p. (2008)
7	Airport Economic Impact Methods and Models (Proj. 11-03), 67 p. (2008)
8	Common Use Facilities and Equipment at Airports (Proj. 11-03), 121 p. (2008)
9	Effects of Aircraft Noise: Research Update on Selected Topics (Proj. 11-03), 98 p. (2008)
10	Airport Sustainability Practices (Proj. 11-03), 120 p. (2008)
11	Impact of Airport Rubber Removal Techniques on Runways (Proj. 11-03), 111 p. (2008)
12	Preventing Aircraft–Vehicle Incidents during Weather Operations and Periods of Low Visibility, 70 p. (2008)

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**ACRP CD-ROM**

No.	Proj. No.	Title
<b>CRP-CD-68</b>	11-01	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 31, 2007 (10/08)

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**TRB CONFERENCE PROCEEDING**

No.	Proj. No.	Title
<b>41</b>	11-02	Interagency–Aviation Industry Collaboration on Planning for Pandemic Outbreaks (9/08)

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AIRPORT COOPERATIVE RESEARCH PROGRAM

**ACRP**  
Project Status

**TABLE 5 SUMMARY OF PROJECT STATUS THROUGH DECEMBER 31, 2008**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
<b>1: Administration</b>									
01-01	Guidebook for Managing Small Airports	\$400,000(06)	\$397,230	University of Minnesota	1/24/2007	10/23/2008	Completed - Publication Pending	P. Friedman S. Glasgow	M. Salamone
01-02	Guidebook for Developing and Managing Airport Contracts	\$400,000(07)	\$315,000	HNTB	4/24/2007	12/31/2008	Completed - Publication Pending	K. Willis	T. Schatz
01-03	Analysis and Recommendations for Developing Integrated Airport Information Systems	\$300,000(07)	\$300,000	Aero Tech Consulting	8/10/2007	11/22/2008	Completed - Publication Pending	D. Suomi	M. Salamone
01-04	Marketing Techniques for Small Airports	\$200,000(07)	\$200,000	Eclat Consulting	10/26/2007	1/23/2009	Research in progress	S. Glasgow	M. Greenberger
01-05	Guidebook for Airport Capital Delivery Systems	\$100,000(07) \$25,000 (08)	\$124,994	Northeastern University	4/4/2007	1/29/2009	Research in progress	K. Jacobs	G. Chisholm
01-06	A Guidebook for Developing an Airport Performance Measurement System	\$400,000(08)	\$400,000	Infrastructure Management Group	5/6/2008	8/5/2009	Research in Progress	D. Fish	M. Salamone
01-07	Airport/Airline Agreements and Rate Methodologies - Practices and Characteristics	\$400,000(08)	\$393,005	Ricondo & Associates	5/30/2008	8/29/2009	Research in Progress	A. Toney	M. Salamone
01-08	Developing Best Management Practices - Airport Leasing Policy Metrics for Evaluating Private Investments on Airports	\$400,000(08)	\$350,000	R.W. Armstrong and Associates	6/24/2008	12/23/2010	Research in Progress	K. Willis	T. Schatz
01-09	Traditional Airport Performance Indicators and Data Collection Methodologies	\$400,000(09)					In development		M. Salamone
01-10	Capital Projects: Budgeting, Financing, and Management—Best Practices and IT Applications	\$400,000(09)					In development		M. Greenberger

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
01-11	Airport Concession Planning—Concepts and Business Terms	\$350,000(09)					In development		T. Schatz
01-12	A Primer for Enterprise Information Systems at Airports	\$350,000(09)					In development		M. Salamone
<b>2: Environment</b>									
02-01	Alternative Aircraft and Airfield Deicing and Anti-Icing Formulations with Reduced Aquatic Toxicity and Biological Oxygen Demand	\$600,000(06)	\$600,000	University of South Carolina	11/1/2006	4/30/2009	Research in progress	G. Legarreta P. Friedman	E. Harrigan
02-02	Managing Runoff from Aircraft and Airfield Deicing and Anti-Icing Operations	\$300,000(06)	\$300,000	CH2M Hill	10/9/2006	9/12/2008	Completed - Publication Pending	G. Legarreta P. Friedman	M. Salamone
02-03	Aircraft and Airport-Related Hazardous Air Pollutants: Research Needs and Analysis	\$100,000(06)	\$100,000	Aerodyne Research, Inc.	12/19/2006	12/18/2007	Completed - Published as Report 7		
02-03A	Measurement of Gaseous HAP Emissions from Idling Aircraft as a Function of Engine and Ambient Conditions	\$500,000(06)	\$500,000	Aerodyne Research, Inc.	12/15/2008	12/14/2010	Research in Progress	M. Gupta	L. Goldstein
02-04	Research Needs Associated with Particulate Emissions at Airports	\$100,000(06)	\$99,897	Environmental Consulting Group, Inc.	12/1/2007	12/15/2007	Completed - Published as Report 6		
02-04A	Summarizing and Interpreting Aircraft Gaseous and Particulate Emissions Data	\$350,000(07)	\$349,470	University of Missouri-Rolla	4/12/2007	7/11/2008	Completed - Published as Report 9		
02-05	Guidebook on Community Responses to Aircraft Noise	\$500,000(07)	\$399,982	Landrum & Brown	4/20/2007	10/19/2008	Completed - Publication Pending	M. Marson J. Plante	M. Salamone
02-06	Airport Implications of Climate Change Issues	\$200,000(07)	\$199,403	Wyle Laboratories	10/9/2007	9/8/2008	Completed - Publication Pending	M. Locke	L. Goldstein

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-07	Handbook for Analyzing the Costs and Benefits of Alternative Turbine Engine Fuels at Airports	\$500,000(07)	\$499,960	CSSI, Inc.	10/22/2007	3/20/2009	Research in progress	L. Maurice	L. Goldstein
02-08	Quantifying Contributions to Local Air Quality Impacts from Airport-Related Emissions	\$600,000(08)	\$599,970	Wyle Laboratories, Inc.	6/4/2008	6/3/2010	Research in progress	M. Gupta J. Plante	L. Goldstein
02-09	Developing a Comprehensive Work Plan for a Multimodel Noise and Emissions Model	\$200,000(08)	\$199,630	Wyle Laboratories, Inc.	7/7/2008	8/7/2009	Research in progress	L. Maurice	L. Goldstein
02-10	Low-Cost, High-Return Practices to Reduce Airport Carbon Footprints	\$500,000(09)					In development		T. Schatz
02-11	Understanding Airport Water Quality Issues Impacting Capacity Enhancements	\$150,000(09)					In development		L. Goldstein
02-12	Environmental Optimization of Aircraft Departures: An Investigation of Fuel Burn, Emissions, and Noise Interdependencies	\$300,000(09)					In development		L. Goldstein
02-13	Guidebook of Practices for Improving Environmental Performance at Small Airports	\$200,000(09)					In development		M. Greenberger
<b>3: Policy and Planning</b>									
03-01	Light Detection and Ranging (LIDAR) Deployment for Airport Obstructions Surveys	\$350,000(06)	\$350,000	University of Mississippi	1/30/2007	4/29/2009	Research in progress	E. Hunnicutt	A. Lemer
03-02	U.S. Airport Passenger-Related Processing Rates	\$200,000(06)	\$200,000	HNTB	1/16/2007	12/31/2008	Completed - Publication Pending	E. Novak	T. Schatz
03-03	Enhancing Airport Land Use Compatibility	\$500,000(06)	\$500,000	Mead & Hunt, Inc.	12/28/2006	12/27/2008	Completed - Publication Pending	P. Friesenhahn A. Jan	M. Salamone

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
03-04	Guidebook for Airport-User Survey Methodology	\$250,000(06)	\$249,350	Jacobs Consultancy	1/16/2007	12/31/2008	Completed - Publication Pending	P. Sullivan	T. Schatz
03-05	Passenger Space Allocation Guidelines for Planning and Design of Airport Terminals	\$400,000(07)	\$399,928	TransSolutions	6/28/2007	3/15/2009	Research in progress	E. Novak	L. Goldstein
03-06	Guidebook for Planning and Implementing Automated People Mover Systems at Airports	\$500,000(07)	\$395,341	Lea & Elliott	6/12/2007	6/11/2009	Research in progress	G. Neumann A. Jan	L. Goldstein
03-07	A Guidebook for Measuring Performance of People Mover Systems at Airports	\$300,000(07)	\$300,000	Lea & Elliott	6/13/2007	7/12/2009	Research in progress	G. Neumann A. Jan	L. Goldstein
03-08	Passenger Air-Service Development Techniques	\$300,000(07)	\$300,000	InterVISTAS-ga2 Consulting	6/21/2007	1/31/2009	Research in progress	S. Glasgow	M. Salamone
03-09	Guidebook for Strategic Planning in the Airport Industry	\$425,000(07)	\$321,049	Ricondo & Associates	6/27/2007	4/2/2009	Research in progress	C. Everett B. Rakoff	M. Salamone
03-10	Innovative Approaches to Addressing Aviation Capacity Issues in Coastal Mega-Regions	\$300,000(07)	\$300,000	Resource Systems Group, Inc.	2/6/2008	2/4/2009	Research in progress	C. Everett	T. Schatz
03-11	Preservation of Public-Use Airports	\$600,000(08)	\$447,430	L. Robert Kimball & Associates	6/23/2008	12/22/2009	Research in progress	S. Glasgow	L. Goldstein
03-12	Guidebook for Preparing Peak Period and Operational Profiles to Improve Airport Facility Planning and Environmental Analyses	\$350,000(08)	\$347,044	HNTB Corporation	8/13/2008	8/12/2010	Research in progress	T. Diana	L. Goldstein
03-13	Understanding Airspace Analysis Tools for Airport Planning	\$200,000(08)	\$199,938	Jacobs Consultancy	7/11/2008	7/10/2009	Research in progress	E.C. Hunnicut	M. Greenberger
03-14	Airport Passenger Conveyance System Usage/Throughput	\$300,000(08)	\$300,000	Trans Solutions, LLC	8/26/2008	3/26/2010	Research in progress	G. Neumann	L. Goldstein
03-15	Airport Development and Oil Price Uncertainty	\$400,000(09)					In development		L. Goldstein

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
03-16	Guidebook for Estimating the Economic Impact and Value of Air Freight Activities at Airports	\$500,000(09)					In development		L. Goldstein
03-17	Airport Airfield Capacity Analyses	\$525,000(09)					In development		T. Schatz
<b>4: Safety</b>									
04-01	Analysis of Aircraft Overruns and Undershoots for Runway Safety Areas	\$250,000(06)	\$249,986	Applied Research Associates, Inc.	9/19/2006	1/31/2008	Completed - Published as Report 3		M. Salamone
04-02	Lightning-Warning Systems for Use by Airports	\$200,000(06)	\$199,937	MDA Federal, Inc.	11/7/2006	11/7/2008	Completed - Published as Report 8		
04-03	Guidebook for Approach Light System Hazard Assessment and Mitigation	\$300,000(07)	\$300,000	Virginia Tech	10/3/2007	4/30/2009	Research in progress	H. Cyrus D. Evans deMaria	M. Greenberger
04-04	Simulation-Based Training and Exercise of Civil Aviation Emergency Response Personnel	\$500,000(07)	\$399,067	Applied Research Associates	9/12/2007	12/11/2009	Research in progress	M. Tonnacliff	S. Parker
04-05	A Guidebook for Airport Safety Management Systems	\$300,000(07)	\$300,000	Applied Research Associates	5/24/2007	1/15/2009	Research in progress	K. Spencer	M. Salamone
04-06	Analysis and Best Management Practices for the Prevention of Wildlife Strikes at Small Airports	\$300,000(08)	\$299,905	Biozone	6/2/2008	12/2/2009	Research in progress	M. Hovan	M. Greenberger
04-07	Comparison of Airport Apron Management and Control Programs With and Without Regulatory Oversight	\$300,000(08)					In development	E. Jarvis R. Moseng	M. Salamone
04-07A	Best Practices for Managing the Use of Towbarless Tractors at Airports	\$300,000(08)					In development		M. Salamone

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
04-08	Improved Models for Risk Assessment of Runway Safety Areas (RSA)	\$400,000(09)					In development		T. Schatz
04-09	Assessing the Risk Associated with Maintaining Existing Airfield Separations at Older Urban Airports	\$250,000(09)					In development		M. Greenberger
<b>5: Security</b>									
05-01	An Airport Guide for Regional Emergency Planning for CBRNE Events	\$250,000(06)	\$248,464	System Planning Corp.	11/15/2006	8/31/2008	Completed - Publication Pending	P. Friedman	S. Parker
<b>6: Human Resources</b>									
06-01	Airport and Air Carrier Resource Manual: Employees Coping with Traumatic Events	\$300,000(07)	\$299,416	University of North Dakota	12/5/2007	1/4/2009	Research in progress	E. Dorsett	T. Schatz
<b>7: Design</b>									
07-01	New Concepts for Airport Terminal Landside Facilities	\$400,000(06)	\$400,000	Corgan Associates, Inc.	12/8/2006	7/8/2008	Completed - Publication Pending	P. Sullivan	M. Salamone
07-02	Airport Curbside and Terminal-Area Roadway Operations	\$400,000(06) \$150,000(09)	\$400,000	Jacobs Consultancy	11/15/2006	3/9/2009	Research in progress	P. Sullivan	R. Derr
07-03	Developing Improved Civil Aircraft Arresting Systems	\$500,000(07)	\$499,455	Protection Engineering Consultants	5/23/2007	4/23/2009	Research in progress	M. Hovan R. King	M. Greenberger
07-04	Spreadsheet Models for Airport Terminal Planning and Design	\$400,000(07)	\$400,000	Landrum and Brown	6/6/2007	1/31/2009	Research in progress	T. Wade E. Novak	T. Schatz
07-05	Airport Passenger Terminal Planning Guidebook	\$400,000(07)	\$400,000	Landrum and Brown	6/28/2007	2/28/2009	Research in progress	K. Hudson E. Novak	T. Schatz
07-06	Airport Signage and Wayfinding Information Guidelines	\$250,000(08)	\$250,000	Gresham, Smith and Partners	8/21/2008	2/21/2010	Research in progress	E. Novak	M. Greenberger

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
<b>8: Construction</b>									
08-01	Practices, Technologies, and Procedures for Incorporation During Airport Construction Projects to Reduce the Airport's Environmental Impacts During Construction and Long-Term Operations	\$150,000(09)					In development		M. Greenberger
<b>9: Maintenance</b>									
09-01	Guidelines for the Collection and Use of Geospatially Referenced Data for Airfield Pavement Management	\$350,000(06)	\$149,998	Applied Research Associates, Inc.	11/6/2006	12/31/2008	Completed - Publication Pending	R. Joel	A. Hanna
<b>10: Operations</b>									
10-01	Optimizing the Use of Aircraft Deicing and Anti-Icing Fluids	\$300,000(06) \$ 50,000(08)	\$349,030	APS Aviation, Inc.	3/20/2007	2/18/2009	Research in progress	G. Legarreta	E. Harrigan
10-02	Planning Guide for Offsite Terminals	\$350,000(06)	\$350,000	MarketSense	12/18/2006	12/31/2008	Completed-Publication Pending	P. Friedman	M. Salamone
10-03	Evaluating Airport Parking Strategies and Supporting Technologies	\$300,000(07)	\$300,000	Jacobs Consultancy	9/14/2007	12/15/2008	Completed - Publication Pending	P. Friedman	M. Greenberger
10-04	Airports and the Newest Generation of General Aviation Aircraft	\$500,000(07)	\$496,390	GRA, Inc.	6/27/2007	4/30/2009	Research in progress	P. Devoti D. Taylor	T. Schatz
10-05	Understanding Common-Use Approaches at Airports	\$500,000(08)	\$399,981	Barich, Inc.	5/30/2008	8/29/2009	Research in progress	G. Neumann	M. Greenberger
10-06	A Handbook to Assess Impacts of Constrained Airport Parking	\$400,000(08)	\$398,563	Ricondo & Associates	6/16/2008	12/15/2009	Research in progress	P. Sullivan	M. Greenberger

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
10-07	Current Status and Future Implications of Passenger Self-Tagging	\$350,000(09)					In development		M. Greenberger
10-08	Applying ITS Traveler Information Technology to Airport Ground Access Services	\$350,000(09)					In development		L. Goldstein
10-09	Elimination of Baggage Recheck for Arriving International Passengers	\$400,000(09)					In development		T. Schatz
<b>11: Special Projects</b>									
11-01	Legal Aspects of Airport Programs	\$200,000(06) \$475,000(07) \$300,000(08) \$600,000(09)		Transportation Research Board	2/1/2006		Continuing Project: See 11-01 Table	B. Molar	G. Chisholm
11-02	Quick Response for Special Needs	\$590,000(06) \$467,000(07) \$1,175,000(08) \$25,000(09)		Various	2/1/2006		Continuing Project: See 11-02 Table	P. Friedman	C. Jenks
11-03	Synthesis of Information Related to Airport Practices	\$500,000(06) \$700,000(07) \$500,000(08) \$500,000(09)		Transportation Research Board	2/1/2006		Continuing Project: See 11-03 Table	L. Pagnanelli	M. Salamone
11-04	Graduate Research Award Program on Public - Sector Aviation Issues	\$100,000(08) \$100,000(09)					Continuing Project	J. Wharff	L. Goldstein

**TABLE 5 (continued)****ACRP PROJECT 11-01  
Legal Aspects of Airport Programs**

No.	Title	Consultant	Start Date	Estimated Completion Date	Staff Officer
01-01	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters through December 31, 2007	Spiegel & McDiarmid	December 2006	Completed - Published as Legal Research Digest 4	
01-02	Theory and Law of Airport Revenue Diversion	Paul Dempsey	January 2007	Completed - Published as Legal Research Digest 2	
01-03	Compilation/List of Airport Law Resources	McGill University	January 2007	Completed - Published as Legal Research Digest 1	
01-04	Survey of Airport Laws and Regulation of Commercial Ground Transportation	Smith Armundsen	April 2007	Completed - Published as Legal Research Digest 3	
01-05	Responsibilities for Implementation and Enforcement of Airport Land-Use Zoning Restrictions	William V. Cheek & Associates	April 2007	January 2009	J. McDaniel
01-06	Who is the Owner or Operator for Purposes of the Right to Self-Fuel?	C. Daniel Prather Ph.D.	January 2008	March 2009	J. McDaniel
01-07	The Impact of Airline Bankruptcies on Airports	Jocelyn Waite	October 2007	February 2009	J. McDaniel
01-08	The Law and Regulation of Airport Ownership	Daniel S. Reimer	February 2008	July 2009	J. McDaniel
01-09	Survey of Elements of Disparity Studies for Airport Disadvantaged Business Enterprise Programs	Colette Holt	December 2007	December 2009	J. McDaniel
02-01	Obstructions Affecting Navigatable Airspace	Cheek & Associates	July 2008	July 2009	J. McDaniel
02-02	Use and Success of Avigation Easement and Other Tools for Airport - Compatible Land Use and Development of Model Language	Lemongrass Consulting	June 2008	July 2009	J. McDaniel
02-03	Case Studies on Community Challenges to Airport Development	Jaye Pershing Johnson	October 2008	November 2009	J. McDaniel
02-04	Analysis of Federal Law, Regulations, and Case Law Regarding Airport Proprietary Rights	Jodi Howick, Esq.	October 2008	November 2009	J. McDaniel
03-01	Fair Disclosure of Airport Impacts in Real Estate Transfers			In development	J. McDaniel

**TABLE 5 (continued)**

**ACRP PROJECT 11-02  
Quick Response for Special Needs**

No.	Title	Contractor	Start Date	End Date	Status	Staff Officer
Task 01	Model for Improving Energy Use in U.S. Airport Facilities	Texas A&M Energy Systems Laboratory	10/13/2006	7/31/2007	Completed - Published as Research Results Digest 2	
Task 02	Ground Access to Major Airports by Public Transportation	Matthew Coogan	8/16/2006	9/30/2007	Completed - Published as Report 4	
Task 03	Evaluation and Mitigation of Aircraft Slide Evacuation Injuries	George Washington University	10/9/2006	12/15/2007	Completed - Published as Report 2	
Task 04	Airport Safety Management Systems for Airports: Overview	MITRE Corporation	1/2/2007	11/2/2007	Completed - Published as Report 1, Volume 1	
Task 05	Quarantine Facilities for Arriving Air Travelers: Identification of Planning Needs and Costs	System Planning Corp.	3/28/2007	11/3/2007	Completed - Published as Report 5	
Task 06	Interagency-Industry Collaboration on Pandemic Planning for Aviation: A Workshop	TRB Technical Activities Division	2/15/2007	9/15/2007	Completed - Workshop Held - Results Published as TRB Conference Proceedings 41	
Task 07	Strategic Process for Developing ACRP Research Problem Statements	TRB Staff	8/1/2007	1/31/2009	Completed - Publication Pending	M. Salamone
Task 08	Enhanced Modeling of Aircraft Taxiway Noise - Scoping	Wyle Laboratories	2/14/2008	2/15/2009	Research in progress	L. Goldstein
Task 09	Visibility of Airfield Signs and Markings from Aircraft and Ground Vehicles				Cancelled	
Task 10	Estimate of National Use of Aircraft and Airfield Deicing Materials	CH2M Hill	10/16/2007	6/15/2008	Completed - Publication Pending	M. Salamone
Task 11	How Proposed Firefighting Standards Would Impact Airports				In development	M. Greenberger
Task 12	Ramp Incident Data from Selected Large and Medium Hub Airports				In development	M. Salamone
Task 13	Symposium on the Transmission of Disease in Airports and Aircraft				In development	C. Gerencher

**TABLE 5 (continued)**

No.	Title	Contractor	Start Date	End Date	Status	Staff Officer
Task 14	Background Information on the Data Protection Standard PCI DSS, and its Applicability to the Airport Environment to Help Ensure that Airport Business Systems Meet this Commercial Standard				In development	T. Schatz

**TABLE 5 (continued)**

**ACRP PROJECT 11-03  
Synthesis of Information Related to Airport Practices**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
<b>1: Administration</b>						
S01-01	Innovative Finance and Alternative Sources of Revenue for Airports	Jacobs Consultancy	July 2006	Completed - Published as Synthesis 1		
<b>2: Environment</b>						
S02-01	Effects of Airport Noise: Research Update on Selected Topics	Mestre Greve Associates	March 2007	Completed - Published as Synthesis 9		
S02-02	Airport Sustainability Practices	Arup	March 2007	Completed - Published as Synthesis 10		
S02-03	A Compilation of Airport Noise Programs in Areas Outside 65DNL	HMMH	April 2008	Research in progress	V. Catlett	G. Staba
S02-04	Approaches to Integrating Airport Planning and National Environmental Policy Act (NEPA) Processes	RS & H / Synergy	April 2008	Research in progress	E. Melisky	G. Staba
<b>3: Policy and Planning</b>						
S03-01	Aviation Forecasting Methodologies	GRA, Inc.	August 2006	Completed - Published as Synthesis 2		
S03-02	Airport Ground Access Mode Choice Models	Aviation Systems Consulting	October 2006	Completed - Published as Synthesis 5		
S03-03	Airport Economic Impact Methods and Models	Hoyle Tanner & Associates	March 2007	Completed - Published as Synthesis 7		
S03-04	Airport System Planning Practices	WSA	April 2008	Research in progress	L. Pagnanelli	G. Staba
S03-05	Practices for Determining Benefits for Airport Benefit Cost Analysis	EDRG	April 2008	Research in progress	D. Walsh R. Samis	G. Staba
<b>4: Safety</b>						
S04-01	General Aviation Safety and Security Practices	Reynolds, Smith and Hills, Inc.	October 2006	Completed - Published as Synthesis 3		

**TABLE 5 (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S04-02	Preventing Aircraft-Vehicle Incidents During Winter Operations and Periods of Low Visibility	Bowling Green State University	June 2007	Completed - Published as Synthesis 12		
S04-03	Identification of the Requirements and Training to Obtain Driving Privileges on Airfields	Airport Safety Consultants	May 2008	Research in Progress	B. Landry	G. Staba
<b>5: Security</b>						
S05-01	Intelligent Transportation System (ITS) Sensor Technology for General Aviation			CANCELLED		
<b>9: Maintenance</b>						
S09-01	Impact of Rubber Removal Techniques on Runways	University of Oklahoma	June 2007	Completed - Published as Synthesis 11		
<b>10: Operations</b>						
S10-01	Counting Aircraft Operations at Non-Towered Airports	Aerofinity	October 2006	Completed - Published as Synthesis 4		
S10-02	Common-Use Facilities and Equipment at Airports	Barich, Inc.	March 2007	Completed - Published as Synthesis 8		
S10-03	Impact of Airport Deicing Products on Aircraft and Airfield Infrastructure	Montana State University, Western Transportation Institute	March 2007	Completed - Published as Synthesis 6		



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