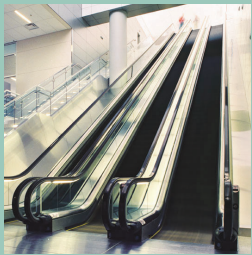


# ACRP

AIRPORT  
COOPERATIVE  
RESEARCH  
PROGRAM

SPONSORED BY THE FEDERAL AVIATION ADMINISTRATION

## 2012 ANNUAL REPORT OF PROGRESS



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# ACRP

AIRPORT  
COOPERATIVE  
RESEARCH  
PROGRAM

## 2012 ANNUAL REPORT OF PROGRESS

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Research sponsored by the Federal Aviation Administration

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WASHINGTON, D.C.

2012

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## AIRPORT COOPERATIVE RESEARCH PROGRAM

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 Airport Cooperative Research Program (ACRP) serves as one of the principal means by which the airport industry can develop innovative near-term solutions to meet demands placed on it.

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 Federal Aviation Administration (FAA). 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. It is modeled after the successful National Cooperative Highway Research Program and Transit Cooperative Research Program. 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. The ACRP provides a forum where airport operators can cooperatively address common operational problems.

The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. 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 Airlines for America (A4A) 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. In October 2005, the FAA executed a contract with the National Academies formally initiating the program.

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. 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.

Once selected, each ACRP project is assigned to an expert panel, appointed by the TRB. 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 project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, ACRP project panels serve voluntarily without compensation.

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 produces 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.

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# THE NATIONAL ACADEMIES

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The **National Academy of Sciences** is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. On the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Ralph J. Cicerone is president of the National Academy of Sciences.

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 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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## *Letter From the AOC Chair*

The Airport Cooperative Research Program has now completed 7 years of research for the airport industry and is starting more than 30 new projects for 2013. Positive industry reaction to this work illustrate that ACRP continues to provide research results that have meaningful value to airports. So, 2012 has been dedicated to expanding efforts to disseminate these publications wider and deeper throughout the airport industry.

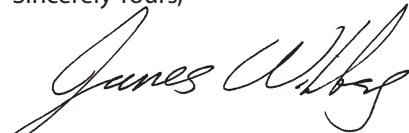
Our dissemination goals have been to increase awareness of and engagement with ACRP, cultivate a group of practitioner-advocates to assist the TRB in disseminating ACRP research results, increase readership and encourage practical application of ACRP publications, and create feedback methods and channels to help us continuously adjust how ACRP research results can best meet the needs of the airport industry. This is exceedingly important now that our library of publications exceeds 150 reports, syntheses, and digests. We invite you to visit [www.trb.org/acrp](http://www.trb.org/acrp) to see what we have going on and to download our growing list of publications.

The ACRP Oversight Committee ended our 7th year with an exceptional discussion with a group of leading airport executives and other industry experts to examine the megatrends shaping our future and their interrelationships with air transportation and airports. In the coming year, we intend to produce a focused research framework that will anticipate, identify, and address one or more high-level, emerging, critical issues that impact the airport industry and can be addressed through ACRP research. We also plan to further strengthen ongoing means of outreach to you, our audience, so we can develop research ideas that add value and relevance to your ACRP.

We have included two ACRP Impacts on Practice with this annual report, which show our progress getting publications out into the industry and helping airports implement these results.

We are proud of the past 7 years, and are most appreciative of the strong support and active participation of the Federal Aviation Administration, along with the highly professional and committed efforts of the TRB staff. We look forward to continuing to grow and improve this body of research that works for airports.

Sincerely Yours,



James Wilding







## CONTENTS

Seventh 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
- Disseminating Results, 7
- Documenting Success, 8

Publications of the Airport Cooperative Research Program, 15

Summary of Project Status Through December 31, 2012, 21

How to Order, 48



## AIRPORT COOPERATIVE RESEARCH PROGRAM

# Seventh Annual Report of Progress

December 31, 2012

### BACKGROUND

Airports are vital national resources and a well-functioning airport system is essential to U.S. participation in the global economy. They serve a key role in the transportation of people and goods and in regional, national, and international commerce. Airports provide (and often operate) facilities and infrastructure that accommodate various services needed to access the national and international air transportation system. Airports 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 roles of state and local governments that own and operate most airports.

When airport needs are not being adequately addressed by existing research programs, 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 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 Airport Cooperative Research Program (ACRP) was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act.

ACRP undertakes research, conducts other technical activities, and disseminates results in response to the needs of airport operators in a variety of airport subject areas involving administration, environment, legal, policy, planning, safety, human resources, design, construction, maintenance, and operations at airports.

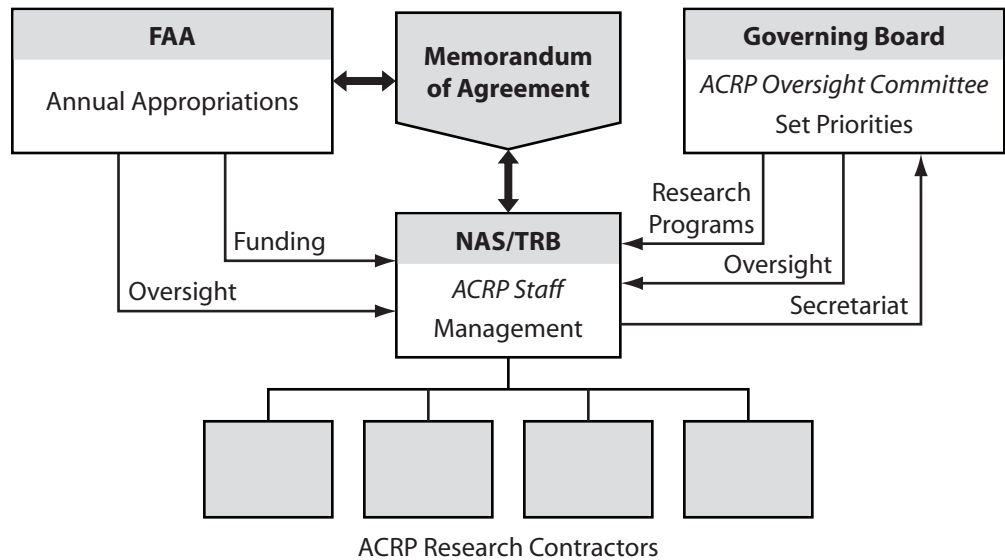
### PROGRAM PARTICIPANTS

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 Airport Consultants Council (ACC), the National Association of State Aviation Officials (NASAO), and Airlines for

America (A4A) 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, state and local government officials, airport planning and engineering professionals, equipment and service suppliers, air carriers, 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. ACRP 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 other cooperative research programs. 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 50 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. In FY 2009, 2010, 2011, 2012, and 2013, funding for the program was increased to \$15 million.

## **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.

Over the past seven years, more than 1,000 statements of research need have been assembled for consideration in formulating the ACRP agenda for Fiscal Years 2005 through 2013, and the governing board has met in January and July each year to establish operating procedures for the ACRP and to select research projects.

To date, the AOC has authorized 333 projects, in a variety of subject areas of interest to the airport community. The AOC will meet in early 2013 to review progress.

See Table 5 for a summary of 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

Table 1 shows annual distribution of AOC-selected projects by research field.

**Table 1. Projects—Annual Distribution of AOC-Selected Projects by Research Field**

Research Field	2005-2008		2009		2010		2011		2012		2013	
	#	\$	#	\$	#	\$	#	\$	#	\$	#	\$
01 – Administration	8	2,550,229	10	4,096,875			2	750,000	2	700,000	3	1,000,000
02 – Environment	11	3,848,583	6	1,674,560	13	4,948,520	10	4,400,000	6	2,175,000	4	1,175,000
03 – Policy and Planning	15	4,696,757	3	1,424,830	6	1,997,668	4	1,350,000	1	400,000	2	450,000
04 – Safety	8	2,187,776	2	649,999	1	300,000	3	1,100,000	3	825,000	2	550,000
05 – Security	1	298,459									1	350,000
06 – Human Resources	1	147,386	1	100,000								
07 – Design	6	2,477,417			1	400,000	1	500,000	3	800,000		
08 – Construction			1	150,000								
09 – Maintenance	1	224,818					1	500,000	6	1,600,000	2	740,000
10 – Operations	6	2,393,296	3	1,100,000	1	599,976	1	500,000	4	1,250,000	5	1,450,000
11 – Special Projects	37	3,465,000	25	1,475,000	30	2,410,000	23	1,208,947	24	1,950,000	23	2,666,000
<b>Total</b>	<b>94</b>	<b>22,289,721</b>	<b>51</b>	<b>10,671,264</b>	<b>52</b>	<b>10,656,164</b>	<b>44</b>	<b>10,105,434</b>	<b>48</b>	<b>9,700,000</b>	<b>42</b>	<b>8,381,000</b>

Table 2 shows the origin of potential research topics (i.e., problem statements) submitted through the FY 2012 cycle. In addition, this table identifies the sources of the problem statements that have been selected by the ACRP governing board.

**Table 2. Problem Statements—Sorted by Source for Each Year with Total Selected by AOC**

Organization	2005-2008		2009		2010		2011		2012		Selected		2013	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Airport Operator	48	14.9	29	19.7	27	12.3	12	11.5	35	27.8	30	20	16	17.9
State DOT	26	8.1	4	2.7	4	1.8	0	0	3	2.4	4	2.6	7	7.8
FAA	8	2.4	8	5.4	23	10.5	5	4.8	5	4.0	19	12.6	2	2.2
Airport Industry Association	26	8.1	13	8.8	10	4.6	7	6.7	3	2.4	21	14	0	0
Airlines / Airline Associations	1	.3	0	0	9	4.1	5	4.8	1	.7	5	3.3	0	0
TRB	7	2.2	6	4.1	9	4.1	5	4.8	4	3.2	12	8	1	1.1
Other Airport Industry	29	9.0	19	12.9	8	3.6	7	6.7	10	7.9	10	6.6	0	0
University	67	20.8	30	20.4	47	21.5	12	11.5	9	7.1	13	8.6	9	10.1
Consultant	85	26.4	37	25.2	80	36.5	50	48.2	53	42.1	27	18	48	53.9
Other	25	7.8	1	.8	2	1.0	1	1.0	3	2.4	9	6	6	6.7
<b>Total</b>	<b>322</b>	<b>-</b>	<b>147</b>	<b>-</b>	<b>219</b>	<b>-</b>	<b>104</b>	<b>-</b>	<b>126</b>	<b>-</b>	<b>150</b>	<b>-</b>	<b>89</b>	<b>-</b>



Table 3 displays project panel composition by affiliation, race, and gender through the FY 2013 research program. More than 621 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**

(114 Project Panels, 723 Seats)

<b>Demographics</b>	<b>No.</b>	<b>%</b>
<b>Affiliation</b>		
Airline	28	5.0
Airport Operator	229	37.0
State Gov't	26	4.0
Local Gov't/MPO/Transit	31	5.0
Federal Gov't	11	2.0
Industry/Private Sector	67	11.0
Consultants	169	27.0
University	36	6.0
Association	19	3.0
<b>Race</b>		
	Members/Chairs	Members/Chairs
White	455/88	74.22/88.8
Minorities	158/118	25.7/11.1
Undisclosed	79/8	13/3.8
<b>Gender</b>		
	Members/Chairs	Members/Chairs
Male	451/65	73.7/65.7
Female	161/34	26.3/34.3

During 2012, 40 ACRP publications were released. These publications include 23 in the ACRP Report series, 7 in the Synthesis of Practice series, 5 in the Legal Research Digest series, 4 in the Research Results Digest series, and 1 in the Web-Only Document series. Table 4 provides a listing of all currently available ACRP publications as of December 31, 2012.

## DISSEMINATING RESULTS

In 2012, ACRP issued 40 publications. More than 600 individuals from the airport community participate on ACRP project panels, which held approximately 100 meetings and 50 conference calls during 2012 to develop scopes of work, select research contractors, and review interim products. This volunteer assistance from project panel members ensures that the research and products are relevant to airport practitioners.

Disseminating ACRP research results to specific airport-practitioner audiences and assessing their value and utility requires a diverse and simultaneous set of activities. A dissemination project was approved by the ACRP Oversight Committee (AOC) in July 2009. The objectives of the dissemination project are to (1) increase awareness of and engagement with ACRP among targeted airport-practitioner audiences and foster/cultivate a group of practitioner-advocates that will actively assist the TRB in the dissemination of ACRP research results throughout the airport industry; (2) increase readership and encourage practical application of ACRP products/publications among practitioners in the airport industry and their organizations; and (3) create feedback methods and channels to determine if and how ACRP research results meet the needs of airport industry practitioners and examine notable (high/low) exceptions. ACRP made significant progress implementing start-up dissemination activities in the last year.

## DOCUMENTING SUCCESS

The goal of ACRP is to provide well-researched, useful publications that can contribute to the growth and development of the nation's airport industry. ACRP's Impacts on Practice series is designed to provide examples of how airport industry practitioners are using ACRP research results to assist them in their work.

Two Impacts on Practice are included in this report:

- *ACRP Disseminates Solutions-Based Research Projects Through Ambassadors*
- *Development of Airport Property: Policy Guidance and Workforce Training (ACRP Report 47)*

The following list shows the most popular downloads of ACRP PDF files during the first half of 2012.

- *ACRP Report 65: Guidebook for Airport Irregular Operations (IROPS) Contingency Planning*
  - Guidebook: 1,272 downloads
  - Resource A, Planning Topics: 583 downloads
  - Resource B, Model: 542 downloads
  - Resource C, Tools: 349 downloads
- *ACRP Report 25: Airport Passenger Terminal Planning and Design*
  - Volume 1, Guidebook: 755 downloads
  - Volume 2, Spreadsheet 329 downloads
- *ACRP Report 59: Information Technology Systems at Airports:*  
645 downloads

- *ACRP Report 66: Considering and Evaluating Airport Privatization*: 645 downloads
- *ACRP Report 1: Safety Management Systems for Airports*
  - *Volume 1, Overview*: 564 downloads
  - *Volume 2, Guidebook*: 629 downloads
- *ACRP Report 56: Handbook for Considering Practical Greenhouse Gas Emission Reduction Strategies for Airports*: 543 downloads
- *ACRP Report 58: Airport Industry Familiarization and Training for Part-Time Policy Makers*: 498 downloads
- *ACRP Synthesis 30: Airport Insurance Coverage and Risk Management Practices*: 433 downloads
- *ACRP Report 55: Passenger Level of Service and Spatial Planning for Airport Terminals*: 421 downloads
- *ACRP Research Results Digest 15: Use of Towbarless Tractors at Airports—Best Practices*: 399 downloads

The following ACRP activities of particular interest were completed during 2012. Table 5 provides a summary of all ACRP research projects selected, along with their status as of December 31, 2012.

### **Notable Publications**

The following ACRP notable publications were completed during the year.

*ACRP Report 65: Guidebook for Airport Irregular Operations (IROPS) Contingency Planning* is a practical guidebook for commercial passenger service airports of all sizes to develop, continually evaluate, and update their contingency plans for procedures pertaining to IROPS that may cause significant disruptions to customers. This guidebook assists aviation system partners in improving their response to customer care during a broad array of IROPS conditions and with step-by-step templates for the preparation of contingency plans that include necessary communications, collaboration, and coordination to address customer needs. A specific focus on the needs of smaller airports has been included in the development of the guidebook.

*ACRP Report 73: Airport-to-Airport Mutual Aid Programs* is a guidebook that will assist individuals at airports who would like to enter into formal or informal mutual aid agreements with other airports in the event of a community-wide disaster (e.g., hurricane, earthquakes) that requires support and assistance beyond their own capabilities. The guidebook describes the benefits that an airport-to-airport mutual aid program (MAP) can provide. It outlines the different considerations when setting up an airport-to-airport MAP and has many examples, including examples from other industries.

*ACRP Research Results Digest 14: Graduate Research Award Program on Public-Sector Aviation Issues* summarizes the results of the initial four years of the Graduate Research Award Program on Public-Sector Aviation Issues (ACRP Project 11-04). The program is designed to encourage applied research on airport-related aviation system issues and to foster the next generation of aviation community leaders. Under the program, up to ten awards of \$10,000 each are made to full-time graduate students for successful completion of a research paper on public-sector airport-related aviation issues during the academic year. Successful papers are presented at the TRB Annual Meeting and exceptional papers have been published in the *Transportation Research Record: Journal of the Transportation Research Board*.

*ACRP Research Results Digest 15: Use of Towbarless Tractors at Airports – Best Practices* provides practical planning guidance describing best practices for operating TBLTs at airports. This document introduces best practices to airports and operators that do not currently have guidelines and can be incorporated into or supplement existing documents and handbooks.

*ACRP Legal Research Digest 15: Compilation of State Airport Authorizing Legislation* presents information that has been compiled, reviewed, and summarized pertaining to each state's airport-specific legislation, including laws establishing, developing, operating, expanding, and funding airports. The compilation focuses on legislation expressly applicable to public airports rather than legislation applicable to local governments generally. It compares and contrasts zoning and land use; purchasing authority; commercial operations; ground transportation, funding, and taxing authority; law enforcement; and sovereign immunity.

*ACRP Synthesis 37: Lessons Learned from Airport Safety Management Systems Pilot Studies* provides airport operators with data and experience from SMS pilot study airports through survey results, lessons learned, and general findings and trends. The proposed audience is U.S. Part 139 certificated airport operators; however, although intended for Part 139 airports, the results gathered in this synthesis of practice may be helpful to all airports.

# Development of Airport Property: Policy Guidance and Workforce Training

Airports, widely-considered vital economic catalysts for their communities, consist of large areas of land that are subject to many regulatory constraints. While working within given regulatory frameworks, a common goal of airport management is to support and grow economic activity on airport property. *ACRP Report 47: Guidebook for Developing and Leasing Airport Property* (2011) is a resource manual that can assist with the formulation of airport leasing and development policies to support public and private investments for both aeronautical and non-aeronautical uses. *ACRP Report 47* features 10 case studies as examples of best management practices and a checklist of items for

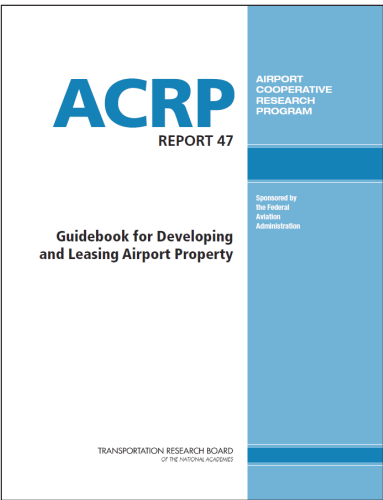
the airport sponsor to consider when structuring a lease agreement. When developing a lease agreement, an airport sponsor should consider and account for the potential effects of the agreement that can vary based on the type of development, anticipated uses, location, financing, funding, required financial return, grant assurances, regulatory compliance, and community impacts. *ACRP Report 47* assists users with these considerations through the checklist.

Faculty and students at Texas Southern University have employed *ACRP Report 47* in the classroom. In the Fall 2011 semester under the direction of Professor Charles R. Glass, Ph.D., students in the Aviation Property and Leasing Management course working towards a degree in Aviation Science and Technology used *ACRP Report 47* as the primary reference for the course. The report provides a valuable mix of applicable concepts and thorough case

studies that help prepare the future aviation professionals for challenges and opportunities they will face. The case studies span a wide range of airport types from general aviation airports to large-hub airports.

In addition to activities within the classroom, Professors Carol Abel Lewis, Ph.D. and Charles R. Glass, Ph.D. applied *ACRP Report 47* to an airport development discussion in the Houston Airport System<sup>1</sup>. The Houston Airport System consists of three airports: George Bush Intercontinental (IAH), William P. Hobby Airport (HOU), and Ellington Airport (EFD). Hobby Airport (HOU), located seven miles south of downtown Houston, offers only domestic service, while Intercontinental Airport (IAH), located 23 miles north of downtown Houston, offers domestic and international service. Southwest Airlines requested that the City of Houston add a Federal Inspection Services facility at Hobby Airport to allow airlines to offer international flights from the airport. Another airline opposed the request, citing potential negative impacts for travelers. On May 30, 2012, Houston's City Council voted 16-1 in favor of approving the plan to add international service at Hobby Airport. Upon the successful vote, the City of Houston, with a memorandum of understanding with Southwest Airlines, was able to begin pursuing federal approvals for the international service.

According to Dr. Glass, *ACRP Report 47* offered significant benefits to the City of Houston as "an unbiased, national document which provided the City



Right: Hobby Airport Terminal.  
Photo courtesy of Houston Airport System.

with the appropriate information to complete their due diligence to identify stakeholders and impacts.” The checklist provided in *ACRP Report 47* condenses the wide range of considerations into a manageable list of items that must be considered during project development analysis. This checklist allowed the researchers<sup>1</sup> to conclude that management at the Houston Airport System, “fulfilled their responsibilities in the performance of their duties—planning, informing, and involving all stakeholders in the development of Hobby’s Airport Master Plan.”

The application of the checklist for the addition of international service at Hobby Airport resulted in the following planning and stakeholder involvement findings:

- The project fits within the stated goals listed in the airport visioning documents (Airport Master Plan, Land Use Plan, and Airport Business Plan).
- The project complies with community land use plans, zoning ordinances, and other applicable planning documents.
- The proposed development is in compliance with the FAA-approved Airport Layout Plan.
- The proposed use of the property does not violate any grant assurances.
- This project represents the highest and best use of the property.

- The proposed project is not in conflict with any current airport agreements that may be in effect with an existing tenant.
- All of the potential stakeholders in the project have been identified.
- The perspectives, concerns, and resources (potential funding sources, marketing resources, and development expertise, for example) of the stakeholders have been identified.
- Plans are in place to reach out to the identified stakeholders, and mechanisms such as public meetings, round-table discussions, and focus groups are planned to facilitate communications and dialogue.

The improvements are seen as a tremendous asset to the community as noted by Mario Diaz, director of aviation for the Houston Airport System, who remarked that the international service will be “advantageous for the City of Houston and that’s what makes me proud.” Furthermore, these advantages will be acquired by the citizens through a memorandum of agreement that will require “Southwest Airlines to design and build the five new gates and customs facility to the city’s specifications. When finished, the city will own the improvements debt free.”

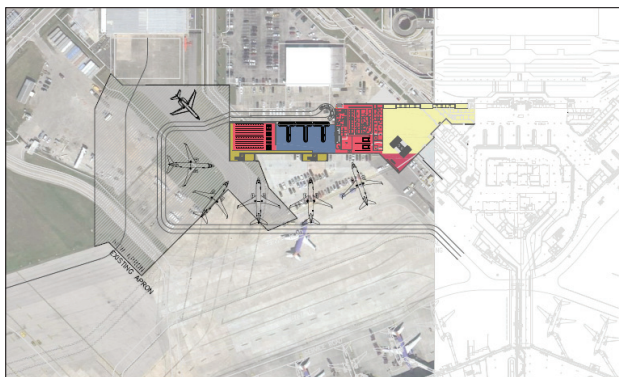
## Considering All Stakeholders While Working Towards Financial Sustainability

“The airport sponsor must strive to meet the demands of the airport’s users, the needs and desires of the surrounding community, the financial concerns of potential developers, and the regulatory requirements of the FAA, all while ensuring that the current and future financial and operational health of the airport remains intact.”

*ACRP Report 47:  
Guidebook for Developing and  
Leasing Airport Property*

Right:  
Proposed improvements  
to support international  
service at Hobby Airport.

Photo courtesy of  
Houston Airport System  
and Ricondo & Associates.



<sup>1</sup>Lewis, C.A. and Glass, C.R. *Review of Recommendation on Southwest Airlines’ Request for Expansion of Federal Inspection Facilities at William P. Hobby Airport and the Impact of Dividing International Service Between Two Airports*. Texas Southern University, Houston, TX. May 2012.

**ACKNOWLEDGMENT OF SPONSORSHIP:** This work was sponsored by the Federal Aviation Administration and was conducted in the Airport Cooperative Research Program, which is administered by the Transportation Research Board of the National Academies.

**DISCLAIMER:** The opinions and conclusions expressed or implied in ACRP publications are those of the research agencies. They are not necessarily those of the Transportation Research Board, the National Research Council, or the program sponsors.

## ACRP Disseminates Solutions-Based Research Projects Through Ambassadors

**E**fficient dissemination of research findings is essential to sharing useful information with the aviation community. ACRP develops near-term, practical solutions to problems faced by airport operators through industry-driven, applied research projects. The ACRP Ambassador program is one of several dissemination initiatives that are strengthening ACRP's connection to the airport industry. Ambassadors are volunteers who serve as liaisons between the TRB and ACRP, the research community, and airport operators. Through the Ambassador program, ACRP strives to improve stakeholder awareness of, and access to, ACRP's solutions-based research products and encourage widespread use of the products by engaging with practitioners at industry events.

Each year, ACRP welcomes applications from a new group of prospective Ambassadors. The application process is competitive with consideration given to a candidate's professional experience in the airport industry, demonstrated ability to present on ACRP topics, and commitment to supporting the program's goals. Those selected serve a two-year term, starting with an Ambassador

Orientation that gives participants the information and resources they need to succeed in their role. After completing orientation, Ambassadors represent ACRP at industry events in their geographic regions, where they staff the program's exhibit booth, describe and promote solutions (in the form of ACRP research products) to a wide array of issues affecting airports, and present on other topics. In the first year of the program, Ambassadors attended 17 industry conferences and events, engaging with attendees through 11 presentations, 13 exhibition booth appearances, and distributing more than 1,500 ACRP publications.

In April 2012, Marsha Hochstadt, ACRP's Eastern Region Ambassador, exhibited at the FAA Eastern Region Airports Division 35th Annual Airports Conference. The Hershey Airport Conference (as it is known by participants) was attended by more than 500 government officials, airport owners/management, consultants, contractors, material testing laboratories personnel, and fellow exhibitors. During the conference, Marsha distributed over 100 copies of ACRP publications.

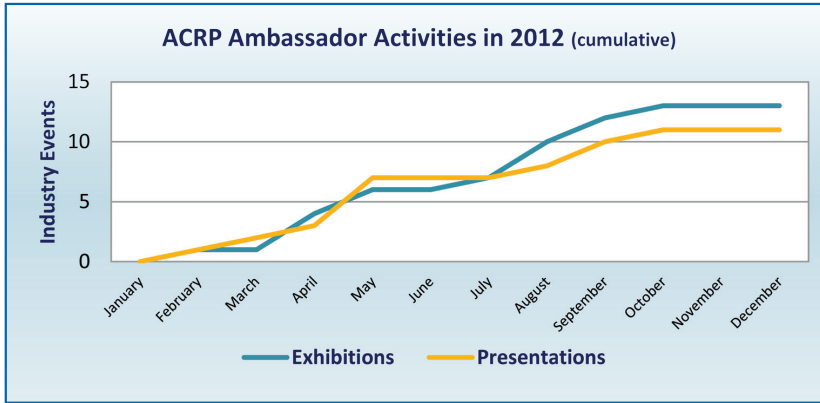


Ambassador Marsha Hochstadt at the ACRP booth at the FAA Eastern Region Airports Conference.

Marsha had a great time educating people on the materials available to them and ways to get involved. As one of the program's first Ambassadors, Marsha is especially happy to discuss the program with fellow industry practitioners and provide details on the various ways they can get involved with ACRP, either by becoming an Ambassador themselves, submitting a problem statement, volunteering for a panel, conducting research, using the available research and preparing an Impact on Practice statement, or simply responding to surveys. Marsha is honored to serve as a volunteer Ambassador for ACRP because along with her fellow Ambassadors she is just a "regular person" working in the aviation industry who is benefiting from the materials made possible by the research conducted through the ACRP. Marsha is hopeful that through the Ambassador program more people will not only become aware of the research and other materials available to them but that they will begin using the research on a regular basis.



ACRP Ambassadors for 2012-2013. Front row (left to right): Michael Audino, Sam Mehta, Lloyd McCoomb. Back row (left to right): Vivek Khanna, Marsha Hochstadt, Burr Stewart, Joshua Abramson, Randy Murphy.



## ACRP Ambassadors Research Dissemination

In the Ambassador program's first year, ACRP Ambassadors engaged the aviation community through:

- 11 presentations
- 13 exhibitions
- Distribution of
  - 600+ ACRP reports
  - 500+ ACRP brochures
  - 160+ ACRP synthesis reports
  - 130+ Impacts on Practice

### 2012-2013 ACRP Ambassadors

<p><b>Joshua Abramson</b> Southern Region Representative Tupelo Airport Authority Tupelo, MS</p>	<p><b>Michael Audino</b> Central Region Representative Center for Urban Transportation Research University of South Florida, Tampa, FL</p>
<p><b>Marsha Hochstadt</b> Eastern Region Representative The Port Authority of New York &amp; New Jersey New York City, NY</p>	<p><b>Vivek Khanna</b> Southwest Region Representative Oklahoma Aeronautics Commission Oklahoma City, OK</p>
<p><b>Lloyd McCoomb</b> Canadian Representative Greater Toronto Airports Authority Toronto AMF, Ontario, Canada</p>	<p><b>Sam Mehta</b> Western-Pacific Region Representative San Francisco International Airport Fremont, CA</p>
<p><b>Randy Murphy</b> New England Region Representative Grafton Technologies, Inc. Newburyport, MA</p>	<p><b>Burr Stewart</b> Northwest Mountain Region Representative Burrst Seattle, WA</p>

*"ACRP is the easiest program in the world to be an Ambassador for because it sells itself. ACRP's publications are a tremendous resource that's free and available to the aviation industry. The reports are beautifully written, edited, illustrated, and a dream to work with. I've been involved in applying these results to get tangible benefits, such as improved security, improved safety, and lower costs while providing a better guest experience. ACRP provides airport operators with the information they need to improve their airports which are significant enablers of regional economies."* —Lloyd McCoomb

*"Nobody is as focused on the needs of aviation as ACRP and that's why I see value in the program. I've used ACRP products. I've used ACRP webinars. I've used ACRP guidebooks and synthesis reports, and I have served on a panel, and now I'm serving as an Ambassador for the program. What drives me is that I get to work with the finest aviation infrastructure in the world and helping to improve on our system through the dissemination of ACRP research products is an honor for me."* —Vivek Khanna

*"I've chosen to be an Ambassador for ACRP because of the wealth of knowledge and information encompassed in the program. To get that word out to practitioners, to help airports run better, and take that knowledge and help the system grow is why I'm involved in the program. ACRP produces work from some of the best consultants, universities, and aviation industry leaders. If we can help share it with airport practitioners, consulting companies, and through the education system, we can encourage many to embrace what we know are the best practices."* —Joshua Abramson

**ACKNOWLEDGMENT OF SPONSORSHIP:** This work was sponsored by the Federal Aviation Administration and was conducted in the Airport Cooperative Research Program, which is administered by the Transportation Research Board of the National Academies.

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**TABLE 4. Publications of the Airport Cooperative Research Program**

<b>Reports</b>		
<b>No.</b>	<b>Proj. No.</b>	<b>Title, Pages, Publication Year</b>
1	11-02/Task 04	Safety Management Systems for Airports, Vol. 1: Overview, 40 p. (2007)
1	04-05	Safety Management Systems for Airports, Vol. 2: Guidebook, 174 p. (2009)
2	11-02/Task 03	Evaluation and Mitigation of Aircraft Slide Evacuation Injuries, 86 p. (2008)
3	04-01	Analysis of Aircraft Overruns and Undershoots for Runway Safety Areas, 58 p. (2008)
4	11-02/Task 02	Ground Access to Major Airports by Public Transportation, 214 p. (2008)
5	11-02/Task 05	Quarantine Facilities for Arriving Air Travelers: Identification of Planning Needs and Costs, 34 p. (2008)
6	02-04	Research Needs Associated with Particulate Emissions at Airports, 64 p. (2008)
7	02-03	Aircraft and Airport-Related Hazardous Air Pollutants: Research Needs and Analysis, 64 p. (2008)
8	04-02	Lightning-Warning Systems for Use by Airports, 80 p. (2008)
9	02-04A	Summarizing and Interpreting Aircraft Gaseous and Particulate Emissions Data, 90 p. (2008)
10	07-01	Innovations for Airport Terminal Facilities, 78 p. (2008)
11	02-06	Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories (& WOD 2), 62 p. (2009)
12	05-01	An Airport Guide for Regional Emergency Planning for CBRNE Events, 52 p. (2009)
13	01-03	Integrating Airport Information Systems, 98 p. (2009)
14	02-02	Deicing Planning Guidelines and Practices for Stormwater Management Systems, 208 p. (2009)
15	02-05	Aircraft Noise: A Toolkit for Managing Community Expectations (& CD 70), 162 p. (2009)
16	01-01	Guidebook for Managing Small Airports (& WOD 5), 140 p. (2009)
17	10-04	Airports and the Newest Generation of General Aviation Aircraft, Vol. 1: Forecast, 36 p. (2009)
17	10-04	Airports and the Newest Generation of General Aviation Aircraft, Vol. 2: Guidebook, 124 p. (2009)
18	03-08	Passenger Air Service Development Techniques, 168 p. (2009)
19	01-06	Developing an Airport Performance Measuring System (& CD 79), 154 p. (2010)
19A	01-09	Resource Guide to Airport Performance Indicators (& CD 94), 288 p. (2011)
20	03-09	Strategic Planning in the Airport Industry (& CD 73), 136 p. (2009)
21	01-05	A Guidebook for Selecting Airport Capital Project Delivery Methods, 100 p. (2009)
22	06-01	Helping Airport and Air Carrier Employees Cope with Traumatic Events, 82 p. (2009)
23	03-02	Airport Passenger-Related Processing Rates Guidebook, 126 p. (2009)
24	10-03	Guidebook for Evaluating Airport Parking Strategies and Supporting Technologies, 162 p. (2009)
25	07-05	Airport Passenger Terminal Planning and Design, Vol. 1: Guidebook, 426 p. (2010)
25	07-04	Airport Passenger Terminal Planning and Design, Vol. 2: Spreadsheet Models and User's Guide (& CD 75), 82 p. (2010)
26	03-04	Guidebook for Conducting Airport Users Surveys, 256 p. (2009)
27	03-03	Enhancing Airport Land Use Compatibility, Vol. 1: Land Use Fundamentals and Implementation Resources, 316 p. (2010)
27	03-03	Enhancing Airport Land Use Compatibility, Vol. 2: Land Use Survey and Case Study Summaries, 296 p. (2010)
28	01-04	Marketing Guidebook for Small Airports, 196 p. (2010)
29	07-03	Developing Improved Civil Aircraft Arresting Systems, 206 p. (2010)
30	10-05	Reference Guide on Understanding Common Use at Airports (& CD 74), 244 p. (2010)
31	03-10	Innovative Approaches to Addressing Aviation Capacity Issues in Coastal Mega-regions, 178 p. (2010)
32	04-06	Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports, 192 p. (2010)
33	01-02	Guidebook for Developing and Managing Airport Contracts (& CD 81), 82 p. (2011)
34	10-06	Handbook to Assess the Impacts of Constrained Parking at Airports (& CD 80), 112 p. (2010)
35	10-02	Planning for Offsite Airport Terminals, 94 p. (2010)
36	01-07	Airport/Airline Agreements--Practices and Characteristics, 112 p. (2010)

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## Reports

No.	Proj. No.	Title, Pages, Publication Year
37	03-06	Guidebook for Planning and Implementing Automated People Mover Systems at Airports (& CD 82), 226 p. (2010)
37A	03-07	Guidebook for Measuring Performance of Automated People Mover Systems at Airports, 134 p. (2012)
38	03-13	Understanding Airspace, Objects, and Their Effects on Airports, 164 p. (2010)
39	09-01	Recommended Guidelines for the Collection and Use of Geospatially Referenced Data for Airfield Pavement Management, 108 p. (2010)
40	07-02	Airport Curbside and Terminal Area Roadway Operations, 40 p. (2010)
41	10-07	Guide to the Decision-Making Tool for Evaluating Passenger Self-Tagging (& CD 83; & WOD 10), 70 p. (2011)
42	08-01	Sustainable Airport Construction Practices (& CD 88), 320 p. (2011)
43	02-13	Guidebook of Practices for Improving Environmental Performance at Small Airports (& CD 89), 364 p. (2011)
44	03-11	A Guidebook for the Preservation of Public-Use Airports (& CD 102), 62 p. (2011)
45	10-01	Optimizing the Use of Aircraft Deicing and Anti-Icing Fluids, 180 p. (2011)
46	02-07	Handbook for Analyzing the Costs and Benefits of Alternative Aviation Turbine Engine Fuels at Airports (& CD 91), 78 p. (2011)
47	01-08	Guidebook for Developing and Leasing Airport Property, 140 p. (2011)
48	03-15	Impact of Jet Fuel Price Uncertainty on Airport Planning and Development (& CD 93), 72 p. (2011)
49	01-10	Collaborative Airport Capital Planning Handbook, 136 p. (2011)
50	04-08	Improved Models for Risk Assessment of Runway Safety Areas (& CD 98), 182 p. (2011)
51	04-09	Risk Assessment Method to Support Modification of Airfield Separation Standards, 136 p. (2011)
52	07-06	Wayfinding and Signing Guidelines for Airport Terminals and Landside, 252 p. (2011)
53	02-11	A Handbook for Addressing Water Resource Issues Affecting Airport Development Planning, 170 p. (2011)
54	01-11	Resource Manual for Airport In-Terminal Concessions, 268 p. (2011)
55	03-05	Passenger Level of Service and Spatial Planning for Airport Terminals, 70 p. (2011)
56	02-10	Handbook for Considering Practical Greenhouse Gas Emission Reduction Strategies for Airports (& CD 95), 158 p. (2011)
57	11-02/Task 18	The Carbon Market: A Primer for Airports, 80 p. (2011)
58	11-02/Task 15	Airport Industry Familiarization and Training for Part-Time Airport Policy Makers, 64 p. (2011)
59	01-12	Information Technology Systems at Airports--A Primer, 108 p. (2012)
60	02-18	Guidelines for Integrating Alternative Jet Fuel into the Airport Setting, 136 p. (2012)
61	10-09	Elimination or Reduction of Baggage Recheck for Arriving International Passengers, 142 p. (2012)
62	04-07	Airport Apron Management and Control Programs, 64 p. (2012)
63	02-03A	Measurement of Gaseous HAP Emissions from Idling Aircraft as a Function of Engine and Ambient Conditions, 112 p. (2012)
64	02-25	Handbook for Evaluating Emissions and Costs of APUs and Alternative Systems (& CD 113), 90 p. (2012)
65	10-10	Guidebook for Airport Irregular Operations (IROPS) Contingency Planning, 258 p. (2012)
66	01-14	Considering and Evaluating Airport Privatization (& CD 109), 124 p. (2012)
67	03-14	Airport Passenger Conveyance Systems Planning Guidebook (& CD 110), 68 p. (2012)
68	07-07	Guidebook for Evaluating Terminal Renewal Versus Replacement Options (& CD 112), 152 p. (2012)
69	01-16	Asset and Infrastructure Management for Airports: Primer and Guidebook, 136 p. (2012)
70	10-08	Guidebook for Implementing Intelligent Transportation Systems Elements to Improve Airport Traveler Access Information (& CD 114), 138 p. (2012)
71	02-08	Guidance for Quantifying the Contribution of Airport Emissions to Local Air Quality (& CD 115), 76 p. (2012)
72	02-14	Guidebook for Selecting Methods to Monitor Airport and Aircraft Deicing Materials, 276 p. (2012)
73	04-10	Airport-to-Airport Mutual Aid Programs, 192 p. (2012)
74	01-18	Application of Enterprise Risk Management at Airports (& CD 117), 72 p. (2012)

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## Reports

No.	Proj. No.	Title, Pages, Publication Year
75	06-02	Airport Leadership Development Program (Pending)
76	03-22	Addressing Uncertainty about Future Airport Activity Levels in Airport Decision Making, 152 p. (2012)
77	01-17	Guidebook for Developing General Aviation Airport Business Plans (& CD 119), 174 p. (2012)
78	02-16	Airport Ground Support Equipment (GSE): Emission Reduction Strategies, Inventory, and Tutorial (& CD 123), 114 p. (2012)
79	03-17	Evaluating Airfield Capacity (& CD 124), 172 p. (2012)
80	02-22	Guidebook for Incorporating Sustainability into Traditional Airport Projects (& CD 125), 104 p. (2012)
81	02-19	Winter Design Storm Factor Determination for Airports, 60 p. (2012)

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## Research Results Digests

No.	Proj. No.	Title, Pages, Publication Year
1	11-03	Synthesis of Information Related to Airport Practices, 4 p. (2007)
2	11-02/Task 01	Model for Improving Energy Use in U.S. Airport Facilities, 20 p. (2007)
3	11-03	Synthesis of Information Related to Airport Practices, 4 p. (2007)
4	11-03	Synthesis of Information Related to Airport Practices, 4 p. (2009)
5	11-02/Task 07	Current and Emerging Issues Facing the Airport Industry, 32 p. (2009)
6	04-03	Guidance for Identifying and Mitigating Approach Lighting System Hazards, 16 p. (2009)
7	11-02/Task 11	A Summary of How Proposed Firefighting Standards Would Impact Airports, 20 p. (2009)
8	11-03	Synthesis of Information Related to Airport Practices, 4 p. (2010)
9	02-01	Alternative Aircraft and Pavement Deicers and Anti-Icing Formulations with Improved Environmental Characteristics, 12 p. (2010)
10	03-01	Light Detection and Ranging (LIDAR) Deployment for Airport Obstruction Surveys, 30 p. (2010)
11	11-02/Task 14	Helping Airports Understand Payment Card Industry Data Security Standard (PCI DSS), 30 p. (2010)
12	11-03	Synthesis of Information Related to Airport Practices, 6 p. (2011)
13	11-03	Synthesis of Information Related to Airport Practices, 8 p. (2012)
14	11-04	Graduate Research Award Program on Public-Sector Aviation Issues, 20 p. (2012)
15	04-07A	Use of Towbarless Tractors at Airports--Best Practices, 16 p. (2012)
16	11-01	Legal Aspects of Airport Programs, 12 p. (2012)

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## Legal Research Digests (Project 11-01)

No.	Topic No.	Title, Pages, Publication Year
1	01-03	Compilation of Airport Law Resources, 38 p. (2008)
2	01-02	Theory and Law of Airport Revenue Diversion, 30 p. (2008)
3	01-04	Survey of Laws and Regulations of Airport Commercial Ground Transportation, 186 p. (2008)
4	01-01	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 31, 2007 (& CD 68), 3000 p. (2008)
5	01-05	Responsibility for Implementation and Enforcement of Airport Land-Use Zoning Restrictions, 68 p. (2009)
6	01-07	The Impact of Airline Bankruptcies on Airports, 62 p. (2009)
7	01-08	Airport Governance and Ownership, 72 p. (2009)
8	01-06	The Right to Self-Fuel, 82 p. (2009)
9	02-03	Case Studies on Community Challenges to Airport Development, 64 p. (2010)
10	02-04	Analysis of Federal Laws, Regulations, and Case Law Regarding Airport Proprietary Rights, 52 p. (2010)

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### Legal Research Digests (Project 11-01)

No.	Topic No.	Title, Pages, Publication Year
11	03-03	Survey of Minimum Standards: Commercial Aeronautical Activities at Airports, 60 p. (2011)
12	03-01	Fair Disclosure and Airport Impact Statements in Real Estate Transfers, 70 p. (2011)
13	03-06	An Index and Digest of Decisions: Compilation of Airport Law Resources (CD 108), 0 p. (2012)
14	02-05	Achieving Airport-Compatible Land Uses and Minimizing Hazardous Obstructions in Navigable Airspace, 74 p. (2012)
15	03-02	Compilation of State Airport Authorizing Legislation, 108 p. (2012)
16	04-07	Procurement of Airport Development and Planning Contracts, 50 p. (2012)
17	03-05	State and Federal Regulations That May Affect Initiatives to Reduce Airports' GHG Emissions, 70 p. (2012)

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### Syntheses (Project 11-03)

No.	Topic No.	Title, Pages, Publication Year
1	S01-01	Innovative Finance and Alternative Sources of Revenue for Airports, 52 p. (2007)
2	S03-01	Airport Aviation Activity Forecasting, 32 p. (2007)
3	S04-01	General Aviation Safety and Security Practices, 44 p. (2007)
4	S10-01	Counting Aircraft Operations at Non-Towered Airports, 33 p. (2007)
5	S03-02	Airport Ground Access Mode Choice Models, 151 p. (2008)
6	S10-03	Impact of Airport Pavement Deicing Products on Aircraft and Airfield Infrastructure, 68 p. (2008)
7	S03-03	Airport Economic Impact Methods and Models, 76 p. (2008)
8	S10-02	Common Use Facilities and Equipment at Airports, 132 p. (2008)
9	S02-01	Effects of Aircraft Noise: Research Update on Selected Topics, 100 p. (2008)
10	S02-02	Airport Sustainability Practices, 120 p. (2008)
11	S09-01	Impact of Airport Rubber Removal Techniques on Runways, 116 p. (2008)
12	S04-02	Preventing Aircraft--Vehicle Incidents during Weather Operations and Periods of Low Visibility, 80 p. (2008)
13	S03-05	Effective Practices for Preparing Airport Improvement Program Benefit-Cost Analysis, 76 p. (2009)
14	S03-04	Airport System Planning Practices, 80 p. (2009)
15	S04-03	Identification of the Requirements and Training to Obtain Driving Privileges on Airfields, 52 p. (2009)
16	S02-03	Compilation of Noise Programs in Areas Outside DNL 65, 112 p. (2009)
17	S02-04	Approaches to Integrating Airport Development and Federal Environmental Review Process, 44 p. (2009)
18	S06-01	Aviation Workforce Development Practices, 44 p. (2010)
19	S01-02	Airport Revenue Diversification, 64 p. (2010)
20	S08-01	Airport Terminal Facility Activation Techniques, 136 p. (2010)
21	S10-04	Airport Energy Efficiency and Cost Reduction, 82 p. (2010)
22	S09-02	Common Airport Pavement Maintenance Practices, 112 p. (2011)
23	S04-05	Bird Harassment, Repellent, and Deterrent Techniques for Use on and Near Airports, 40 p. (2011)
24	S02-05	Strategies and Financing Opportunities for Airport Environmental Programs, 228 p. (2011)
25	S03-06	Strategies for Reuse of Underutilized or Vacant Airport Facilities, 72 p. (2011)
26	S04-06	Current Airport Inspection Practices Regarding FOD (Foreign Object Debris/Damage), 96 p. (2011)
27	S06-02	Airport Self-Inspection Practices, 122 p. (2011)
28	S10-06	Investigating Safety Impacts of Energy Technologies on Airports and Aviation, 48 p. (2011)
29	S10-05	Ramp Safety Practices, 68 p. (2011)
30	S01-03	Airport Insurance Coverage and Risk Management Practices, 60 p. (2011)
31	S01-04	Airline and Airline-Airport Consortium to Manage Terminals and Equipment, 102 p. (2011)
32	S04-08	Managing Aerial Firefighting Activities on Airports, 44 p. (2012)
33	S02-06	Airport Climate Adaptation and Resilience, 96 p. (2012)
34	S09-03	Subsurface Utility Engineering Information Management for Airports, 58 p. (2012)

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### Syntheses (Project 11-03)

No.	Topic No.	Title, Pages, Publication Year
35	S09-04	Issues With Use of Airfield LED Light Fixtures, 44 p. (2012)
36	S06-03	Expoloring Airport Employee Commute and Parking Strategies, 70 p. (2012)
37	S04-07	Lessons Learned from Airport Safety Management Systems Pilot Studies, 72 p. (2012)
38	S10-07	Expediting Aircraft Recovery at Airports, 108 p. (2012)

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### Web-Only Documents

No.	Proj. No.	Title, Pages, Publication Year
1	01-03	Analysis and Recommendations for Developing Integrated Airport Information Systems, 80 p. (2009)
2	02-06	Appendices to ACRP Report 11: Guidebook on Preparing Airport GHG Emissions Inventories (& Rep. 11), 87 p. (2009)
3	02-01	Formulations for Aircraft and Airfield Deicing and Anti-Icing: Aquatic Toxicity and Biochemical Oxygen Demand, 121 p. (2009)
4	04-03	Guidance for Identifying and Mitigating Approach Lighting System Hazards, 88 p. (2009)
5	01-01	Development of a Guidebook for Managing Small Airports (& Rep. 16), 124 p. (2009)
6	01-05	Evaluation and Selection of Airport Capital Project Delivery Methods, 213 p. (2009)
7	11-02/Task 11	How Proposed ARFF Standards Would Impact Airports, 115 p. (2009)
8	02-01	Alternative Aircraft Anti-Icing Formulations With Reduced Aquatic Toxicity and Biological Oxygen Demand, 141 p. (2010)
9	11-02/Task 08	Enhanced Modeling of Aircraft Taxiway Noise Scoping, 153 p. (2009)
10	10-07	Appendix to ACRP Report 41 (self-tagging) (& CD 83; & Rep. 41), 85 p. (2011)
11	02-09	A Comprehensive Development Plan for a Multimodal Noise and Emissions Model, 296 p. (2010)
12	11-02/Task 17	Risk Assessment of Proposed ARFF Standards, 105 p. (2011)
13	02-23	Alternative Fuels as a Means to Reduce PM2.5 Emissions at Airports, 175 p. (2012)

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### CDs

No.	Proj. No.	Title, Publication Year
68	11-01/Topic 04-05	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 31, 2007 (& LRD 4) (2008)
70	02-05	ACRP Report 15 Toolkit (& Rep. 15) (2009)
73	03-09	Workbook for ACRP Report 20: Strategic Planning in the Airport Industry (& Rep. 20) (2009)
74	10-05	Supplemental Materials for ACRP Report 30 (& Rep. 30) (2010)
75	07-04	Airport Passenger Terminal Planning Spreadsheet Models for ACRP Report 25, Volume 2 (& Rep. 25 Vol. 2) (2010)
79	01-06	Workbook for ACRP Report 19: Developing an Airport Performance-Measurement System (& Rep. 19) (2010)
80	10-06	Parking Forecast Model and Instructions for Use: Supplemental Materials for ACRP Report 34 (& Rep. 34) (2010)
81	01-02	Appendixes to ACRP Report 33 (& Rep. 33) (2011)
82	03-06	Database of APM Systems for ACRP Report 37 (& Rep. 37) (2010)
83	10-07	Decision-Making Tool for Evaluating Passenger Self-Tagging (& Rep. 41; & WOD 10) (2011)
88	08-01	Collection of Practices for ACRP Report 42 (& Rep. 42) (2011)
89	02-13	Practices That Enhance Environmental Stewardship (& Rep. 43) (2011)
91	02-07	The Alternative Fuels Investigation Tool (AFIT) for ACRP Report 46 (& Rep. 46) (2011)
93	03-15	Airport Forecasting Risk Assessment Program for ACRP Report 48 (& Rep. 48) (2011)
94	01-09	Interactive Resource Guide for ACRP Report 19A (& Rep. 19A) (2011)

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**CDs**

No.	Proj. No.	Title, Publication Year
95	02-10	AirportGEAR and Supplemental Material (& Rep. 56) (2011)
98	04-08	Runway Safety Area Risk Analysis Tool for ACRP Report 50 (& Rep. 50) (2011)
102	03-11	Supplemental Materials for ACRP Report 44 (& Rep. 44) (2011)
108	11-01/Topic 03-06	An Index and Digest of Decisions: Compilation of Airport Law Resources (LRD 13) (2012)
109	01-14	Appendices for ACRP Report 66 (& Rep. 66) (2012)
110	03-14	Resource CD for ACRP Report 67 (& Rep. 67) (2012)
112	07-07	Analysis Templates for ACRP Report 68 (& Rep. 68) (2012)
113	02-25	Tools for Evaluating Emissions and Costs of APUs and Alternative Systems (TEECAAS) for ACRP Report 64 (& Rep. 64) (2012)
114	10-08	Applying Intelligent Transportation Systems to Improve Airport Traveler Access Information (& Rep. 70) (2012)
115	02-08	Appendixes to ACRP Report 71 (& Rep. 71) (2012)
117	01-18	Airport ERM Tool for ACRP Report 74 (& Rep. 74) (2012)
119	01-17	Digital Files for ACRP Report 77: Guidebook for Developing General Aviation Airport Business Plans (& Rep. 77) (2012)
123	02-16	Airport Ground Support Equipment: Tutorial and Database (& Rep. 78) (2012)
124	03-17	Supplemental Material to ACRP Report 79: Prototype Airfield Capacity Spreadsheet Model (& Rep. 79) (2012)
125	02-22	Evaluation Tool to Supplement ACRP Report 80 (& Rep. 80) (2012)

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**Conference Proceedings**

No.	Proj. No.	Title, Pages, Publication Year
41	11-02	Interagency-Aviation Industry Collaboration on Planning for Pandemic Outbreaks, 52 p. (2008)
47	11-02/Task 13	Research on the Transmission of Disease in Airports and on Aircraft, 70 p. (2010)

**Note**

Publications in parentheses with an ampersand (&) are companion publications.

Publications in parentheses without an ampersand are reports or digests published as stand-alone CDs.

**TABLE 5 SUMMARY OF PROJECT STATUS THROUGH DECEMBER 31, 2012**

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	3/31/2009	Completed - Published as Report 16 and Web-Only Document 5		
01-02	Guidebook for Developing and Managing Airport Contracts	\$400,000(07)	\$315,000	HNTB	4/24/2007	2/28/2010	Completed - Published as Report 33		
01-03	Integrating Airport Information Systems	\$300,000(07)	\$300,000	Aero Tech Consulting	8/10/2007	11/22/2008	Completed - Published as Report 13 and Web-Only Document 1		
01-04	Marketing Guidebook for Small Airports	\$200,000(07)	\$200,000	Eclat Consulting	10/26/2007	9/30/2009	Completed - Published as Report 28		
01-05	Guidebook for Airport Capital Project Delivery Systems	\$100,000(07) \$25,000 (08) \$70,000 (10)	\$194,994	Northeastern University	4/4/2007	7/30/2009	Completed - Published as Report 21		
01-06	A Guidebook for Developing an Airport Performance Measurement System	\$400,000(08)	\$400,000	Infrastructure Management Group	5/6/2008	4/2/2010	Completed - Published as Report 19		
01-07	Airport/Airline Agreements - Practices and Characteristics	\$400,000(08)	\$393,005	Ricondo & Associates	5/30/2008	4/5/2010	Completed - Published as Report 36		
01-08	Guidebook for Developing and Leasing Airport Property	\$400,000(08)	\$350,000	R.W. Armstrong and Associates	6/24/2008	9/30/2010	Completed - Published as Report 47		
01-09	Resource Guide to Airport Performance Indicators	\$400,000(09)	\$400,000	Oliver Wyman, Inc.	5/8/2009	12/31/2010	Completed - Published as Report 19A		
01-10	A Handbook for Developing, Implementing and Overseeing Airport Capital Plans	\$400,000(09)	\$399,955	HNTB Corp.	7/10/2009	12/31/2010	Completed - Published as Report 49		
01-11	Understanding Airport In-Terminal Concession Programs	\$350,000(09)	\$350,000	Leigh Fisher	6/17/2009	5/31/2011	Completed - Published as Report 54		

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
01-12	A Primer for Information Technology Systems at Airports	\$350,000(09)	\$348,843	Faith Group, LLC	7/7/2009	5/31/2011	Completed - Published as Report 59		
01-13	Developing a Database-Driven Web Application for Benchmarking Airport Performance	\$500,000(09A) \$100,000(10)	\$549,727	Amadeus Consulting	9/30/2010	6/30/2013	Research in progress	D. Duchow	M. Salamone
01-14	Considering and Evaluating Airport Privatization	\$500,000(09A)	\$500,000	LeighFisher	5/10/2010	12/31/2011	Completed - Published as Report 66		
01-15	Assessing and Implementing Innovative Revenue Strategies - A Guide for Airports	\$400,000(10)	\$400,000	Kramer Aerotech, Inc.	5/14/2010	6/30/2013	Research in progress	G. Fahnestock	L. Goldstein
01-16	Asset and Infrastructure Management for Airports	\$400,000(10)	\$400,000	GHD Consulting	6/16/2010	12/1/2011	Completed - Published as Report 69		
01-17	Guidebook for Developing General Aviation Airport Business Plans	\$400,000(10)	\$398,350	Aviation Management Consulting Group	6/28/2010	6/1/2012	Completed - Published as Report 77		
01-18	Application of Enterprise Risk Management at Airports	\$350,000(10)	\$350,000	Marsh, USA	6/30/2010	3/30/2012	Completed - Published as Report 74		
01-19	Airport Capital Improvements: Developing a Cost-Estimating Model and Database	\$400,000(11)	\$400,000	MCR Federal	7/13/2011	3/13/2013	Research in Progress	J. Breeden R. Samis	L. Goldstein
01-20	Procuring and Managing Professional Services for Airports	\$350,000(11)	\$350,000	HNTB	6/15/2011	1/20/2013	Research in progress	N. Goodly	T. Schatz
01-21	A Guidebook for Airport-Airline Consortiums	\$400,000(12)	\$387,642	AVAirPros	6/1/2012	12/1/2013	Research in Progress	K. Brockman	T. Schatz
01-22	Guidebook for Successfully Assessing and Managing Risks in Airport Capital and Maintenance Projects	\$300,000(12)	\$300,000	Direct Effect Solutions, Inc.	8/14/2012	11/13/2013	Research in progress	D. Fish N. Wills	M. Greenberger
01-23	Mitigating Disruptive WiFi Interference at Airports	\$350,000(13)					In Development		T. Schatz



**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
01-24	Renewable Energy as an Airport Revenue Source	\$400,000(13)					In Development		J. Navarrete
01-25	A Guidebook for Integrating Diversity and Small Business Participation in Airports Business Opportunities	\$250,000(13)					In Development		T. Schatz
<b>2: Environment</b>									
02-01	Alternative Aircraft and Pavement Deicers and Anti-icing Formulations with Improved Environmental Characteristics	\$600,000(06)	\$600,000	University of South Carolina	11/11/2006	2/28/2010	Completed - Interim report published as Web-Only Document 3; summary of final report published as Research Results Digest 9; full final report published as Web-Only Document 8		
02-02	Deicing Planning Guidelines and Practices for Stormwater Management Systems	\$300,000(06)	\$300,000	CH2M Hill	10/9/2006	9/12/2008	Completed - Published as Report 14 and Deicing Practices 1-41		
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)	\$499,741	Aerodyne Research, Inc.	1/12/2009	3/30/2012	Completed - Published as Report 63		
02-04	Research Needs Associated with Particulate Emissions at Airports	\$100,000(06)	\$99,897	Environmental Consulting Group, Inc.	1/2/2007	3/1/2008	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	Aircraft Noise: A Toolkit for Managing Community Expectations	\$500,000(07)	\$399,982	Landrum & Brown	4/20/2007	3/31/2009	Completed - Published as Report 15		

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-06	Guidebook on Preparing Airport Greenhouse Gas (GHG) Emissions Inventories	\$200,000(07)	\$199,403	Wyle Laboratories	10/9/2007	9/8/2008	Completed - Published as Report 11 and Web-Only Document 2		
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	10/29/2010	Completed - Published as Report 46		
02-08	Quantifying Contributions to Local Air Quality Impacts from Airport-Related Emissions	\$600,000(08)	\$599,970	Wyle Laboratories, Inc.	6/4/2008	4/30/2012	Completed - Published as Report 71		
02-09	A Comprehensive Development Plan for a Multimodal Noise and Emissions Model	\$200,000(08)	\$199,630	Wyle Laboratories, Inc.	7/7/2008	10/29/2010	Completed - Published as Web-Only Document 11		
02-10	Handbook for Considering Practical Greenhouse Gas Emission Reduction Strategies for Airports	\$500,000(09)	\$499,921	CDM Federal Programs Corp	6/9/2009	6/9/2011	Completed - Published as Report 56		
02-11	A Handbook for Addressing Water Resource Issues Affecting Airport Capacity Enhancement Planning	\$150,000(09)	\$150,000	Gresham, Smith and Partners	5/11/2009	5/31/2011	Completed - Published as Report 53		
02-12	Environmental Optimization of Aircraft Departures: Fuel Burn, Emissions, and Noise	\$300,000(09)	\$300,000	Wyle Laboratories, Inc.	4/20/2009	3/29/2013	Completed - Publication Pending	R. Cointin	L. Goldstein
02-13	Guidebook of Practices for Improving Environmental Performance at Small Airports	\$200,000(09) \$ 75,000(08)	\$200,000	Gresham, Smith and Partners	6/16/2009	8/20/2010	Completed - Published as Report 43		
02-14	Guidebook for Selecting Methods to Monitor Airport and Aircraft Deicing Materials	\$200,000(09A)	\$150,000	Gresham, Smith and Partners	6/3/2010	2/28/2012	Completed - Published as Report 72		
02-15	Recycling Strategies for the Airport Industry	\$300,000(09A)	\$300,000	Cascadia Consulting Group	9/22/2010	9/22/2012	Completed - Publication Pending	J. Barrow S. Urfass	M. Salamone
02-16	Airport Ground Support Equipment (GSE) Inventory and Emission Reduction Strategies	\$600,000(09A)	\$599,717	CDM Federal Programs Corp.	6/18/2010	6/30/2012	Completed -Published as Report 78		

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-17	Measuring PM Emissions from Auxiliary Power Units, Tires and Brakes	\$500,000(09A)	\$500,000	Missouri University of Science and Technology	9/3/2010	12/31/2012	Research in progress	C. Ma	J. Navarrete
02-18	Guidelines for Integrating Alternative Jet Fuel into the Airport Setting	\$250,000(09A)	\$249,982	Metron Aviation	6/17/2010	10/16/2011	Completed - Published as Report 60		
02-19	Winter Design Storm Factors for Airports	\$300,000(09A)	\$249,999	CH2M Hill	6/24/2010	12/1/2012	Completed - Published as Report 81		
02-20	The Role of Air Travel in the Transmission and Spread of Insect-Borne Diseases	\$250,000(10)	\$249,995	University of Florida	9/7/2010	3/28/2013	Research in progress	S. Jones C. Ruehle	J. Navarrete
02-20A	Evaluating and Mitigating the Risk of Disease Transmission at Airports and on Aircraft	\$200,000(11)	\$200,000	Environmental Health & Engineering	7/6/2011	1/6/2013	Research in Progress	S. Jones	J. Navarrete
02-21	Evaluation of Airport Emissions Within State Implementation Plans	\$500,000(10)	\$499,805	KB Environmental Sciences	8/31/2010	2/28/2013	Completed - Publication Pending	J. Byers R. Iovinelli	L. Goldstein
02-22	Incorporating Sustainability into Traditional Airport Projects	\$300,000(09A)	\$300,000	Landrum & Brown	7/12/2010	5/31/2012	Completed - Published as Report 80		
02-23	Alternative Fuels as a Means to Reduce PM2.5 Emissions at Airports	\$500,000(10)	\$499,798	Project Performance Corp/AEA Group	7/6/2010	4/30/2012	Completed - Published as Web-Only Document 13		
02-24	Guidelines for Airport Sound Insulation Programs	\$200,000(10)	\$200,000	Jones Payne Group	8/27/2010	3/8/2013	Research in progress	R. Eitter B. He	T. Schatz
02-25	Handbook for Evaluating Emissions and Costs of APU's and Alternative Systems	\$200,000(10)	\$199,773	ESA Airports, Inc.	7/7/2010	12/31/2011	Completed - Published as Report 64		
02-26	Assessing Aircraft Noise Conditions Affecting Student Learning	\$450,000(10)	\$449,672	Wyle Laboratories, Inc.	6/26/2010	6/30/2013	Research in progress	V. Cattlett J. DiPardo	L. Goldstein
02-27	Aircraft Taxi Noise Database for Airport Noise Modeling	\$150,000(10)	\$149,779	Wyle Laboratories, Inc.	6/11/2010	3/29/2013	Completed - Publication Pending	J. Byers B. He	L. Goldstein

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-27A	Developing a Generic Commercial Jet Taxi Noise Directivity Pattern for AEDT	\$75,000(12)	\$74,767		2/22/2012	3/29/2013	Completed - Publication Pending	J. Byers B. He	L. Goldstein
02-28	Airport Sustainability Practices: Tools for Evaluating, Measuring, and Implementing	\$800,000(11)	\$599,874	Vanasse Hangen Brustlin, Inc.	6/27/2011	3/29/2013	Research in progress	S. Urllass R. Thompson	J. Navarrete
02-29	Guidance for Treatment of Deicing- Impacted Airport Stormwater	\$600,000(11)	\$500,000	Gresham Smith and Partners	5/31/2011	2/5/2013	Research in progress	C. Pociask	J. Navarrete
02-30	Enhancing the Airport-Industry Database of Sustainable Practices	\$500,000(11)	\$500,000	CDM Federal Programs Corp.	7/18/2011	1/18/2014	Research in Progress	P. Magnotta	J. Navarrete
02-31	Assessment of Sound Insulation Treatments	\$350,000(11)	\$349,980	Wyle Laboratories, Inc.	7/8/2011	3/13/2013	Research in Progress	J. Byers B. He	M. Greenberger
02-32	Understanding Nuisance Microbial Biofilms in Receiving Waters Impacted by Airport Deicing Activities	\$400,000(11)	\$300,000	CH2M Hill	7/20/2011	3/19/2013	Research in Progress	A. Fenedick C. Pociask	J. Navarrete
02-33	Guidance for Estimating Airport Construction Emissions	\$350,000(11)	\$349,980	Wyle Laboratories, Inc.	7/1/2011	2/28/2013	Research in Progress	A. Fisher D. Perkins	T. Schatz
02-34	Quantifying Aircraft Lead Emissions at Airports	\$500,000(11)	\$500,000	Sierra Research, Inc.	6/3/2011	4/1/2014	Research in progress	J. Byers W. Gillette	M. Greenberger
02-35	Research Methods for Understanding Aircraft Noise Annoyance and Sleep Disturbance	\$600,000(11)	\$599,993	Harris Miller Miller & Hanson	9/20/2011	9/19/2013	Research in progress	A. Hanson N. Sizov	J. Navarrete
02-36	Assessing Opportunities for Alternative Fuel Distribution Programs	\$500,000(11)	\$400,000	Metron Aviation, Inc.	5/26/2011	12/6/2012	Completed - Publication Pending	N. Brown C. Hugunin	T. Schatz
02-37	Integrated Noise Model Accuracy for General Aviation Aircraft	\$400,000(11)	\$350,000	Harris Miller Miller & Hanson	6/13/2011	2/13/2013	Research in progress	B. He G. Helm	J. Navarrete
02-38	Guidance for Energy Facilities Compatibility with Airports and Airspace	\$450,000(12)	\$449,850	Harris Miller Miller & Hanson	5/2/2012	1/12/2013	Research in Progress	A. Hanson	T. Schatz

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-39	Applying Whole Effluent Toxicity Testing to Evaluate Airport Runoff	\$500,000(12)	\$339,603	NewFields	10/5/2012	1/4/2014	Research in Progress	A. Fenedick	J. Navarrete
02-40	Climate Change Risk Assessment and Adaptation Planning at Airports	\$500,000(12)	\$491,923	Dewberry	11/20/2012	3/19/2014	Research in Progress		M. Salamone
02-41	Estimating Takeoff Thrust Setting Estimates for Airport Emissions Inventories	\$450,000(12)	\$449,998	Project Performance Corp.	9/1/2012	4/30/2014	Research in progress	J. DiPardo	J. Navarrete
02-42	Understanding Air Quality and Public Health Studies Related to Airports	\$200,000(12)	\$199,675	Wyle Laboratories, Inc.	9/25/2012	9/24/2013	Research in progress	K. Delaney C. Sequeira	J. Navarrete
02-43	Development of NOx-to-NO2 Conversion Rates for Airport Air Quality Modeling	\$400,000(13)					In Development		J. Navarrete
02-44	Guidance for Helicopter Community Noise Prediction	\$250,000(13)					In Development		J. Navarrete
02-45	Assessment of Methodologies to More Accurately Quantify Aircraft Emissions Under Low Power Conditions	\$250,000(13)					In Development		J. Navarrete
02-46	Improving Ground Support Equipment Operational Data for Airport Emissions Modeling	\$275,000(13)					In Development		T. Schatz
<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	12/31/2009	Completed - Published as Research Results Digest 10		
03-02	Airport Passenger-Related Processing Rates Guidebook	\$200,000(06)	\$200,000	HNTB	1/16/2007	6/30/2009	Completed - Published as Report 23		
03-03	Enhancing Airport Land Use Compatibility	\$500,000(06)	\$500,000	Mead & Hunt, Inc.	12/28/2006	9/15/2009	Completed - Published as Report 27, Volumes 1 and 2		

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	8/31/2009	Completed - Published as Report 26		
03-05	Passenger Space Allocation Guidelines for Planning and Design of Airport Terminals	\$400,000(07)	\$399,928	TransSolutions	6/28/2007	5/31/2011	Completed - Published as Report 55		
03-06	Guidebook for Planning and Implementing Automated People Mover Systems at Airports	\$500,000(07)	\$395,341	Lea & Elliott	6/12/2007	3/30/2010	Completed - Published as Report 37		
03-07	Guidebook for Measuring Performance of Automated People Mover Systems at Airports	\$300,000(07)	\$300,000	Lea & Elliott	6/13/2007	1/31/2012	Completed - Published as Report 37A		
03-08	Passenger Air-Service Development Techniques	\$300,000(07)	\$300,000	InterVISTAS-ga2 Consulting	6/21/2007	5/15/2009	Completed - Published as Report 18		
03-09	Guidebook for Strategic Planning in the Airport Industry	\$425,000(07)	\$321,049	Ricondo & Associates	6/27/2007	6/15/2009	Completed - Published as Report 20		
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	9/30/2009	Completed - Published as Report 31		
03-11	A Guidebook for the Preservation of Public-Use Airports	\$600,000(08)	\$522,430	L. Robert Kimball & Associates	6/23/2008	1/15/2011	Completed - Published as Report 44		
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	10/30/2012	Completed - Publication Pending	T. Diana	L. Goldstein
03-13	Understanding Airspace, Objects, and Their Effects on Airports	\$200,000(08)	\$199,938	Jacobs Consultancy	7/11/2008	4/30/2010	Completed - Published as Report 38		
03-14	Airport Passenger Conveyance System Planning Guidebook	\$300,000(08)	\$300,000	Trans Solutions, LLC	8/26/2008	3/30/2012	Completed - Published as Report 67		
03-15	Impact of Jet Fuel Price Uncertainty on Airport Planning and Development	\$400,000(09)	\$399,970	GRA, Inc.	3/4/2009	2/28/2011	Completed - Published as Report 48		

**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 of Air Cargo at Airports	\$500,000(09)	\$499,860	Battelle Memorial Institute	6/5/2009	4/30/2013	Research in progress	J. Herbert R. Samis	L. Goldstein
03-17	Evaluating Airfield Capacity	\$525,000(09)	\$525,000	LeighFisher	6/29/2009	6/30/2012	Completed - Published as Report 79		
03-18	Operational and Business Continuity Planning for Prolonged Airport Disruptions	\$350,000(10)	\$348,292	Risk Solutions International, LLC	6/3/2010	1/31/2013	Research in progress	L. Valero	T. Schatz
03-19	Passenger Value of Time, Benefit-Cost Analysis, and Capital Investment Decisions	\$350,000(10)	\$349,944	Economic Development Research Group	7/26/2010	6/30/2013	Research in progress	R. Samis D. Walsh	L. Goldstein
03-20	Defining and Measuring Aircraft Delay and Airport Capacity Thresholds	\$250,000(10)	\$250,000	Trans Solutions, LLC	8/30/2010	3/29/2013	Research in progress	E. Hernandez	J. Navarrete
03-21	Developing and Maintaining Support for New Airport Capacity	\$300,000(10)	\$299,980	Mead & Hunt	6/3/2010	3/29/2013	Research in progress	L. Loarte	J. Navarrete
03-22	Addressing Uncertainty About Future Airport Activity Levels in Airport Decision Making	\$350,000(10)	\$350,000	Inter-VISTAS Consulting, LLC	7/15/2010	7/31/2012	Completed - Published as Report 76		
03-23	Integrating Aviation and Passenger Rail Planning	\$400,000(10)	\$399,452	Resource Systems Group	7/29/2010	3/31/2013	Research in progress	C. Hugunin	T. Schatz
03-24	Guidelines for Air Cargo Facility Planning and Development	\$400,000(11)	\$400,000	CDMWilbur Smith	7/17/2011	5/13/2013	Research in Progress	C. Hugunin	L. Goldstein
03-25	Regulatory Compliance Costs and the Impact on Small Airports	\$300,000(11)	\$299,987	Unison Consulting, Inc.	6/3/2011	12/31/2012	Completed - Publication Pending	K. Slusarski	T. Schatz
03-26	Understanding Airline and Passenger Choice in Regions with Multiple Airports	\$250,000(11)	\$250,000	InterVISTAS	8/4/2011	1/4/2013	Research in Progress	K. Duffy P. LeBoff	J. Navarrete
03-27	Evaluating Methods for Counting Aircraft Operations at Non-Towered Airports	\$400,000(11)	\$400,000	Woolpert	11/21/2011	11/20/2013	Research in Progress	T. Dupree	J. Navarrete

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
03-28	Economic Impact of U.S. Airports	\$400,000(12)	\$399,984	Economic Development Research Group, Inc.	7/17/2012	10/16/2013	Research in progress	S. Glasgow	T. Schatz
03-29	Analysis of the Impact of Airline Consolidation on Smaller Underserved Markets	\$300,000(13)					In Development		L. Goldstein
03-30	Impacts of Commercial Unmanned Aerial Vehicles on Airports	\$150,000(13)					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		
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	Guidance for Identifying and Mitigating Approach Lighting System Hazards	\$300,000(07)	\$300,000	Virginia Tech	10/3/2007	2/2/2009	Completed - Published as Research Results Digest 6 and Web-Only Document 4		
04-04	Simulation-Based Training and Exercise of Civil Aviation Emergency Response Personnel	\$500,000(07)	\$499,093	Applied Research Associates	9/12/2007	12/31/2011	Completed - Results to 04-04A		
04-04A	Simulation-Based Training and Exercise of Civil Aviation Emergency Response Personnel	\$300,000(12)					In Development	M. Tonnaciff	M. Greenberger
04-05	A Guidebook for Airport Safety Management Systems	\$300,000(07)	\$300,000	Applied Research Associates	5/24/2007	5/15/2009	Completed - Published as Report 1, Volume 2		
04-06	A Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports	\$300,000(08)	\$299,905	Biozone	6/2/2008	1/15/2010	Completed - Published as Report 32		
04-07	Airport Apron Management and Control Programs	\$300,000(08)	\$300,000	Ricondo & Associates	5/8/2009	8/30/2011	Completed - Published as Report 62		



**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
04-07A	Use of Towbarless Tractors at Airports - Best Practices	\$300,000(08)	\$38,795	Ricondo & Associates	4/20/2009	8/30/2011	Completed - Published as Research Results Digest 15		
04-08	Improved Models for Risk Assessment of Runway Safety Areas (RSA)	\$400,000(09)	\$400,000	Applied Research Associates	6/8/2009	3/31/2011	Completed - Published as Report 50		
04-09	Risk Assessment Method to Support Modification of Airfield Separation Standards	\$250,000(09)	\$250,000	Applied Research Associates	6/10/2009	2/16/2011	Completed - Published as Report 51		
04-10	Airport-to-Airport Mutual Aid Programs	\$300,000(09A)	\$300,000	Innovative Emergency Management	7/6/2010	3/1/2012	Completed - Published as Report 73		
04-11	Integrating GIS in Emergency Management at Airports	\$350,000(11)	\$274,949	Barich, Inc.	7/12/2011	2/28/2013	Research in Progress	G. Neumann	M. Greenberger
04-12	Integrating Web-Based Emergency Management Collaboration Tools into Airport Operations	\$400,000(11)	\$400,000	Innovative Emergency Management	7/15/2011	4/14/2013	Research in Progress	M. Tonnacliff	T. Schatz
04-13	Integrating Community Emergency Response Teams at Airports	\$400,000(11)	\$400,000	Innovative Emergency Management	7/26/2011	7/26/2013	Research in Progress	M. Tonnacliff	M. Greenberger
04-14	Runway Veer-Off Location Models Distribution Risk Assessment Model	\$200,000(12)	\$200,000	Airport Safety Management Consultants	6/6/2012	12/5/2013	Research in Progress	K. Kodsi	J. Navarrete
04-15	Tool For Developing Airport Terminal Incident Response Plans	\$325,000(12)	\$325,000	Innovative Emergency Management, Inc.	7/10/2012	11/8/2013	Research in progress	R. Pinon	T. Schatz
04-16	Safety Risk Management for Airports	\$300,000(13)					In Development		M. Greenberger
04-17	Integrating Wildlife Hazard Management into SMS	\$250,000(13)					In Development		T. Schatz

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
<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	10/31/2008	Completed - Published as Report 12		
05-02	Cyber-security at Airports	\$350,000(13)					In Development		M. Greenberg
<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	5/31/2009	Completed - Published as Report 22		
06-02	Airport Leadership Development Program	\$100,000(10)	\$100,000	Ohio State University	9/29/2010	10/30/2012	Completed - Publication Pending		
<b>7: Design</b>									
07-01	Innovations for Airport Terminal Facilities	\$400,000(06)	\$400,000	Corgan Associates, Inc.	12/8/2006	7/8/2008	Completed -Published as Report 10		
07-02	Airport Curbside and Terminal Area Roadway Operations	\$400,000(06) \$150,000(09)	\$528,000	Jacobs Consultancy	11/15/2006	5/19/2010	Completed - Published as Report 40		
07-03	Developing Improved Civil Aircraft Arresting Systems	\$500,000(07)	\$499,455	Protection Engineering Consultants	5/23/2007	10/31/2009	Completed - Published as Report 29		
07-04	Airport Passenger Terminal Planning and Design: Spreadsheet Models and User's Guide	\$400,000(07)	\$400,000	Landrum and Brown	6/6/2007	10/31/2009	Completed - Published as Report 25, Volume 2		
07-05	Airport Passenger Terminal Planning and Design: Guidebook	\$400,000(07)	\$400,000	Landrum and Brown	6/28/2007	10/31/2009	Completed - Published as Report 25, Volume 1		
07-06	Airport Signage and Wayfinding Information Guidelines	\$250,000(08)	\$250,000	Gresham, Smith and Partners	8/21/2008	3/1/2011	Completed - Published as Report 52		

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
07-07	Evaluating Terminal Renewal Versus Replacement Options	\$400,000(10)	\$400,000	Ricondo & Associates	8/16/2010	3/15/2012	Completed - Published as Report 68		
07-08	Improving Terminal Design to Increase Revenue Generation and Customer Satisfaction	\$500,000(11)	\$496,888	Landrum & Brown, Inc.	6/3/2011	3/31/2013	Research in Progress		T. Schatz
07-09	Apron Parking and Design Guidebook	\$250,000(12)	\$250,000	Ricondo & Associates	6/15/2012	6/14/2013	Research in Progress	Mike Meyers	T. Schatz
07-10	General Aviation Facility Planning	\$300,000(12)	\$300,000	Delta Airport Consultants	5/17/2012	11/16/2013	Research in Progress	C. Hugunin	J. Navarrete
07-11	Evaluation Cost-Saving and Energy Reduction Technologies for Escalators and Moving Walks at Airports	\$250,000(12)	\$249,947	Project Performance Corp.	9/18/2012	1/17/2014	Research in progress	J.DeLeon	J. Navarrete
07-12	Guidebook for Airport Terminal Restroom Planning and Design	\$250,000(12)					In Development		J. Navarrete
<b>8: Construction</b>									
08-01	Sustainable Airport Construction Practices	\$150,000(09)	\$150,000	Ricondo & Associates, Inc.	6/1/2009	6/22/2010	Completed - Published as Report 42		
<b>9: Maintenance</b>									
09-01	Recommended Guidelines for the Collection and Use of Geospatially Referenced Data for Airfield Pavement Management	\$350,000(06)	\$299,636	Applied Research Associates, Inc.	11/6/2006	4/30/2010	Completed - Published as Report 39		
09-02	Best Practices for Working in or Near Airport Movement Areas	\$500,000(11)	\$325,000	Ricondo and Associates	8/31/2011	2/3/2013	Research in Progress	T. Mai	M. Greenberger
09-03	Airport Parking Garage Lighting Solutions	\$300,000(12)	\$300,000	Virginia Polytechnic Institute & State University	6/4/2012	9/3/2013	Research in Progress	T. Mai	J. Navarrete

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
09-04	Airport Building Operations and Maintenance (O&M) Optimization and Recommissioning: A Whole Systems Approach	\$250,000(12)					In Development		J. Navarrete
09-05	Guidance to Successful Computer Maintenance Management Systems (CMMS) Selection and Practices	\$300,000(12)	\$300,000	Ross & Barrunzini	7/12/2012	10/12/2013	Research in Progress	R. Zee	M. Greenberger
09-06	Evaluating Impacts of Sustainability Practices on Airport Operations Maintenance	\$300,000(12)	\$300,000	Booz Allen	9/27/2012	11/26/2013	Research in Progress	T. Trang	M. Greenberger
09-07	Airport Maintenance Roles in Planning, Design, Construction, Commissioning, and Activation	\$200,000(12)	\$200,000	Michigan State University	11/13/2012	12/12/2013	Research in Progress		M. Salamone
09-08	Balancing Airport Stormwater and Wildlife Management: Analysis Tools and Guidance	\$250,000(12)	\$249,209	Environmental Resource Solutions	10/1/2012	1/31/2014	Research in progress	J. Robinson	J. Navarrete
09-09	LED Airfield Lighting System Operation and Maintenance	\$340,000(13)					In Development		J. Navarrete
09-10	Benchmarking Terminal Energy End Uses: Determining Priorities for Future Upgrades	\$400,000(13)					In Development		M. Greenberger
<b>10: Operations</b>									
10-01	Optimizing the Use of Aircraft Deicing and Anti-icing Fluids	\$300,000(06) \$ 50,000(08) \$100,000(08)	\$349,030	APS Aviation, Inc.	3/20/2007	7/31/2010	Completed - Published as Report 45		
10-02	Planning for Offsite Airport Terminals	\$350,000(06)	\$350,000	MarketSense	12/18/2006	9/1/2009	Completed - Published as Report 35		
10-03	Guidebook for Evaluating Airport Parking Strategies and Supporting Technologies	\$300,000(07)	\$300,000	Jacobs Consultancy	9/14/2007	9/1/2009	Completed - Published as Report 24		

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
10-04	Airports and the Newest Generation of General Aviation Aircraft	\$500,000(07)	\$496,390	GRA, Inc.	6/27/2007	5/31/2009	Completed - Published as Report 17, Volumes 1 and 2		
10-05	Reference Guide on Understanding Common Use at Airports	\$500,000(08)	\$399,981	Barich, Inc.	5/30/2008	9/29/2009	Completed - Published as Report 30		
10-06	Handbook to Assess the Impacts of Constrained Parking at Airports	\$400,000(08)	\$398,563	Ricondo & Associates	6/16/2008	3/8/2010	Completed - Published as Report 34		
10-07	Current Status and Future Implications of Passenger Self-Tagging	\$350,000(09)	\$350,000	Barich, Inc.	6/16/2009	7/30/2010	Completed - Published as Report 41 and Web Only Document 10		
10-08	Applying Intelligent Transportation Systems to Improve Airport Traveler Access Information	\$350,000(09)	\$350,000	Gresham, Smith and Partners	4/13/2009	4/30/2012	Completed - Published as Report 70		
10-09	Elimination or Reduction of Baggage Recheck for Arriving International Passengers	\$400,000(09)	\$400,000	InterVISTA-S-ga2 Consulting	7/22/2009	10/31/2011	Completed - Published as Report 61		
10-10	Guidebook for Airport Irregular Operations (IROPS) Contingency Planning	\$600,000(10)	\$599,976	Mead & Hunt	8/26/2010	2/24/2012	Completed - Published as Report 65		
10-10A	Guidebook for Airport Irregular Operations (IROPS) Contingency Planning	\$300,000(12)	\$151,053	Mead & Hunt	2/24/2012	1/31/2013	Research in Progress	L.Chapman	T. Schatz
10-11	Creating a Collaborative Environment Between Airport Operations and Maintenance Departments	\$500,000(11)	\$399,840	Amadeus Consulting	7/27/2011	7/27/2013	Research in Progress	M. Hovan	M. Greenberger
10-12	Guidebook for Managing Through the Fence (TTF) Operations at Airports	\$350,000(12)	\$350,000	Mead & Hunt	7/30/2012	9/29/2013	Research in Progress	J. Briggs	M. Greenberger
10-13	Integrating NIMS for Personnel and Resources at Airports	\$200,000(12)	\$200,000	Systems Planning Corporation	5/23/2012	8/24/2013	Research in Progress	M. Tonnacliff	M. Greenberger

TABLE 5 (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
10-14	Being Prepared for IROPS: A Business Planning and Decision Making Approach	\$300,000(12)	\$299,395	MCR Federal, LLC	8/2/2012	8/1/2013	Research in progress	T. Madison	T. Schatz
10-15	Guidebook for Airport Winter Operations	\$400,000(12)	\$400,000	Gresham, Smith and Partners	6/25/2012	12/24/2013	In Development	M. Hovan	T. Schatz
10-16	Guidelines for Improving Taxicab, Limousine, and Shared-Ride Van Operations at Airports	\$300,000(13)					In Development		T. Schatz
10-17	Optimizing and Integrating Airline and Airport Self-Service	\$450,000(13)					In Development		T. Schatz
10-18	Comprehensive-Integrated Management of Maintenance Operation at General Aviation Airports	\$400,000(13)					In Development		M. Greenberger
10-19	Information Guide and Tools for Deploying Common Data Sharing with U.S. CDM	\$300,000(13)					In Development		M. Greenberger
10-20	Guidance for Planning, Design, and Operations of Airport Communications Centers	\$300,000(13)					In Development		M. Greenberger
<b>11: Special Projects</b>									
11-01	Legal Aspects of Airport Programs	\$200,000(06) \$475,000(07) \$300,000(08) \$600,000(09) \$500,000(10) \$ 50,000(11) \$200,000(12) \$ 50,000(13)		Transportation Research Board	2/1/2006		Continuing Project: See 11-01 Table		M. Greenberger

**TABLE 5 (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
11-02	Quick Response for Special Needs	\$ 590,000(06) \$ 467,000(07) \$1,000,000(08) \$ 25,000(09) \$ 250,000(10) \$ 100,000(11) \$ 140,000(12) \$ 216,000(13)	Various		2/1/2006		Continuing Project: See 11-02 Table	M. Sedarous	M. Salamone
11-03	Synthesis of Information Related to Airport Practices	\$ 500,000(06) \$ 700,000(07) \$ 500,000(08) \$ 500,000(09) \$ 900,000(10) \$ 700,000(11) \$1,270,000(12) \$1,160,000(13)	Transportation Research Board		2/1/2006		Continuing Project: See 11-03 Table		M. Salamone
11-04	Graduate Research Award Program on Public - Sector Aviation Issues	\$100,000(08) \$100,000(09) \$100,000(10) \$140,000(11) \$140,000(12) \$140,000(13)					Continuing Project: Papers published as TRB TRR 2184, 2206, and 2266; Status Report Published as Research Results Digest 14 4th Volume Pending	J. Wharff	L. Goldstein
11-05	Dissemination of ACRP Research Results	\$600,000(10) \$148,947 (11) \$200,000(12) \$600,000(13)					Continuing Project	J. Showalter	M. Salamone
11-06	Evaluating ACRP Processes	\$250,000(10)					Completed		
11-07	ACRP Problem Statement Development	\$500,000(13)					Research in Progress		M. Salamone

**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 (CD ROM 68)	
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	Responsibility for Implementation and Enforcement of Airport Land-Use Zoning Restrictions	William V. Cheek & Associates	April 2007	Completed - Published as Legal Research Digest 5	
01-06	The Right to Self-Fuel	C. Daniel Prather Ph.D.	January 2008	Completed - Published as Legal Research Digest 8	
01-07	The Impact of Airline Bankruptcies on Airports	Jocelyn Waite	October 2007	Completed - Published as Legal Research Digest 6	
01-08	Airport Governance and Ownership	Daniel S. Reimer	February 2008	Completed - Published as Legal Research Digest 7	
01-09	Survey of Elements of Disparity Studies for Airport Disadvantaged Business Enterprise Programs			Terminated	
02-01	Obstructions Affecting Navigatable Airspace	Cheek & Associates	July 2008	Incorporated into 02-05	
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	Incorporated into 02-05	
02-03	Case Studies on Community Challenges to Airport Development	Jaye Pershing Johnson	October 2008	Completed - Published as Legal Research Digest 9	
02-04	Analysis of Federal Laws, Regulations, and Case Law Regarding Airport Proprietary Rights	Jodi Howich, Esq.	October 2008	Completed - Published as Legal Research Digest 10	



**TABLE 5 (continued)**

No.	Title	Consultant	Start Date	Estimated Completion Date	Staff Officer
02-05	Achieving Airport-Compatible Land Uses and Minimizing Hazardous Obstruction in Navigable Airspace	Jocelyn Waite	August 2010	Completed - Published as Legal Research Digest 14	
03-01	Fair Disclosure and Airport Impact Statements in Real Estate Transfers	Larry Thomas, Esq.	July 2009	Completed - Published as Legal Research Digest 12	
03-02	Compilation of State Aviation Authorizing Legislation	Jodi Howick, Esq.	August 2009	Completed - Published as Legal Research Digest 15	
03-03	Survey of Minimum Standards: Commercial Aeronautical Activities at Airports	Kaplan, Kirsh, Rockwell	July 2009	Completed - Published as Legal Research Digest 11	
03-04	Airport Rates and Charges: Law and Policy	Speigel & McDiarmid	November 2009	Completed - Incorporated into 4-05	
03-05	State and Federal Regulations that May Affect Initiatives to Reduce Airports' GHG Emissions	Kaplan, Kirsh, Rockwell	November 2009	Completed - Publication Pending	M. Greenberger
03-06	An Index and Digest of Decisions:Compilation of Airport Law Resources	Kaplan, Kirsh, Rockwell	December 2009	Completed - Published as Legal Research Digest 13	
04-01	Airport Liability for Wildlife Management	Broad and Cassell	April 2011	Research in Progress	M. Greenberger
04-02	Legal Issues Related to Developing SMS and SMRD Documents Which May be Available to the Public	Foley & Lardner	December 2011	Completed - Publication Pending	M. Greenberger
04-03	Analysis of Federal Laws, Regulations, Case Law, and Survey of Existing Airport NPDES Permits Regarding Tenant-Operator Responsibilities Under NPDES and Storm Water Management BMP's Under Owner/Airport's Operating Permits	CDM	October 2012	Research in Progress	M. Greenberger
04-04	Buy America Requirements for Federally Funded Airports	Conner Gwyn Schenk	March 2011	Completed - Publication Pending	M. Greenberger
04-05	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters, through December 2011	Speigel & McDiarmid	February 2012	Research in Progress	M. Greenberger

**TABLE 5 (continued)**

No.	Title	Consultant	Start Date	Estimated Completion Date	Staff Officer
04-06	The Role of the Airport Sponsor in Airport Planning and Environmental Reviews of Proposed Development Projects Under the National Environmental Policy Act (NEPA) and State Mini-NEPA Laws	Conner Gwyn Schenk	March 2012	Research in Progress	M. Greenberger
04-07	Procurement of Airport Development and Planning Contracts	Broad and Cassell	April 2011	Completed - Published as Legal Research Digest 16	
05-01	The First Amendment and Airport Activities			In development	M. Greenberger
05-02	Sovereign Immunity and Applicability to Airports			In development	M. Greenberger
05-03	The Fourth Amendment and Airports			In development	M. Greenberger
05-04	Airport Grant Assurances: General Requirements and Economic Nondiscrimination			In development	M. Greenberger

**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	Current and Emerging Issues Facing the Airport Industry	TRB Staff	8/1/2007	1/31/2009	Completed - Published as Research Results Digest 5	
Task 08	Enhanced Modeling of Aircraft Taxiway Noise - Scoping	Wyle Laboratories	2/14/2008	8/31/2009	Completed - Published as Web-Only Document 9	
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 - Results to ACI-NA, AAAE, ATA	
Task 11	A Summary of How Proposed Firefighting Standards Would Impact Airports	GRA	12/23/2008	6/15/2009	Completed - Published as Web Document 7 and Research Results Digest 7	
Task 12	Ramp Incident Data from Selected Large and Medium Hub Airports	Ricondo & Associates	4/17/2009	8/30/2011	Completed - Results to FAA	
Task 13	Research Symposium on the Transmission of Disease in Airports and on Aircraft				Completed - Symposium Held - Results Published as Conference Proceedings 47	

TABLE 5 (continued)

No.	Title	Contractor	Start Date	End Date	Status	Staff Officer
Task 14	Helping Airports Understand the Payment Card Industry Data Protection Standard (PCI DSS)	Barich, Inc.	10/15/2009	5/15/2010	Completed - Published as Research Results Digest 11	
Task 15	Aviation Industry Familiarization and Training for Part-Time Airport Policymakers	Delta Aviation Consultants	1/19/2010	11/18/2010	Completed - Published as Report 58	
Task 16	Analysis, Scoping, and Prioritizing ACRP Deicing Problem Statements				Cancelled	
Task 17	Risk Assessment of Proposed ARFF Standards	Robert David & Assoc.	2/19/2010	1/4/2011	Completed - Published as Web-Only Document 12	
Task 18	The Carbon Market: A Primer for Airports	Pace Global Energy Services	11/2/2010	8/30/2011	Completed - Published as Report 57	
Task 19	Symposium on Air Travel and the Spread of Disease				In Development	J. Navarrete
Task 20	Developing Problem Statements on Information Technology Issues at Airports	Workshop conducted	12/1/2011	12/1/2011	Completed	
Task 21	Innovative Airport Response to Threatened/Endangered Species				In Development	J. Navarrete
Task 22	Impact of General Aviation Aircraft Fuel-Tank Sampling on the Environment				In Development	T. Schatz
Task 23	Investigating Cloud Computing and Other Methods for Delivery of IT Services in the Small Airport Environment				In Development	M. Greenberger

**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		
S01-02	Airport Revenue Diversification	Lois Kramer, Kramer Aerotek	March 2009	Completed - Published as Synthesis 19		
S01-03	Airport Insurance Coverage and Risk Management Practices	Ron Rakich & Assoc.	April 2010	Completed - Published as Synthesis 30		
S01-04	Airline and Airline-Airport Consortiums to Manage Terminals and Equipment	AvAir Pros	April 2010	Completed - Published as Synthesis 31		
S01-05	Synthesis of Airport Organizational Structures	Kim Kenville Consulting	February 2012	Research in Progress	E. Black	G. Staba
S01-06	Airport Customer Service Performance Metrics	Kramer Aerotek	February 2012	Research in Progress	D. Favarulo	G. Staba
S01-07	Conducting Airport Peer Reviews	CTC & Associates	February 2012	Research in Progress	A. Velayos	G. Staba
<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	Compilation of Noise Programs in Areas Outside DNL 65	HMMH	April 2008	Completed - Published as Synthesis 16		
S02-04	Approaches to Integrating Airport Development and Federal Environmental Review Processes	RS & H / Synergy	April 2008	Completed - Published as Synthesis 17		
S02-05	Funding Opportunities for Airport Environmental Projects	Unison Consulting	April 2010	Completed - Published as Synthesis 24		
S02-06	Airport Climate Adaptation and Resilience	AEA Group	April 2011	Completed - Published as Synthesis 33		

TABLE 5 (continued)

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S02-07	Using Airport Contracts to Enhance Environmental Performance	Leigh Fisher Management Consultants	March 2012	Research in Progress	K. Willis	G. Staba
S02-08	Environmental Assessments of High Speed Rail in Air Corridors	Arizona State University	March 2012	Research in Progress	R. Cointin H. Sweatt-Essick	G. Staba
S02-09	Airport Environmental Management System Development Processes and Knowledge Gaps	First Environment, Inc.	March 2012	Research in Progress	M. Sedarous	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	Wilbur Smith Associates	April 2008	Completed - Published as Synthesis 14		
S03-05	Effective Practices for Preparing Airport Improvement Program Benefit Cost Analysis	EDRG	April 2008	Completed - Published as Synthesis 13		
S03-06	Strategies for Reuse of Underutilized or Vacant Airport Facilities	Kramer Aerotek, Inc.	April 2010	Completed - Published as Synthesis 25		
<b>4: Safety</b>						
S04-01	General Aviation Safety and Security Practices	Reynolds, Smith and Hills, Inc.	October 2006	Completed - Published as Synthesis 3		
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	Completed - Published as Synthesis 15		

**TABLE 5 (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S04-05	Bird Repellant Techniques on Airports	Mississippi St. Univ.	April 2010	Completed - Published as Synthesis 23		
S04-06	Current Airport Inspection Practices Regarding FOD	Prather Airport Solutions	April 2010	Completed - Published as Synthesis 26		
S04-07	Lessons Learned from Airport Safety Management Systems Pilot Study	Landry Consultants	April 2011	Completed - Published as Synthesis 37		
S04-08	Managing Aerial Firefighting Activities on Airports	Critical Path International	May 2011	Completed - Published as Synthesis 32		
S04-09	Emergency Management and Mutual Aid Agreements for Airports	Smith-Woolwine Associates	March 2012	Research in Progress	G. Villalobos	D. Vlasak
<b>5: Security</b>						
S05-01	Intelligent Transportation System (ITS) Sensor Technology for General Aviation			CANCELLED		
<b>6: Human Resources</b>						
S06-01	Aviation Workforce Development Practices	International Aviation Management Group	March 2009	Completed - Published as Synthesis 18		
S06-02	Airport Self-Inspection Practices	Prather Airport Solutions	May 2010	Completed - Published as Synthesis 27		
S06-03	Exploring Airport Employee Commuting and Parking Strategies	DMR Consulting	May 2011	Completed- Published as Synthesis 36		
S06-04	Adapting New Maintenance Hires to the Airport Environment	SMQ Airport Services	March 2012	Research in Progress	G. Wilson	D. Vlasak
<b>8: Construction</b>						
S08-01	Airport Terminal Facility Activation Techniques	Arup	March 2009	Completed - Published as Synthesis 20		

**TABLE 5 (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
<b>9: Maintenance</b>						
S09-01	Impact of Rubber Removal Techniques on Runways	University of Oklahoma	June 2007	Completed - Published as Synthesis 11		
S09-02	Common Airport Pavement Maintenance Practices	Applied Research Associates	March 2009	Completed - Published as Synthesis 22		
S09-03	Subsurface Utility Engineering Information Management for Airports	J. H. Anspach Consulting	May 2011	Completed -Published as Synthesis 34		
S09-04	Issues with Use of Airfield LED Light Fixtures	RPI University	May 2011	Completed - Published as Synthesis 35		
S09-05	Repairing and Maintaining Airport Parking Structure While in Use	Walker Parking Consultants	February 2012	Research in Progress	A. Cochran	G. Staba
<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		
S10-04	Airport Energy Efficiency and Cost Reduction	Miller Dunwiddie Architecture	March 2009	Completed - Published as Synthesis 21		
S10-05	Ramp Safety Practices	Landry Consultants, LLC	May 2010	Completed - Published as Synthesis 29		
S10-06	Investigating Safety Impacts of Energy Technologies on Airports and Aviation	Harris, Miller, Miller & Hanson	May 2010	Completed - Published as Synthesis 28		
S10-07	Expediting Aircraft Recovery at Airports	Prather Airport Solutions	May 2011	Completed - Published as Synthesis 37		



**TABLE 5 (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S10-08	Conducting Aeronautical Events at Airports	Prather Airport Consultants	February 2012	Research in Progress	B. Zeigler	G. Staba
S10-09	Wildlife Deterrents Using Population Management at Airports	Savannah River Ecological Laboratory	February 2012	Research in Progress		G. Staba

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AP12