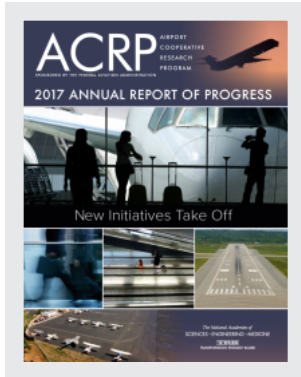


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## ACRP 2017 Annual Report of Progress

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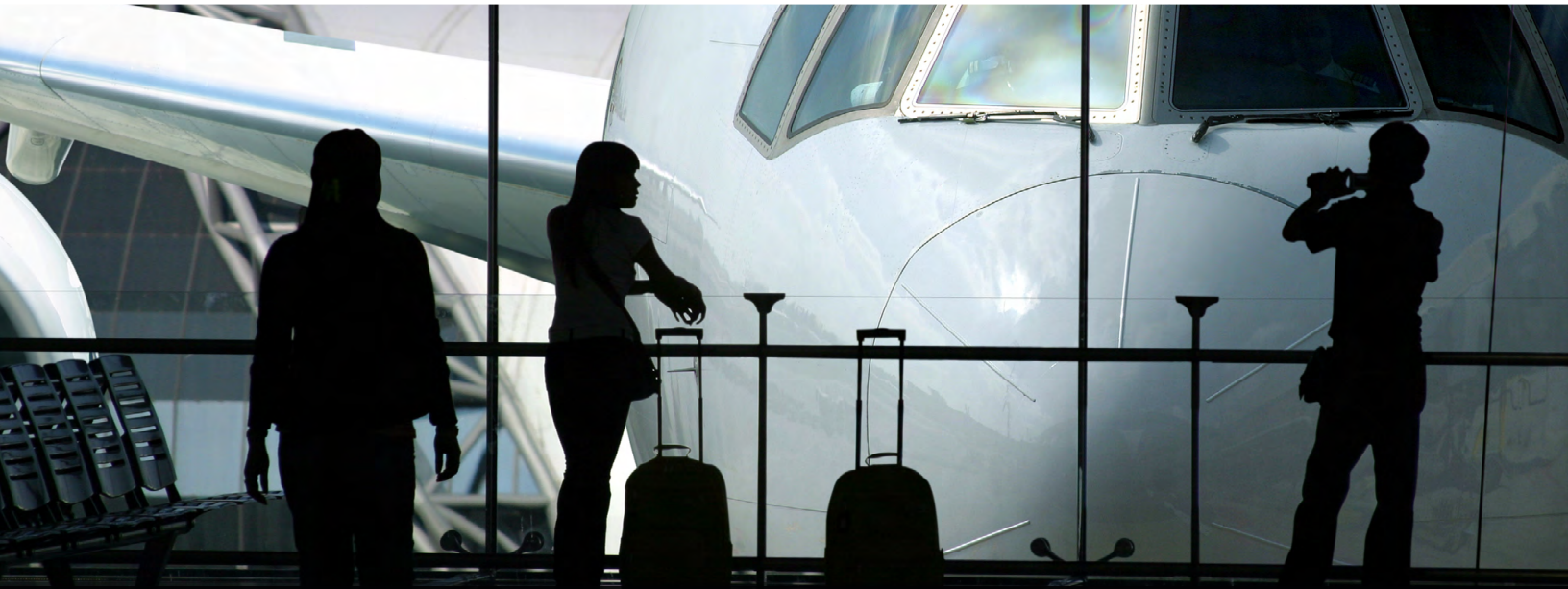
# ACRP

AIRPORT  
COOPERATIVE  
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## 2017 ANNUAL REPORT OF PROGRESS



### New Initiatives Take Off



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\* Membership as of October 2017.



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### New Initiatives Take Off



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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). ACRP carries out applied research on problems that are shared by airport operating agencies and not being adequately addressed by existing federal research programs. ACRP is modeled after the successful National Cooperative Highway Research Program (NCHRP) and Transit Cooperative Research Program (TCRP). ACRP undertakes research and other technical activities in various airport subject areas, including design, construction, legal, maintenance, operations, safety, policy, planning, human resources, and administration. ACRP provides a forum where airport operators can cooperatively address common operational problems.

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), Airlines for America (A4A), and the Airport Consultants Council (ACC) as vital links to the airport community; (2) 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 Academy of Sciences formally initiating the program.

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 ACRP are solicited periodically but may be submitted to 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 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 users of the research: airport operating agencies, service providers, and academic institutions. ACRP produces a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties; industry associations may arrange for workshops, training aids, field visits, webinars, and other activities to ensure that results are implemented by airport industry practitioners.

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## *The National Academies of* SCIENCES • ENGINEERING • MEDICINE

The **National Academy of Sciences** was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, non-governmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research. Dr. Marcia McNutt is president.

The **National Academy of Engineering** was established in 1964 under the charter of the National Academy of Sciences to bring the practices of engineering to advising the nation. Members are elected by their peers for extraordinary contributions to engineering. Dr. C. D. Mote, Jr., is president.

The **National Academy of Medicine** (formerly the Institute of Medicine) was established in 1970 under the charter of the National Academy of Sciences to advise the nation on medical and health issues. Members are elected by their peers for distinguished contributions to medicine and health. Dr. Victor J. Dzau is president.

The three Academies work together as the **National Academies of Sciences, Engineering, and Medicine** to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions. The National Academies also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science, engineering, and medicine.

Learn more about the National Academies of Sciences, Engineering, and Medicine at [www.national-academies.org](http://www.national-academies.org).

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The **Transportation Research Board** is one of seven major programs of the National Academies of Sciences, Engineering, and Medicine. The mission of the Transportation Research Board is to increase the benefits that transportation contributes to society by providing 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 committees, task forces, and panels 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.

Learn more about the Transportation Research Board at [www.TRB.org](http://www.TRB.org).

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## LETTER FROM THE AOC CHAIR

Each year, our world grows even more interconnected as political, economic, environmental, and technological developments shape global affairs and vice versa, sometimes at the speed of lightning. For the airport industry, this new reality translates into a bright future. Airports are a critical component of this new interconnected world, quite literally the hub linking every major national and international population center.



To support and modernize the airport industry and position it for success today and in the years to come, ACRP has directed millions of dollars to fund research projects to address the full spectrum of issues facing airports. In 2017, ACRP continued this important work, both building on its proven methods to engage the industry and disseminate its research and also embracing cutting-edge technology to launch new initiatives.

ACRP's involvement of hundreds of airport professionals in its annual processes of identifying challenges to the industry, evaluating their importance, convening panels, and conducting research proceeded smoothly in 2017, when ACRP initiated 44 new research and special projects and published 19 research reports. In addition, ACRP's webinar series, Ambassador and Champion programs, and other dissemination activities continued to build awareness of ACRP's library of products across the country and internationally.

This report not only provides an overview of these and other ACRP accomplishments in 2017 but also highlights several new initiatives ACRP launched this year to serve the industry. They include:

**IdeaHub**—ACRP has created an online platform that captures, enhances, and transforms research ideas into viable, fundable projects to help improve the airport industry.

**Insight Events**—ACRP has begun planning in-person forums that address rapidly emerging issues of importance to the airport industry, such as airports' role in mitigating the transmission of diseases and in addressing challenges to implementing successful land use strategies at airports.

**Implementation Planning**—ACRP has started to develop an implementation roadmap to help determine how best to empower airports to use its research products and tools to solve everyday problems quickly and cost effectively.

While challenges will continually emerge, ACRP is well positioned to help the airport industry surmount these challenges while continuing to help airports operate more efficiently, more cost effectively, and in a more sustainable manner. I hope you find this report timely and informative and that you will join me in supporting this important work.

Sincerely,

A handwritten signature in black ink that reads "Kitty Freidheim". The signature is written in a cursive, flowing style.

Kitty Freidheim





# ACRP 2017 ANNUAL REPORT OF PROGRESS

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# ANNUAL REPORT OF PROGRESS

December 31, 2017

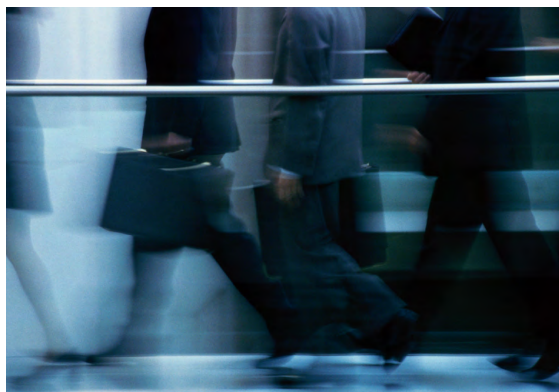
## OVERVIEW

In 2017, the Airport Cooperative Research Program (ACRP) achieved continuing, significant successes in conducting high-quality, industry-driven research and getting it into the hands of airport practitioners who need solutions to their everyday challenges.

Many of ACRP's activities this year build on those from last year, which themselves support one or more of the strategic priorities from its 2015–2020 Strategic Plan:

1. Ensuring that problem statements are of the highest quality and greatest relevance to the airport industry.
2. Aligning program products with interests of key audiences.
3. Expanding and diversifying product dissemination.
4. Implementing processes to monitor product quality, relevance, and timeliness.

This report of progress provides an overview of ACRP's 2017 research and noteworthy publications and an update on the program's dissemination activities. In addition, it describes four new initiatives meant to better serve the airport industry (IdeaHub, Insight Events, Enhanced Website and Features, and Implementation Research and Planning), introduces ACRP's dedicated staff, provides an index of interesting statistics on the airport industry and ACRP's supporting programs, and includes snapshots from the industry demonstrating how ACRP products are used and valued at airports large and small.



## WHAT IS ACRP?

ACRP is an applied research program managed by the Transportation Research Board, part of the National Academies of Sciences, Engineering, and Medicine, and sponsored by the Federal Aviation Administration (FAA). Together with public- and private-sector industry experts, ACRP produces myriad research products that cover a diverse set of topics: safety, policy and planning, airport design, constructions, legal issues, operations and maintenance, human resources, sustainability, and administration.

**\$126  
MILLION**

ACRP has invested nearly \$126 million into 555 research projects since 2005.

## ACRP RESPONDS TO INDUSTRY NEEDS

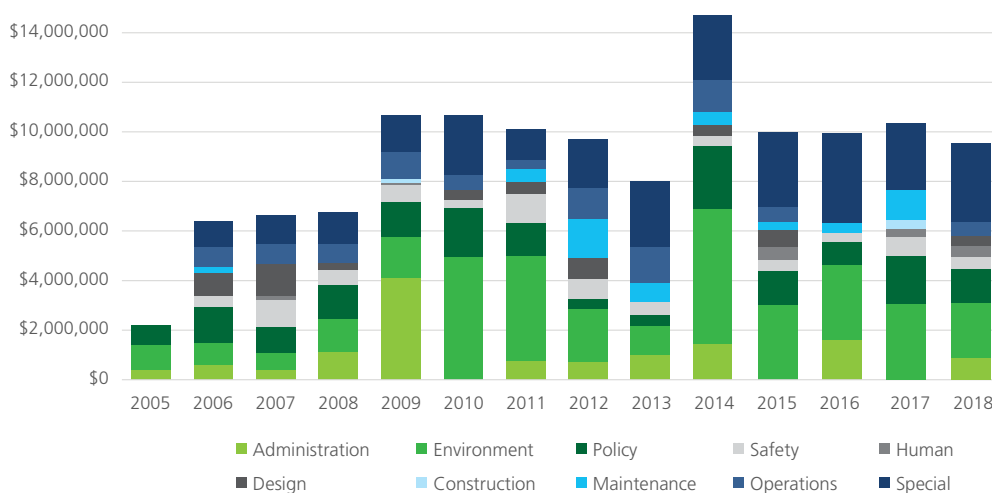
Identifying areas of research that are meaningful to and needed by the airport industry is an ongoing priority for ACRP.

In 2017, ACRP received 98 problem statements for research from a wide range of airport operators, airlines, federal and state transportation agencies, universities, aviation consultants, and other entities. These problem statements touched on many areas of interest to airports such as increasing sustainability via the use of renewable energy and renewable fuels; using social media for emergency management; facilitating customer access to transportation network companies; and exploring how airports, local agencies, and government health organizations could reduce the transmission of communicable diseases.

In response to these problem statements, ACRP committed \$9.4 million to support new research projects in 2017, which will yield new resources for airport practitioners. This investment will bring the total amount of project funding since 2005 to nearly \$126 million. Ultimately, projects undertaken in 2018 will bring the number of ACRP projects authorized since 2006 to 555.

The graphics below show ACRP funding since the program's inception along with allocation across research areas.

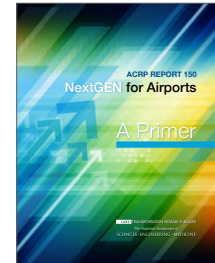
# of projects	Funding	Research topic	Percent of total
37	\$ 13,397,104	ACRP 1: Administration	11%
91	\$ 34,610,378	ACRP 2: Environment	27%
49	\$ 18,494,152	ACRP 3: Policy and Planning	15%
25	\$ 7,987,775	ACRP 4: Safety	6%
2	\$ 648,459	ACRP 5: Security	1%
5	\$ 1,627,386	ACRP 6: Human Resources	1%
15	\$ 5,624,305	ACRP 7: Design	4%
2	\$ 500,000	ACRP 8: Construction	0%
17	\$ 5,639,818	ACRP 9: Maintenance	4%
26	\$ 9,493,112	ACRP 10: Operations	8%
286	\$ 28,425,838	ACRP 11: Special Projects	22%
<b>555</b>	<b>\$ 126,448,327</b>		



## NOTEWORTHY 2017 PUBLICATIONS

In 2017, ACRP published 38 research reports, syntheses, research digests, and web resources covering a wide range of topics relevant to airports, including water regulations, emergency planning and communications, public address systems, and much more. Each report is published to meet ACRP's standards for high quality. Some noteworthy publications are profiled below.

2017 ACRP Publications by Type	
General marketing	1
Research reports	19
Research results digests	2
Legal research digests	3
Syntheses	7
Web-only documents	4
CDs	0
WebResources	3
Conference proceedings	0
<b>TOTAL</b>	<b>38</b>

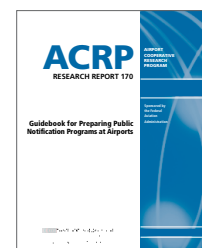
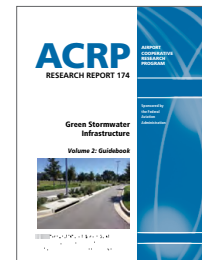


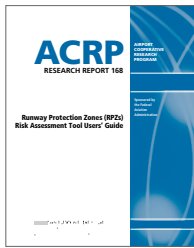
ACRP Report 150,  
NextGen for Airports: A Primer

Top 5 Downloaded FY2017 Publications	Downloads
Report 174: Green Stormwater Infrastructure, Volume 1: Primer	1,473
Report 150: NextGen for Airports, Volume 5: Airport Planning and Development	1,434
Report 174: Green Stormwater Infrastructure, Volume 2: Guidebook	1,304
Report 172: Guidebook for Considering Life-Cycle Costs in Airport Asset Procurement	1,020
Report 150: NextGen for Airports, Volume 4: Leveraging NextGen Spatial Data to Benefit Airports: Guidebook	981

### RESEARCH REPORTS

- **ACRP Research Report 174: Green Stormwater Infrastructure, Volumes 1 and 2** define and discuss green stormwater infrastructure (GSI) management strategies, a relatively new approach to regulation compliance. Volume 1 is a primer for airport managers, planners, and engineers seeking to understand stormwater management and how GSI can comply with regulatory standards and requirements. Volume 2 guides airport staff in choosing the most appropriate GSI strategy.
- **ACRP Research Report 170: Guidebook for Preparing Public Notification Programs at Airports** offers standards and practices to help airport industry practitioners develop and implement effective programs for delivering routine notifications as well as incident and emergency-related notifications. The guidance gives readers the ability to customize their programs to match their unique circumstances.



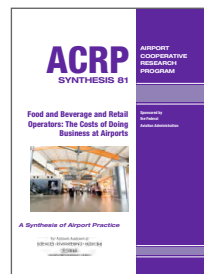


- **ACRP Research Report 168: Runway Protection Zones (RPZs) Risk Assessment Tool Users' Guide** includes a tool to help airport operators evaluate the risk of an aircraft accident within the RPZ and, based on that output, assess the risk to people and property, considering population density and land use. The tool can be used to run scenarios for planning around an RPZ or when changes are being considered, for example, a change in the threshold, extending a runway, removing a hazard, and planning for a new runway.

## SYNTHESIS REPORTS

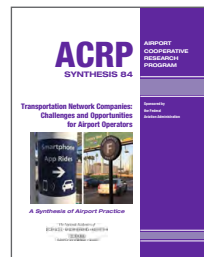
### WHAT IS AN ACRP SYNTHESIS REPORT?

Synthesis reports are based on literature reviews and other research methods to give practitioners a single resource that addresses the state of the practice on a given topic. Syntheses also inform airport managers about innovations other practitioners are using to solve problems.



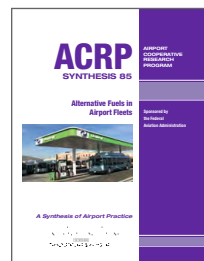
### **ACRP Synthesis 81: Food and Beverage and Retail Operators: The Costs of Doing Business at Airports**

explores the complex airport terminal operating environment. It helps food and beverage as well as retail operators better understand and forecast operating costs and judge the potential for success and profitability when considering operating in airports. The synthesis contains airport practices that succeed in clearly communicating cost data, which can help evaluate whether to do business at airports.



### **ACRP Synthesis 84: Transportation Network Companies: Challenges and Opportunities for Airport Operators**

presents experiences of and effective practices by airports in facilitating customer access to transportation network companies (TNCs) such as Uber and Lyft. This synthesis also summarizes the amount of revenue airports receive from TNCs and how TNCs are affecting airport operations and other businesses.



**ACRP Synthesis 85: Alternative Fuels in Airport Fleets** is designed to help airport operators analyze complex procurement, operational, and environmental decisions when considering alternative fuels in airport fleets. Information is compiled on eight alternative fuels: biodiesel, renewable diesel, compressed natural gas, renewable natural gas, liquefied natural gas, liquefied petroleum gas, hydrogen, and electricity.

## ACRP Research in Action: Trading Spaces at LAX

Recently, Los Angeles International Airport (LAX) began the complex process of activating new international gates as well as relocating the domestic terminal for Delta Airlines. Given Delta's large footprint at LAX (Delta accommodates an estimated 30,000 passengers a day at the airport), the airline's terminal relocation meant that 20 other airlines also moved. These shifts meant location changes for about 40 percent of the flights into and out of LAX; any delay could result in a domino effect of gridlock. Stakeholders involved in this project at LAX implemented steps and processes from *ACRP Synthesis 20: Terminal Facility Activation Techniques* as part of the successful terminal activation and reshuffling.

Source: <https://www.wired.com/2017/05/lax-pulling-off-massive-frenzied-terminal-reshuffle/>



## LEGAL RESEARCH DIGESTS



**Legal Research Digest 31: Preemption of Worker-Retention and Labor-Peace Agreements at Airports** provides an overview of labor-harmony or labor-peace agreements for airport management personnel and other interested personnel, including airport authority board members and elected officials. These agreements generally require that, as a condition of operating on airport property, an organization must become signatory to some form of an agreement with a labor

organization. These matters are usually injected into the conduct of on-airport business by the sponsor, including certain contractual language in the agreements between the sponsor and the business. The implications of involving the airport in such matters may be significant, far-reaching, and fraught with legal entanglements.

## RESEARCH RESULTS DIGEST



**Research Results Digest 26: Synthesis of Information Related to Airport Practices** examines the progress and status of ACRP Project 11-03, “Synthesis of Information Related to Airport Practices.”

### WHAT IS AN ACRP LEGAL RESEARCH DIGEST?

Legal Research Digests report on timely legal issues, compile case law, or recommend specific solutions to specific problems in the field of law.

### WHAT IS AN ACRP RESEARCH RESULTS DIGEST?

Research Results Digests are used to promote early awareness of project results to encourage implementation. They also summarize specific findings that emphasize how the research may be used. The contents are organized in terms of the problem and its solution, findings, and applications.

#### What Are the Most Common Ways Airports Are Using ACRP Publications?

- As a guidance document **(73%)**
- To recommend or make management decisions **(52%)**
- To improve operational efficiency **(40%)**
- To recommend or change standards, specifications, or guidance documents **(40%)**
- To improve safety **(33%)**

*Based on survey responses to ACRP on impacts of publications.*

#### Which ACRP Publications Have Been Most Implemented or Impactful?

- Report 131: A Guidebook for Safety Risk Management for Airports*
- Report 52: Wayfinding and Signing Guidelines for Airport Terminals and Landside*
- Report 130: Guidebook for Airport Terminal Restroom Planning and Design*
- Report 16: Guidebook for Managing Small Airports*
- Report 1: Safety Management Systems for Airports, Volume 2: Guidebook*

## AIRPORTS AND ACRP—BY THE NUMBERS

The U.S. airport sector is large, complex, and dynamic. Its research needs, human resources, and operations are continually growing and shifting. To support this sector, ACRP partners with practitioners to undertake industry-responsive research and then disseminate those results widely and at no cost to stakeholders across the country and even abroad. The data points below provide a snapshot of the size and complexity of the airport industry and how ACRP's programs serve it.

### AIRPORT INDUSTRY AND ACRP INDEX

#### Airport and Aviation Statistics\*

Number of general aviation airports operating in the United States: **14,431** in 1980, **19,005** in 2016

Total airports operating in the United States (public, private, and military): **15,161** in 1980, **19,536** in 2016

Flights handled by the FAA in 2016: **16,054,495**

Aircraft in the sky at any given moment: **5,000**

Number of domestic and international travelers passing through U.S. airports every day: **Approximately 2,500,000+**

Contribution of the aviation sector to the U.S. Gross Domestic Product: **5.1%**

Number of jobs the aviation sector supports in the United States every year: **10,600,000**

#### Downloads and Pageviews of ACRP Products

Pageviews of all ACRP Research Reports, Legal Research Digests, and Syntheses over the past 10 years: **Nearly 1.5 million**

Downloads of the two-volume *ACRP Report 25, Airport Passenger Terminal Planning and Design*, ACRP's most downloaded and viewed publication: **Nearly 18,000**

Respective ranks of California, District of Columbia, Texas, Florida, and Virginia in terms of downloads and pageviews of ACRP reports: **1, 2, 3, 4, and 5**

#### ACRP Ambassador Program

Year ACRP Ambassador program launched: **2012**

Number of airport professionals inducted into the ACRP Ambassador program since 2012: **44**

Number of states and provinces where Ambassadors have participated in conferences to disseminate ACRP's research results: **44**

Number of airport industry events ACRP Ambassadors have attended since 2012: **165**

Number of airport industry professionals ACRP's Ambassadors have reached since 2012: **30,000+**

#### ACRP Webinars and Events

Average satisfaction rating webinar attendees have given to ACRP webinars since 2012: **91%**

Number of people who have attended at least one ACRP webinar in 2017: **2,400+**

Number of ACRP Insight Events planned for 2018: **4**

#### ACRP Research

Number of problem statements submitted to ACRP in 2017: **98**

Average funding allocated to an ACRP research project: **\$227,835**

\* Sources: Bureau of Transportation Statistics, [https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national\\_transportation\\_statistics/html/table\\_01\\_03.html](https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_01_03.html)

Federal Aviation Administration, [https://www.faa.gov/air\\_traffic/by\\_the\\_numbers/](https://www.faa.gov/air_traffic/by_the_numbers/)

## NEW INITIATIVES TAKE OFF!

In 2017, ACRP launched several new initiatives to help better serve the airport industry.

- **IdeaHub.** IdeaHub is ACRP's new online platform that captures, enhances, and transforms research ideas into viable, fundable projects to improve the airport industry. Based on the notion that broad participation and collaboration among diverse stakeholders yields the best ideas for research and improvement, IdeaHub's portal encourages airport practitioners to get involved in submitting and refining ACRP problem statements—the foundation of the ACRP research process. Anyone is welcome to become a registered user by following the IdeaHub link on ACRP's home page: [www.trb.org/ACRP/ACRP.aspx](http://www.trb.org/ACRP/ACRP.aspx).
- **Insight Events.** ACRP has begun planning its first four in-person forums to address rapidly emerging issues of importance to the airport industry. The events are shaped with the assistance of steering committees composed of subject matter experts from the industry and beyond, who determine the format for the event, craft its agenda, help select speakers, and provide input on many other details. ACRP's first four Insight Events now under development for 2018 are:
  - » Airport Roles in Reducing the Transmission of Communicable Diseases
  - » Challenges to Implementing Successful Land Use Strategies at Airports
  - » Economic and Social Sustainability at Airports
  - » Public-Private Partnerships—What Are the Lessons Learned?



- **Enhanced Website and Features.** ACRP's website is in many ways a hub for program information and dissemination. It provides quick links to publications, research projects, ways to get involved in ACRP, and much more. In addition to using the website as an information portal, over the past few years ACRP has introduced features to engage visitors in its work and mission, including short videos, word clouds, social media links, and scrolling content. This year, ACRP overhauled the site to introduce an attractive new design, user-oriented navigation, and an enhanced search function that is driven by key words and other filters.

- **WebResources.** This ACRP-developed, web-based product line includes electronic resources, topical libraries, training videos, and alternative format research reports.

In 2017, ACRP developed three WebResources; two of the topics were airport passenger terminal design and aligning community expectations with airport roles.

The *Aligning Community Expectations with Airport Roles* WebResource provides guidance to help airports manage airport communications and public relations proactively. The primary objective of this research addresses possible misunderstandings about realities airport management faces related to community expectations for air service or other airport-related services and resulting economic benefits. ACRP developed three online toolkits as part of this web resource:

- » **Role of the Airport**—to help communicate the many roles an airport can play in a community
- » **Media Toolkit**—to help the airport engage effectively with the local community
- » **Aviation Toolkit**—to enhance understanding of specific aviation-related topics using effective information and communication strategies

The *Airport Passenger Terminal Design Library* WebResource houses searchable information on, and links to, existing ACRP, federal, and other industry documents related to airport passenger terminal planning and design. This online resource contains more than 150 documents in various categories that can help with the design of airport passenger terminals.

## MEET ACRP

**A**CRP's Manager and Senior Program Officers (SPOs) work closely with airport practitioners to develop and refine cooperative research that yields practical solutions to airport challenges. While the ACRP manager oversees program activities, SPOs are responsible for developing and managing highly complex, multi-year research projects, including strategy and budgets, staffing and contractor support requirements, and ensuring that projects meet their objectives within budget and on time. Importantly, they serve as liaisons between panel members, the National Academies of Sciences, Engineering, and Medicine, and other applicable parties while independently supervising contractors.

ACRP is well served by its dedicated staff, who are profiled below.



### **Mike Salamone**, ACRP Program Manager

Mike Salamone is a Senior Program Officer for the Transportation Research Board and manager of the Airport Cooperative Research Program. His primary responsibilities involve managing cooperative research projects, as well as supervising ACRP processes, directing ACRP communications within the airport industry, and disseminating ACRP research results. Before joining the National Academies in 2006, he served in senior management positions at airports in Iowa, Florida, and California.

He received a BS in Aviation Administration from California State University and an MBA in Aviation from Embry Riddle Aeronautical University. Mike has been active in serving the airport industry since 1978.



### **Gail Staba**

Gail Staba, an ACRP Senior Program Officer with the Transportation Research Board, is responsible for facilitating the program's Synthesis Studies. Gail brings over 20 years of experience in transportation planning and environmental management at ports and airports. Her prior experience includes airport master plan and environmental consulting in California, and work on airport planning, ground transportation, and facilities maintenance management teams at Oakland Airport, San Francisco Airport, Port of

Oakland, and Vandenberg Air Force Base Spaceport. Gail holds a BS in Environmental Planning and Policy from the University of California, Davis, and an MS in Transportation Engineering from the University of California, Berkeley.



### **Lawrence Goldstein**

Lawrence Goldstein is a Senior Program Officer, helping to manage research projects as part of the Cooperative Research Programs at the Transportation Research Board. He has been with The National Academies for more than 10 years, and his most recent ACRP studies include research on resilience, changes in competitive travel demand, wetland mitigation, and evolving application of benefit-cost analysis. Before joining ACRP, he specialized in transportation system financial and economic analysis for more than 35 years. Lawrence received his BA in Physics and Mathematics from Columbia College, his MA in

Astronomy from Columbia University, and his MURP from George Washington University.



**Marci Greenberger, A.A.E.**

Marci A. Greenberger has been an ACRP Senior Program Officer at the Transportation Research Board since 2008, managing projects in operations, maintenance, safety and security, as well as legal issues that affect the industry. Prior to joining ACRP, she spent over 18 years in airport operations and management in senior management positions at airports in Rhode Island, Indiana, and California. Ms. Greenberger is an Accredited Airport Executive by the American Association of Airport

Executives (AAAE), holds an MBA from California State University-Northridge, and a BS in Aviation Management from The Ohio State University.



**Theresia H. Schatz, A.A.E.**

Theresia Schatz is an ACRP Senior Program Officer with more than 30 years of aviation industry experience. Before managing research projects for ACRP, she was with The Port Authority of NY & NJ in a variety of supervisory and managerial positions entailing airport operations, administration, and property management at JFK, Newark Liberty, and LaGuardia airports. She is an Accredited Airport Executive through the AAAE and holds an MBA from Baruch College, City University of New York, a BS in Aviation Management from the Florida Institute

of Technology, and an AAS in Aerospace Technology from Farmingdale College, State University of New York.



**Joe Navarrete**

Joe Navarrete joined ACRP as a Senior Program Officer in 2009, bringing experience as both a principal investigator and a panelist on ACRP projects in his previous job at a large consulting firm. Joe's background is in airport planning for both large and small airports across the country. He began his career at the Metropolitan Washington Council of Governments, and he served as the chief of airport system planning for the Maryland Aviation Administration. As an SPO, Joe particularly enjoys facilitating the

collaborative research process that is the hallmark of ACRP. Joe holds a BA in Geography and a Certificate in Cartography from George Mason University.



**Thomas Helms**

Thomas Helms Jr. is a contractor who serves as an ACRP Senior Program Officer for the Transportation Research Board where he provides program management support for several ACRP Synthesis Topics. Currently, Thomas works for AvMet Applications, Inc., providing program management and technical support to a variety of programs in FAA's NextGen Aviation Weather Division. Prior to joining AvMet, Thomas was with the Center for Transportation Studies at the University of Minnesota where he worked on airport, transit, and highway-related research

and technical assistance programs. Thomas holds a BA in History and an MBA in Finance as well as a commercial pilot's license.





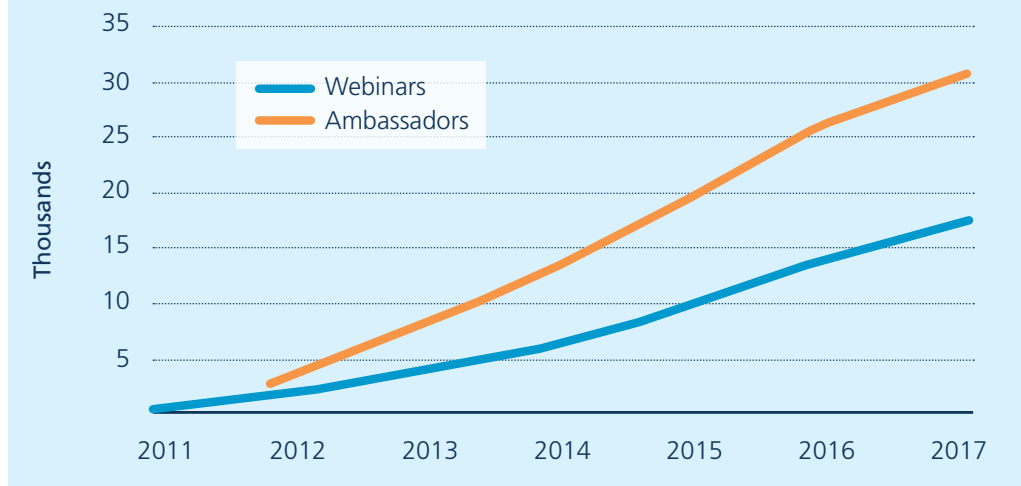
## DISSEMINATING ACRP RESEARCH RESULTS AND ENGAGING THE INDUSTRY

ACRP supported its marquee dissemination efforts throughout 2017, which continue to draw attention to and interest in ACRP and its research products. These efforts are described below.

### ACRP AMBASSADOR AND CHAMPION PROGRAM FAST FACTS

- Since 2012, Ambassadors have represented ACRP at more than 165 airport industry events that reached more than 30,000 industry practitioners.
- In 2017, Ambassadors represented ACRP at 25 airport industry events that reached nearly 5,000 practitioners.
- ACRP has enrolled 60 Champions since the program began in 2015. Currently 49 young professionals are active participants.

### Practitioners Reached (Cumulative)



### AMBASSADOR AND CHAMPION PROGRAMS

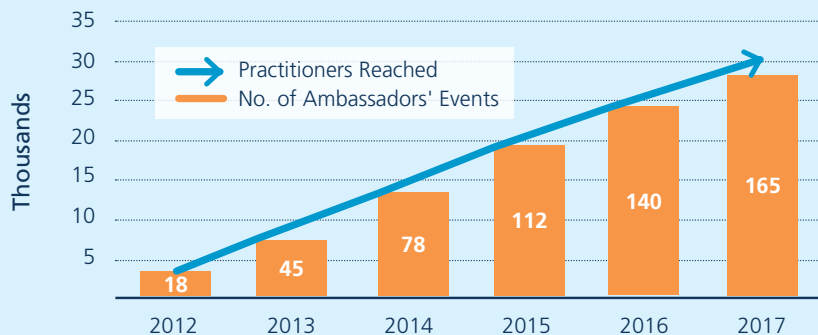
ACRP Ambassadors are experienced airport professionals who voluntarily attend conferences across the country on ACRP's behalf, personally connecting practitioners to ACRP research. Ambassadors attended more than 25 conferences in 2017 and have interacted with more than 30,000 professionals since the Ambassador program launched in 2012.

The ACRP Champion program complements the Ambassador program and is designed to engage and educate early- to mid-career professionals. Champions provide their organizations with an in-house resource with enhanced knowledge of ACRP. These young professionals connect their colleagues with recent research and opportunities for involvement

with ACRP. In tandem with Ambassadors, they connect ACRP research, information, and engagement opportunities directly to an expanded network of airport professionals. It is the personal voice of Ambassadors and Champions that helps cut through the busy digital landscape and connects ACRP with practitioners across the country.



### Practitioners Reached at Ambassadors' Events (Cumulative)



### CHAMPIONS AT WORK

Sergey Kireyev, a senior planner in Orlando, Florida, became his organization's ACRP Champion soon after ACRP launched the initiative in 2015. ACRP caught up with Sergey to ask him a few questions about his experiences as an ACRP Champion.

**Q. What made you decide to become an ACRP Champion?**

I have always found a lot of value in ACRP's research products. I first learned of ACRP when I was working in Florida DOT's Aviation and Spaceports Office as an airspace and land use manager, where colleagues would circulate TRB publications. When I heard about the ACRP Champion program during an ACRP webinar, I jumped at the opportunity to join so I could learn more about the program and elevate opportunities for research or panel participation to my leadership.

**Q. What would you say to young airport professionals out there looking to broaden their skills and networks?**

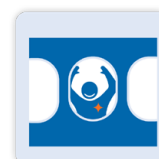
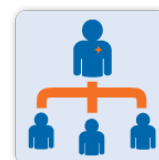
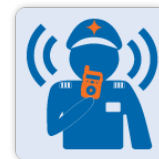
They should definitely consider becoming an ACRP Champion. In addition to gaining a better understanding of ACRP and the elements and timing of its research cycle, I have benefitted by getting to know a wider range of airport professionals and growing my network by attending TRB meetings and communicating with ACRP staff.

**Q. How do you plan to use your experience as an ACRP Champion in the future?**

I plan to leverage the experience to help my company grow, share technical resources that address complex issues with our state's airports, and advance my own career. It's already happening. For example, we have identified and pursued new research opportunities in the field. I'm the PI for ACRP Project 09-16, "Best Practices for Airport Obstruction Management" and a member of the team researching ACRP Project 01-32, "Updating ACRP Report 16: Guidebook for Managing Small Airports." In the future, I hope to be paired with an ACRP Ambassador who can work with me as a professional mentor.

**Q. Any last words?**

I have really enjoyed my ACRP Champion experience. It has really shown me that ACRP resources are time-savers! They provide airport and aviation stakeholders with an "experience" substitute on a broad range of professional subjects. Definitely check them out!





"ACRP Research Report 173 has been well

received by airports and airport professionals across North America. Airports are now beginning to understand the potentially significant implications associated with the historical and continued use of AFFF containing PFAS and, with the benefit of the research, have practical methods to manage AFFF at airports and understand the challenges with addressing legacy environmental impacts."

—Andrew Thalheimer, Principal Engineer, Dillon Consulting Limited

## WEBINARS

Organized by theme and topic, ACRP webinars allow principal investigators (PIs) and research teams to reach hundreds of airport practitioners in real time and talk about significant research findings and lessons learned after completing research reports. ACRP works closely with PIs to develop creative, interesting presentations and materials that showcase their research and results. In 2017, ACRP hosted 16 live webinars and two straight-to-recording webinars.

### Webinar Fast Facts

- More than 2,400 people attended ACRP webinars in 2017, averaging about 155 attendees per webinar
- The average YTD audience satisfaction rating for ACRP webinars is 91 percent
- More than 16,000 practitioners have attended ACRP webinars since 2011

## SYMPOSIUM ON RESEARCH

ACRP held its first Symposium on Research at the TRB 96th Annual Meeting in 2016 to bring together new and seasoned PIs to exchange ideas, share best practices, and learn more about developments within ACRP's research community. The 2017 Symposium built on this success and added new elements, including presentations from ACRP and TRB staff, who facilitated focused presentations on ACRP data collection, quality control, and research practices that were delivered to benefit new PIs as well as seasoned research teams. The attendee feedback was overwhelmingly positive.

### Symposium Fast Facts

- Approximately 60 attendees
- 26 presentations
- Approximately 22 new projects presented

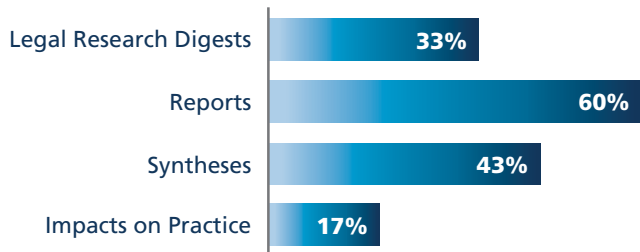
## ACRP'S WEBSITE

As described above, the fall of 2017 marked the highly anticipated launch of an updated and improved ACRP website and an evolved digital presence that will streamline wayfinding for practitioners looking for specific research. ACRP anticipates that its web metrics for downloads, pageviews, and engagement will continue to grow as the new website facilitates visitor searches and other functions.

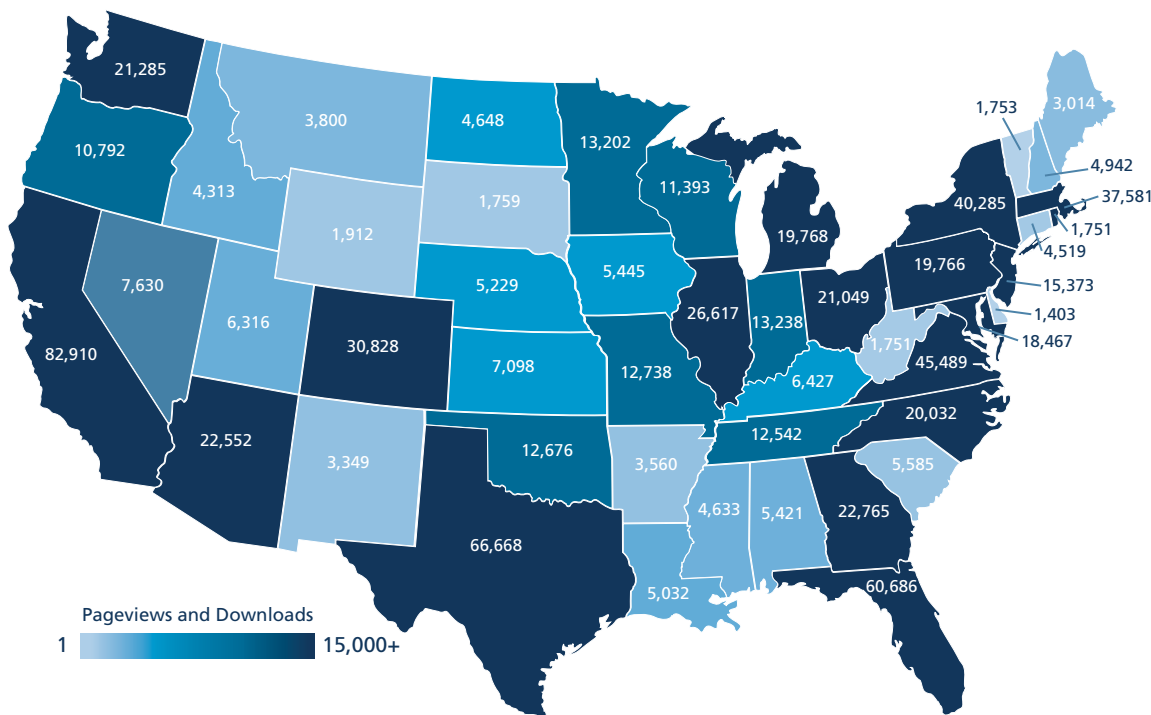
### Website Fast Facts

- Total downloads of all research products since 2010: nearly 459,000
  - » Annual growth rate: 52%
- Total pageviews since 2006: more than 1.2 million
  - » Annual growth rate: 31%

## Average Annual Growth Rate in Publication Downloads



## ACRP Publication Pageviews and Downloads by State



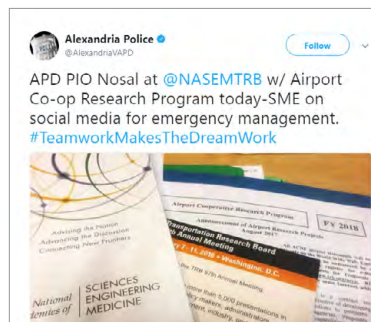
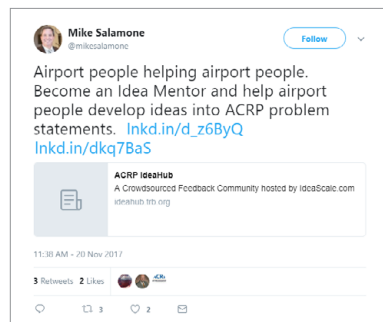
“During research for ACRP Project S04-19 [11-03/ Topic] in 2017, I interviewed a number of airports regarding how they incorporate persons with disabilities in their emergency exercises. Many of the airports commented that they have found ACRP Synthesis 72 to be useful in enriching and expanding their training and exercise programs. The airport managers said that the ACRP synthesis opened their eyes to a wider range of types of exercises and training approaches.”

—James F. Smith PhD, P.E.,  
President, Smith-Woolwine Inc.

## SOCIAL MEDIA

Social media presents new avenues to distribute research and engage practitioners, and ACRP continues to increase its digital footprint via an evolving strategy that includes developing videos; maintaining a presence on Facebook, LinkedIn, and Twitter; and creating more shareable and interactive content. In the future, ACRP can leverage these platforms to help take new products and research to the digital spaces of those who need and want them, rather than waiting for practitioners to come to ACRP.

In 2017, ACRP’s social media accounts accounted for nearly 5,000 impressions per month.





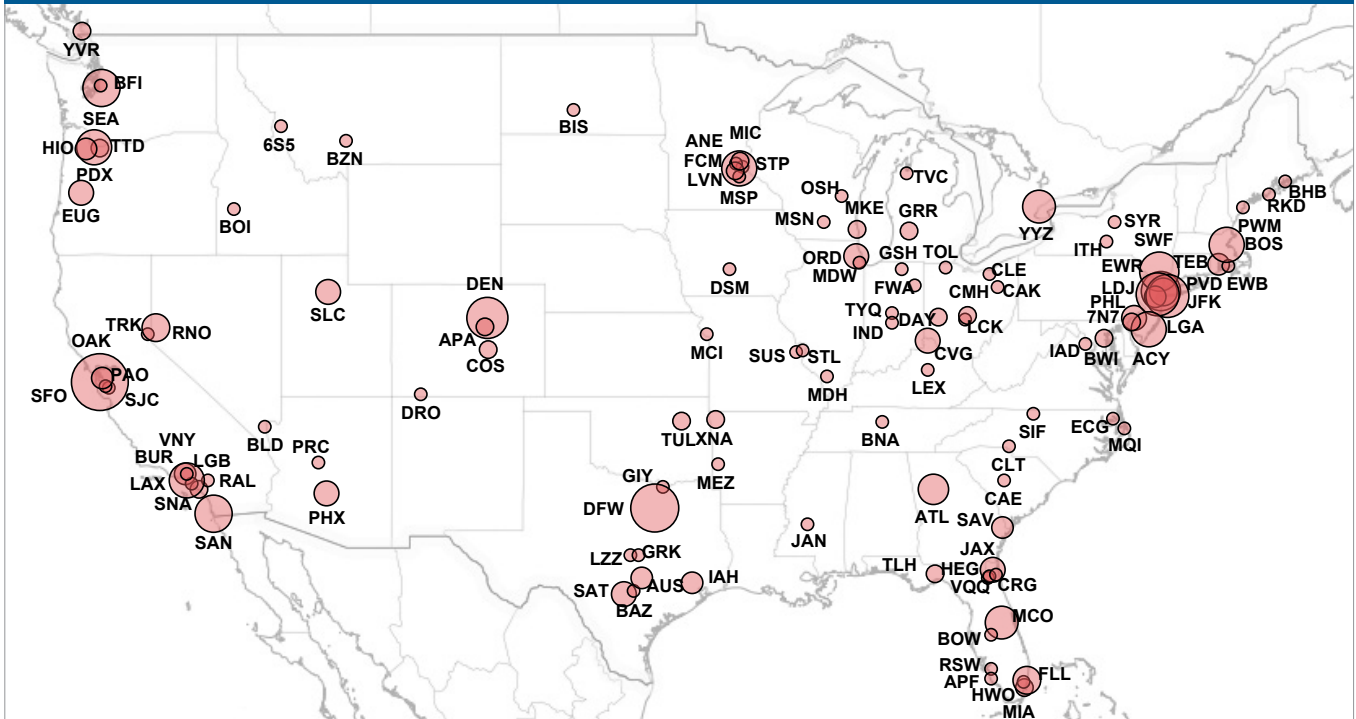


### IMPACTS ON PRACTICE (IOPs)

Survey feedback informs ACRP about its research implemented at airports across the country. In recent years, ACRP has received hundreds of survey responses and testimonials about the use of its research at domestic and international airports. These responses have served as the basis for developing *Impacts on Practice*, which illustrate in detail the practical application of ACRP research. In 2017, ACRP finalized and published two IOPs; it expects to complete two more by the end of the calendar year.

- IOP: ACRP and Higher Education: Building the Next Generation of Airport Professionals*** explores how educators have incorporated ACRP tools and reports into their curricula. Professors and students at Kansas State Polytechnic University in Salina, Kansas, use ACRP reports to provide foundational knowledge about the airport industry. Students find the reports practical resources as they become professionals.

**Airports using ACRP research products (LRDs, Research Reports, and Syntheses). The bigger the circle, the greater the number of mentions in survey responses.**





- ***IOP: Integrating Airport Research and Decision-making: A Case Study***

explores how ACRP research is integrated into decision-making processes at Jacksonville Aviation Authority and also examines emergency management, development of cooperative agreements, risk management, safety, communications, and operational efficiency. The IOP highlights the use of ACRP research to provide illustrative examples and tools to save money, operate more efficiently, and maintain a safer environment.

## **2016–2017 UNIVERSITY DESIGN COMPETITION FOR ADDRESSING AIRPORT NEEDS**



The 2017 ACRP University Design Competition winners at the awards ceremony in Washington, D.C.

During the 2016–17 academic year, ACRP launched its annual University Design Competition for Addressing Airport Needs. This national competition builds upon the former FAA Design Competition for Universities and engages students in addressing issues related to airports and the National Airspace System.

On July 31, 2017, competition winners presented their work and accepted their awards at the National Academies of Sciences, Engineering, and Medicine Keck Center. Honors were awarded in four categories: airport environmental interactions, runway safety/runway incursions/runway excursions, airport operations and maintenance, and airport management and planning.

ACRP was pleased to give the first place award to a three-member team from the Mechanical Engineering Department at Tufts University for their “Baggage Hygiene Monitoring System.” Their entry was designed to reduce baggage jamming using a semi-automated system.

*Our students have started from scratch, with very little previous aviation knowledge, and have worked to identify a problem, research the problem, and develop a proposed solution to the problem. Through the development of the solution, the students have had to not only identify how to rectify the problem but also assess cost considerations for development as well as any risks that may occur because of implementation. Through their work, the students have completed research to solve a problem that could have wide-ranging utilization for passengers at airports across the United States.*

—Chad Nixon, Faculty Advisor,  
Binghamton University–State University of New York



## CONCLUSION

**I**n the year to come, ACRP is poised to continue building on its research and stakeholder engagement successes. New initiatives that have taken root in 2017 will more formally launch and mature. Airports and industry stakeholders will benefit from ACRP's new website design and enhanced features, including IdeaHub. Practitioners use IdeaHub to collaborate virtually around project ideas that could shape research to solve problems and fill data gaps for airports into the near future. ACRP's Insight Events on the airport's role in addressing communicable disease transmission, public-private partnerships, economic sustainability, and successful land use strategies will give interested parties from several industries a new way to exchange ideas face-to-face and learn from one another.

In 2018, airports will likely face new challenges and opportunities as the national and global political, economic, environmental, and technological landscapes invariably evolve. While it is impossible to predict how that evolution will unfold, the airport industry can be confident knowing that ACRP will continue its work seeking industry input to provide practical solutions to everyday problems in aviation.

## APPENDIX A. Publications of the Airport Cooperative Research Program

Research Reports		
No.	Proj. No.	Title, Pages, Publication Year
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-Measurement 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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**Research 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)
72	02-61	Guidebook for Selecting Methods to Monitor Airport and Aircraft Deicing Materials, Second Edition, 128 p. (2017)

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**Research Reports**

No.	Proj. No.	Title, Pages, Publication Year
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)
75	06-02	Airport Leadership Development Program (& CD 133), 334 p. (2013)
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)
82	03-12	Preparing Peak Period and Operational Profiles—Guidebook (& CD 126; & WOD 14), 146 p. (2013)
83	02-36	Assessing Opportunities for Alternative Fuel Distribution Programs (& CD 129), 128 p. (2013)
84	02-21	Guidebook for Preparing Airport Emissions Inventories for State Implementation Plans (& CD 131), 68 p. (2013)
85	03-21	Developing and Maintaining Support for Your Airport Capacity Project, 40 p. (2013)
86	02-12	Environmental Optimization of Aircraft Departures: Fuel Burn, Emissions, and Noise (& CD 136), 104 p. (2013)
87	01-20	Procuring and Managing Professional Services for Airports, 120 p. (2013)
88	04-11	Guidebook on Integrating GIS in Emergency Management at Airports (& CD 139), 138 p. (2013)
89	02-24	Guidelines for Airport Sound Insulation Programs, 324 p. (2013)
90	03-25	Impact of Regulatory Compliance Costs on Small Airports (& WOD 15 Vol. 1; & WOD 15 Vol. 2), 92 p. (2013)
91	02-20A	Infectious Disease Mitigation in Airports and on Aircraft, 38 p. (2013)
92	10-11	Guidebook to Creating a Collaborative Environment Between Airport Operations and Maintenance, 148 p. (2013)
93	03-18	Operational and Business Continuity Planning for Prolonged Airport Disruptions (& CD 140), 152 p. (2013)
94	04-12	Integrating Web-Based Emergency Management Collaboration Tools into Airport Operations—A Primer, 56 p. (2013)
95	04-13	Integrating Community Emergency Response Teams (A-Certs) at Airports, 168 p. (2013)
96	07-09	Apron Planning and Design Guidebook, 168 p. (2013)
97	02-17	Measuring PM Emissions from Aircraft Auxiliary Power Units, Tires, and Brakes, 52 p. (2013)
98	03-26	Understanding Airline and Passenger Choice in Multi-Airport Regions, 100 p. (2013)
99	02-29	Guidance for Treatment of Airport Stormwater Containing Deicers, 330 p. (2013)
100	02-15	Recycling Best Practices—A Guidebook for Advancing Recycling from Aircraft Cabins, 86 p. (2014)
101	09-02	Best Practices Manual for Working In or Near Airport Movement Areas (& CD 150), 62 p. (2014)
102	02-33	Guidance for Estimating Airport Construction Emissions (& CD 142), 138 p. (2014)
103	10-13	A Guidebook for Integrating NIMS for Personnel and Resources at Airports, 128 p. (2014)
104	03-20	Defining and Measuring Aircraft Delay and Airport Capacity Thresholds, 74 p. (2014)
105	02-31	Guidelines for Ensuring Longevity in Airport Sound Insulation Programs, 56 p. (2014)
106	10-14	Being Prepared for IROPS: A Business-Planning and Decision-Making Approach (& CD 144), 88 p. (2014)
107	04-14	Development of a Runway Veer-Off Location Distribution Risk Assessment Model and Reporting Template (& CD 145), 136 p. (2014)
108	02-38	Guidebook for Energy Facilities Compatibility with Airports and Airspace, 94 p. (2014)
109	07-08	Improving Terminal Design to Increase Revenue Generation Related to Customer Satisfaction, 114 p. (2014)
110	09-06	Evaluating Impacts of Sustainability Practices on Airport Operations and Maintenance (& CD 149), 132 p. (2014)
111	01-21	A Guidebook for Airport-Airline Consortia, 132 p. (2014)
112	04-15	Airport Terminal Incident Response Planning (& CD 151), 98 p. (2014)

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No.	Proj. No.	Title, Pages, Publication Year
113	07-10	Guidebook on General Aviation Facility Planning, 146 p. (2014)
114	10-12	Guidebook for Through-the-Fence Operations, 186 p. (2014)
115	02-32	Understanding Microbial Biofilms in Receiving Waters Impacted by Airport Deicing Activities, 84 p. (2014)
116	01-22	Guidebook for Successfully Assessing and Managing Risks for Airport Capital and Maintenance Projects, 130 p. (2014)
117	07-11	Airport Escalators and Moving Walkways—Cost-Savings and Energy Reduction Technologies (& CD 156), 50 p. (2014)
118	03-23	Integrating Aviation and Passenger Rail Planning (& CD 157), 276 p. (2015)
119	02-28	Prototype Airport Sustainability Rating System—Characteristics, Viability, and Implementation Options, 242 p. (2014)
120	01-19	Airport Capital Improvements: A Business Planning and Decision-Making Approach (& CD 158; & WOD 18), 70 p. (2014)
121	01-15	Innovative Revenue Strategies—An Airport Guide, 304 p. (2015)
122	11-02/Task 21	Innovative Airport Responses to Threatened and Endangered Species (& CD 160), 60 p. (2015)
123	10-15	A Guidebook for Airport Winter Operations, 138 p. (2015)
124	09-03	Airport Parking Garage Lighting Solutions, 74 p. (2015)
125	09-08	Balancing Airport Stormwater and Bird Hazard Management (& CD 159), 56 p. (2015)
126	01-25	A Guidebook for Increasing Diverse and Small Business Participation in Airport Business Opportunities, 104 p. (2015)
127	01-23	A Guidebook for Mitigating Disruptive WiFi Interferences at Airports, 106 p. (2015)
128	11-02/Task 23	Alternative IT Delivery Methods and Best Practices for Small Airports, 122 p. (2015)
129	03-27	Evaluating Methods for Counting Aircraft Operations at Non-Towered Airports, 170 p. (2015)
130	07-12	Guidebook for Airport Terminal Restroom Planning and Design (& CD 164), 86 p. (2015)
131	04-16	A Guidebook for Safety Risk Management for Airports, 216 p. (2015)
132	03-28	The Role of U.S. Airports in the National Economy, 68 p. (2015)
133	02-34	Best Practices Guidebook for Preparing Lead Emission Inventories from Piston-Powered Aircraft with the Emission Inventory Analysis Tool (& CD 167; & WOD 21), 46 p. (2015)
134	02-39	Applying Whole Effluent Toxicity Testing to Aircraft Deicing Runoff, 120 p. (2015)
135	02-42	Understanding Airport Air Quality and Public Health Studies Related to Airports, 102 p. (2015)
136	10-17	Implementing Integrated Self-Service at Airports (& CD 168), 114 p. (2015)
137	10-19	Guidebook for Advancing Collaborative Decision Making (CDM) at Airports, 82 p. (2015)
138	10-18	Preventive Maintenance at General Aviation Airports, Vol. 1: Primer, 50 p. (2015)
138	10-18	Preventive Maintenance at General Aviation Airports, Vol. 2: Guidebook (& CD 170), 130 p. (2015)
139	09-04	Optimizing Airport Building Operations and Maintenance Through Retrocommissioning: A Whole-Systems Approach (& CD 169), 192 p. (2015)
140	05-02	Guidebook on Best Practices for Airport Cybersecurity (& CD 171), 160 p. (2015)
141	01-24	Renewable Energy as an Airport Revenue Source, 212 p. (2015)
142	03-29	Effects of Airline Industry Changes on Small- and Non-Hub Airports, 194 p. (2015)
143	03-24	Guidebook for Air Cargo Facility Planning and Development (& CD 174; & WOD 24), 120 p. (2015)
144	03-30	Unmanned Aircraft Systems (UAS) at Airports: A Primer, 94 p. (2015)
145	04-17	Applying an SMS Approach to Wildlife Hazard Management (& CD 173), 242 p. (2015)
146	10-16	Commercial Ground Transportation at Airports: Best Practices (& WOD 25), 156 p. (2015)
147	02-40	Climate Change Adaptation Planning: Risk Assessment for Airports (& CD 175), 128 p. (2015)
148	09-09	LED Airfield Lighting System Operation and Maintenance, 86 p. (2015)
149	02-46	Improving Ground Support Equipment Operational Data for Airport Emissions Modeling, 152 p. (2015)
150	03-34	NextGen for Airports, Vol. 1: Understanding the Airport's Role in Performance-Based Navigation: Resource Guide, 164 p. (2016)
150	01-28	NextGen for Airports, Vol. 2: Engaging Airport Stakeholders: Guidebook, 88 p. (2016)

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No.	Proj. No.	Title, Pages, Publication Year
150	01-27	NextGen for Airports, Vol. 3: Resources for Airports, 96 p. (2016)
150	09-12	NextGen for Airports, Vol. 4: Leveraging NextGen Spatial Data for Airports: Guidebook, 104 p. (2016)
150	03-33	NextGen for Airports, Vol. 5: Airport Planning and Development, 156 p. (2017)
151	02-56	Developing a Business Case for Renewable Energy at Airports (& CD 177), 168 p. (2016)
152	02-51	Evaluating Methods for Determining Interior Noise Levels Used in Airport Sound Insulation Programs, 148 p. (2016)
153	10-23	Guidebook for IROPS Stakeholder Communication & Coordination (& CD 180), 234 p. (2016)
154	02-59	Water Efficiency Management Strategies for Airports (& CD 181), 144 p. (2016)
155	09-14	Advanced Computer Maintenance Management Systems Integration (In Production)
156	10-21	Guidebook for Managing Compliance with Federal Regulations: An Integrated Approach (& CD 182), 64 p. (2016)
157	01-26	Improving the Airport Customer Experience, 240 p. (2016)
158	02-50	Deriving Benefits from Alternative Aircraft-Taxi Systems, 28 p. (2016)
159	09-11	Pavement Maintenance Guidelines for General Aviation Airport Management, 234 p. (2016)
160	02-49	Addressing Significant Weather Impacts on Airports: Quick Start Guide and Toolkit, 90 p. (2016)
161	03-35	Guidelines for Improving Airport Services for International Customers, 248 p. (2016)
162	02-57	Guidebook for Assessing Airport Lead Impacts, 32 p. (2016)
163	03-32	Guidebook for Preparing and Using Airport Design Day Flight Schedules, 158 p. (2016)
164	02-54	Exhaust Emissions from In-Use General Aviation Aircraft, 122 p. (2016)
165	02-65	Tracking Alternative Jet Fuel, 66 p. (2016)
166	02-53	Interpreting the Results of Airport Water Monitoring: A Guidebook, 200 p. (2017)
167	10-24	Guidebook for Developing Ramp Control Facilities, 104 p. (2017)
168	04-18	Runway Protection Zones (RPZs) Risk Assessment Tool Users' Guide, 76 p. (2017)
169	02-61	Clean Water Act Requirements for Airports, 40 p. (2017)
170	10-25	Guidebook for Preparing Public Notification Programs at Airports, 160 p. (2017)
171	06-03	Establishing a Coordinated Local Family Assistance Program for Airports, 156 p. (2017)
172	09-13	Guidebook for Considering Life-Cycle Costs in Airport Asset Procurement, 250 p. (2017)
173	02-60	Use and Potential Impacts of AFFF Containing PFASs at Airports, 232 p. (2017)
174	02-62	Green Stormwater Infrastructure, Vol. 1: Primer, 50 p. (2017)
174	02-62	Green Stormwater Infrastructure, Vol. 2: Guidebook, 116 p. (2017)
175	07-14	Improving Intelligibility of Airport Terminal Public Address Systems, 174 p. (2017)
176	03-39	Generating Revenue from Commercial Development On or Adjacent to Airports, 308 p. (2017)
177	07-13	Enhancing Airport Wayfinding for Aging Travelers and Persons with Disabilities, 318 p. (2017)
178	02-64	Guidance for Usage of Permeable Pavement at Airports, 88 p. (2017)
179	02-58	Dispersion Modeling Guidance for Airports Addressing Local Air Quality Health Concerns, 44 p. (2017)
180	02-63	Guidebook for Quantifying Airport Ground Access Vehicle Activity for Emissions Modeling, 52 p. (2017)
181	02-48	Assessing Community Annoyance of Helicopter Noise, 148 p. (2017)
182	10-20	Guidance for Planning, Design, and Operations of Airport Communications Centers, 162 p. (2017)

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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. (2008)
4	11-03	Synthesis of Information Related to Airport Practices, 4 p. (2009)

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### Research Results Digests

No.	Proj. No.	Title, Pages, Publication Year
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)
17	11-03	Synthesis of Information Related to Airport Practices, 8 p. (2013)
18	11-03	Synthesis of Information Related to Airport Practices, 8 p. (2014)
19	11-04	Graduate Research Award Program on Public-Sector Aviation Issues Update: 2008–2013, 20 p. (2014)
20	11-07	Taking Inventory of ACRP Research and the Next Challenges Facing the Airport Industry, 76 p. (2014)
21	11-02/Task 22	Best Practices for General Aviation Aircraft Fuel-Tank Sampling, 20 p. (2014)
22	11-03	Synthesis of Information Related to Airport Practices, 12 p. (2015)
23	11-03	Synthesis of Information Related to Airport Practices, 12 p. (2016)
24	02-44	Recommended Community Noise Model Enhancements to Improve Prediction of Helicopter Activity Impacts, 6 p. (2015)
25	11-04	Graduate Research Award Program on Public-Sector Aviation Issues Update: 2008–2017, 28 p. (2017)
26	11-03	Synthesis of Information Related to Airport Practices, 12 p. (2017)

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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), (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)
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), (2012)

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

No.	Topic No.	Title, Pages, Publication Year
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)
18	04-04	Buy America Requirements for Federally Funded Airports, 72 p. (2013)
19	04-02	Legal Issues Related to Developing Safety Management Systems and Safety Risk Management at U.S. Airports, 48 p. (2013)
20	04-01	Airport Responsibility for Wildlife Management, 162 p. (2013)
21	04-05	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 2012 (CD 141), (2013)
22	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, 62 p. (2014)
23	05-04	A Guide for Compliance with Grant Agreement Obligations to Provide Reasonable Access to an AIP-Funded Public Use General Aviation Airport, 64 p. (2015)
24	05-02	Sovereign Immunity for Public Airport Operators, 188 p. (2015)
25	04-03	Analysis of Federal Laws, Regulations, Case Law, and Survey of Existing Airport NPDES Permits Regarding Tenant-Operator Responsibilities under NPDES and Stormwater Management BMPs under Owner/Airport's Operating Permits, 82 p. (2015)
26	05-01	Regulations Affecting the Exercise of First Amendment Activities at Airports, 82 p. (2015)
27	05-03	The Fourth Amendment and Airports, 48 p. (2016)
28	06-01	Operational and Legal Issues with Fuel Farms, 36 p. (2016)
29	07-01	Impact of Firearms Laws on Airports (& WOD 29), 66 p. (2016)
30	06-02	Contract Risk Management for Airport Agreements, 40 p. (2016)
31	07-02	Preemption of Worker-Retention and Labor-Peace Agreements at Airports, 40 p. (2017)
32	08-03	Evolving Law on Airport Implications by Unmanned Aerial Systems, 96 p. (2017)
33	08-02	Overview of Airport Duties and Standards of Care in Airfield Accident Cases, 48 p. (2017)

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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)

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**Syntheses (Project 11-03)**

No.	Topic No.	Title, Pages, Publication Year
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)
35	S09-04	Issues with Use of Airfield LED Light Fixtures, 44 p. (2012)
36	S06-03	Exploring 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)
39	S10-09	Airport Wildlife Population Management, 78 p. (2013)
40	S01-05	Issues with Airport Organization and Reorganization, 40 p. (2013)
41	S10-08	Conducting Aeronautical Special Events at Airports, 130 p. (2013)
42	S02-07	Integrating Environmental Sustainability into Airport Contracts, 76 p. (2013)
43	S02-08	Environmental Assessment of Air and High-Speed Rail Corridors, 44 p. (2013)
44	S02-09	Environmental Management System Development Process, 58 p. (2013)
45	S04-09	Model Mutual Aid Agreements for Airports, 64 p. (2013)
46	S01-07	Conducting Airport Peer Reviews, 48 p. (2013)
47	S09-05	Repairing and Maintaining Airport Parking Structures While in Use, 54 p. (2013)
48	S01-06	How Airports Measure Customer Service Performance, 102 p. (2013)
49	S06-04	Helping New Maintenance Hires Adapt to the Airport Operating Environment, 60 p. (2013)
50	S04-11	Effective Cooperation Among Airports and Local and Regional Emergency Management Agencies for Disaster Preparedness and Response, 52 p. (2014)
51	S07-01	Impacts of Aging Travelers on Airports, 36 p. (2014)
52	S10-10	Habitat Management to Deter Wildlife at Airports, 84 p. (2014)
53	S02-10	Outcomes of Green Initiatives: Large Airport Experience, 72 p. (2014)
54	S10-11	Electric Vehicle Charging Stations at Airport Parking Facilities, 70 p. (2014)
55	S03-08	Backcountry Airstrip Preservation, 88 p. (2014)
56	S01-08	Understanding the Value of Social Media at Airports for Customer Engagement, 157 p. (2014)
57	S10-12	Airport Response to Special Events, 148 p. (2014)
58	S04-10	Safety Reporting Systems at Airports, 65 p. (2014)
59	S03-07	Integrating Airport Geographic Information System (GIS) Data with Public Agency GIS, 74 p. (2014)
60	S04-12	Airport Emergency Post-Event Recovery Practices, 86 p. (2015)
61	S03-10	Practices in Preserving and Developing Public-Use Seaplane Bases, 96 p. (2015)
62	S03-09	Cell Phone Lots at Airports, 72 p. (2015)

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**Syntheses (Project 11-03)**

No.	Topic No.	Title, Pages, Publication Year
63	S10-13	Overview of Airport Fueling System Operations, 118 p. (2015)
64	S04-10	Issues Related to Accommodating Animals Traveling Through Airports, 86 p. (2015)
65	S10-14	Practices to Develop Effective Stakeholder Relationships at Smaller Airports, 70 p. (2015)
66	S02-11	Lessons Learned from Airport Sustainability Plans, 98 p. (2015)
67	S09-06	Airside Snow Removal Practices for Small Airports with Limited Budgets, 110 p. (2015)
68	S01-10	Strategies for Maintaining Air Service, 60 p. (2015)
69	S02-12	Airport Sustainability Practices—Drivers and Outcomes for Small Commercial and General Aviation Airports, 116 p. (2016)
70	S09-07	Building Information Modeling for Airports, 96 p. (2016)
71	S04-14	Airport Safety Risk Management Panel Activities and Outcomes, 128 p. (2016)
72	S04-17	Tabletop and Full-Scale Emergency Exercises for General Aviation, Non-Hub, and Small Hub Airports, 164 p. (2016)
73	S04-16	Emergency Communications Planning for Airports, 100 p. (2016)
74	S04-13	Combining Mixed-Use Flight Operations Safely at Airports, 172 p. (2016)
75	S04-15	Airport Advisories at Non-Towered Airports, 68 p. (2016)
76	S02-13	Helicopter Noise Information for Airports and Communities, 144 p. (2016)
77	S02-14	Airport Sustainability Practices, 52 p. (2016)
78	S01-11	Continuity of Operations Planning for Small Airports, 236 p. (2016)
79	S01-14	Funding Industrial Aviation, 52 p. (2017)
80	S03-13	Estimating Truck Trip Generation for Airport Air Cargo Activity, 56 p. (2017)
81	S01-13	Food and Beverages and Retail Operators: The Costs of Doing Business at Airports, 152 p. (2017)
82	S04-18	Uses of Social Media to Inform Operational Response and Recovery During an Airport Emergency, 102 p. (2017)
83	S03-12	Preparing Airports for Communicable Diseases on Arriving Flights, 102 p. (2017)
84	S03-11	Transportation Network Companies: Challenges and Opportunities for Airport Operators, 70 p. (2017)
85	S02-15	Alternative Fuels in Airport Fleets, 52 p. (2017)

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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, Vol. 1: Scoping, 153 p. (2009)
9	02-27	Enhanced Modeling of Aircraft Taxiway Noise, Vol. 2: Aircraft Taxi Noise Database and Development Process, 138 p. (2013)
10	10-07	Appendix A: Documentation for ACRP Report 41 (& CD 83; & Rep. 41), 85 p. (2011)
11	02-09	A Comprehensive Development Plan for a Multimodal Noise and Emissions Model, 296 p. (2010)

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**Web-Only Documents**

No.	Proj. No.	Title, Pages, Publication Year
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)
14	03-12	Guidelines for Preparing Peak Period and Operational Profiles (& CD 126; & Rep. 82), 316 p. (2013)
15	03-25	Data Supporting the Impact of Regulatory Compliance on Small Airports, Vol. 1: Appendixes A, B, & C (& Rep. 90), 121 p. (2013)
15	03-25	Data Supporting the Impact of Regulatory Compliance on Small Airports, Vol. 2: Technical Appendixes (& Rep. 90), 151 p. (2013)
16	02-26	Assessing Aircraft Noise Conditions Affecting Student Learning, Vol. 1: Final Report, 71 p. (2014)
16	02-26	Assessing Aircraft Noise Conditions Affecting Student Learning, Vol. 2: Appendices, 143 p. (2014)
17	02-35	Research Methods for Understanding Aircraft Noise Annoyance and Sleep Disturbance, 174 p. (2014)
18	01-19	Airport Capital Improvements: Developing a Cost-Estimating Model and Database (& CD 158; & Rep. 120), 45 p. (2014)
19	02-37	Integrated Noise Model Accuracy for General Aviation Aircraft, 92 p. (2014)
20	03-16	Guidebook for Estimating the Economic Impact of Air Cargo Operations at Airports, 360 p. (2014)
21	02-34	Quantifying Aircraft Lead Emissions at Airports (& Rep. 133), 218 p. (2015)
22	03-19	Passenger Value of Time, Benefit-Cost Analysis, and Airport Capital Investment Decisions, Vol. 1: Guidebook for Valuing User Time Savings in Airport Capital Investment Decision Analysis, 50 p. (2015)
22	03-19	Passenger Value of Time, Benefit-Cost Analysis, and Airport Capital Investment Decisions, Vol. 2: Final Report, 113 p. (2015)
22	03-19	Passenger Value of Time, Benefit-Cost Analysis, and Airport Capital Investment Decisions, Vol. 3: Appendix A: Background Research and Appendix B: Stated Preference Survey, 345 p. (2015)
23	09-05	Guidance on Successful Computer Maintenance Management Systems (CMMS) Selection and Practices, 166 p. (2015)
24	03-24	Air Cargo Facility Planning and Development—Contractor's Final Report (& Rep. 143), 395 p. (2015)
25	10-16	Commercial Ground Transportation at Airports: Best Practices, Appendixes C through H (& Rep. 146), 822 p. (2015)
26	02-45	Methodology to Improve EDMS/AEDT Quantification of Aircraft Taxi/Idle Emissions, 97 p. (2016)
27	09-10	Methodology to Develop the Airport Terminal Building Energy Use Intensity (ATB-EUI) Benchmarking Tool (& CD 178), 34 p. (2016)
28	06-04	Identifying and Evaluating Airport Workforce Requirements—Phase 1 Report, 182 p. (2016)
29	11-01/Topic 07-01	Compendium of State and Federal Laws Affecting the Possession of Firearms at Airports (& LRD 29), 727 p. (2016)
30	02-43	Development of a NOx Chemistry Module for EDMS/AEDT to Predict NO2 Concentrations, 330 p. (2017)
31	10-22	Improving Stakeholder Engagement in Aircraft Accident Response Planning, 66 p. (2017)
32	02-52	Improving AEDT Noise Modeling of Mixed Ground Surfaces, 154 p. (2017)
33	02-66	Commercial Space Operations Noise and Sonic Boom Modeling and Analysis (& Rep. 183) (In Production)
34	02-47	Assessing Aircraft Noise Conditions Affecting Student Learning—Case Studies, 257 p. (2017)

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**CDs**

No.	Proj. No.	Title, Publication Year
68	11-01/Topic 01-01	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)

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**CDs**

No.	Proj. No.	Title, Publication Year
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)
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)
126	03-12	Guidebook and Toolboxes for ACRP Report 82 (& Rep. 82; & WOD 14) (2013)
129	02-36	Toolkit for Evaluating Alternative Fuel Distribution Programs and Appendixes to ACRP Report 83 (& Rep. 83) (2013)
131	02-21	Airport Emissions Estimator Tool and Other Support Material for ACRP Report 84 (& Rep. 84) (2013)
133	06-02	Supplemental Materials for ACRP Report 75: Airport Leadership Development Program (& Rep. 75) (2013)
136	02-12	Departure Optimization Investigation Tool (DOIT) (& Rep. 86) (2013)
137	02-20	The Vector-Borne Disease Airport Importation Risk Tool (2013)
139	04-11	Tool Set for Integrating GIS in Emergency Management at Airports (& Rep. 88) (2013)
140	03-18	Airport Business Continuity Planning Software Tool (& Rep. 93) (2013)
141	11-01/Topic 04-05	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 2012 (LRD 21) (2013)
142	02-33	Airport Construction Emissions Inventory Tool (ACEIT) (& Rep. 102) (2014)
144	10-14	IROPS Investment Support Tool (IRIS) (& Rep. 106) (2014)
145	04-14	Lateral Runway Safety Area Risk Analysis (LRSARA) Tool (& Rep. 107) (2014)
149	09-06	Evaluation Process and Cost-Benefit Tool (& Rep. 110) (2014)
150	09-02	Supplemental Materials for ACRP Report 101 (& Rep. 101) (2014)

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**CDs**

No.	Proj. No.	Title, Publication Year
151	04-15	Airport Terminal Incident Response Plan (TIRP) Tool (& Rep. 112) (2014)
156	07-11	Supplemental Material to ACRP Report 117 (& Rep. 117) (2014)
157	03-23	Air/Rail Diversion Model (& Rep. 118) (2015)
158	01-19	ACCE: Airport Capital Cost Estimation Tool (& Rep. 120; & WOD 18) (2014)
159	09-08	Bird Strike Risk Analysis and Stormwater Management Decision Tool (& Rep. 125) (2015)
160	11-02/Task 21	Airport Toolbox for ACRP Report 122 (& Rep. 122) (2014)
161	02-41	Estimating Takeoff Thrust Settings for Airport Emissions Inventories (2015)
164	07-12	Appendixes for the Guidebook for Airport Terminal Restroom Planning and Design (& Rep. 130) (2015)
167	02-34	Emissions Inventory Analysis Tool (& Rep. 133) (2015)
168	10-17	Integrated Self-Service Tools for ACRP Report 136 (& Rep. 136) (2015)
169	09-04	Spreadsheet Tool and Appendices to ACRP Report 139 (& Rep. 139) (2015)
170	10-18	Checklists and PowerPoint Template for ACRP Report 138 (& Rep. 138 Vol. 2) (2015)
171	05-02	Multimedia Materials Supporting the Guidebook on Best Practices for Airport Cybersecurity (& Rep. 140) (2015)
173	04-17	WHaMRAT Tool, User Guide, and Quick-Start Guides (& Rep. 145) (2015)
174	03-24	Air Cargo Facility Planning Model (& Rep. 143) (2015)
175	02-40	ACROS Tool and Other Resources to Accompany ACRP Report 147 (& Rep. 147) (2015)
177	02-56	Supplemental Information for ACRP Report 151 (& Rep. 151) (2016)
178	09-10	Airport Terminal Building Energy Use Intensity (ATB-EUI) Benchmarking Tool (& WOD 27) (2016)
180	10-23	IROPS Tools for Planning, Communication & Coordination (& Rep. 153) (2016)
181	02-59	End Use Water Audit Tool (& Rep. 154) (2016)
182	10-21	Regulation Compliance Management Tool (& Rep. 156) (2016)

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**WebResources**

No.	Proj. No.	Title, Publication Year
1	03-31	Aligning Community Expectations with Airport Roles (2017)
2	07-15	Airport Passenger Terminal Design Library (2017)
3	02-61	Airport Stormwater Electronic Resource Library and Training Materials (2017)

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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)

**Notes:**

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

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

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## APPENDIX B. SUMMARY OF PROJECT STATUS THROUGH DECEMBER 31, 2017

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
<b>01: 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	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		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	Published as	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 - Report 59	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	7/31/2016	Completed			
01-14	Considering and Evaluating Airport Privatization	\$500,000(09A)	\$500,000	Leigh Fisher	5/10/2010	12/31/2011	Completed - Report 66	Published as Report 66		
01-15	Innovative Revenue Strategies - An Airport Guide	\$400,000(10)	\$400,000	KRAMER aerotek, Inc.	5/14/2010	12/31/2014	Completed - Report 121	Published as Report 121		
01-16	Asset and Infrastructure Management for Airports	\$400,000(10)	\$400,000	GHD Consulting	6/16/2010	12/1/2011	Completed - Report 69	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 - Report 77	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 - Report 74	Published as Report 74		
01-19	Airport Capital Improvements: A Business Planning and Decision-Making Approach	\$400,000(11)	\$400,000	MCR Federal, LLC	7/13/2011	7/31/2014	Completed - Report 120 and Web-Only Document 18	Published as Report 120 and Web-Only Document 18		
01-20	Procuring and Managing Professional Services for Airports	\$350,000(11)	\$350,000	HNTB	6/15/2011	1/20/2013	Completed - Report 87	Published as Report 87		
01-21	A Guidebook for Airport-Airline Consortiums	\$400,000(12)	\$387,642	AVAirPros	6/1/2012	4/1/2014	Completed - Report 111	Published as Report 111		
01-22	Guidebook for Successfully Assessing and Managing Risks for Airport Capital and Maintenance Projects	\$300,000(12)	\$300,000	Direct Effect Solutions, Inc.	8/14/2012	5/14/2014	Completed - Report 116	Published as Report 116		

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
01-23	A Guidebook for Mitigating Disruptive WiFi Interference at Airports	\$350,000(13)	\$349,489	System Planning Corp.	5/2/2013	8/1/2014	Completed - Published as Report 127		
01-24	Renewable Energy as an Airport Revenue Source	\$400,000(13)	\$399,612	Harris Miller Miller & Hanson	8/13/2013	3/31/2015	Completed - Published as Report 141		
01-25	A Guidebook for Increasing Diverse and Small Business Participation in Airport Business Opportunities	\$250,000(13)	\$250,000	Exstare Federal Services, LLC	8/13/2013	9/6/2014	Completed - Published as Report 126		
01-26	Improving the Airport Customer Experience	\$400,000(14)	\$400,000	Leigh Fisher	7/11/2014	2/15/2016	Completed - Published as Report 157		
01-27	NextGen - A Primer	\$750,000(14)	\$750,000	Logistics Management Institute	6/16/2014	1/31/2017	Completed - Published as Report 150, Volume 3		
01-28	NextGen - Guidance for Engaging Airport Stakeholders	\$300,000(14)	\$300,000	Grafton Technologies, Inc.	6/4/2014	5/6/2016	Completed - Published as Report 150, Volume 2		
01-29	Design and Development of a State Aviation Information Database	\$150,000(16)	\$149,975	iEngineering Corporation	8/31/2016	2/27/2018	Research in Progress	S. Glasgow C. Suomi	J. Navarrete
01-30	Airport Management Guide for Providing Aircraft Fuel Services	\$350,000(16)	\$350,000	KRAMER aerotek, Inc.	10/1/2016	6/30/2018	Research in Progress	K. Hehir	T. Schatz
01-31	Innovative Solutions to Facilitate Accessibility for Airport Travelers with Disabilities	\$350,000(16)	\$349,973	Open Doors Organization	6/16/2016	3/31/2018	Research in Progress	R. Bornhorst L. Miller	T. Schatz
01-32	Updating ACRP Report 16: Guidebook for Managing Small Airports	\$350,000(16)	\$349,948	Hanson Professional Services, Inc.	8/18/2016	4/30/2018	Research in Progress	G. Mahns A. Velayos	T. Schatz
01-33	Preparing for the Connected Airport and the Internet of Things	\$400,000(16)	\$400,000	Texas A&M Transportation Institute	6/22/2016	3/30/2018	Research in Progress	X. Lee	M. Greenberger
01-34	Developing Innovative Strategies for Aviation Education and Participation	\$400,000(16)	\$350,000	Mead & Hunt Inc.	9/21/2016	3/20/2018	Research in Progress	M. Hovan	J. Navarrete



**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
01-35	Transportation Network Companies (TNC's): Impacts To Airport Revenues and Operations	\$500,000(18)					Pending	K. Brockman R. Clark	T. Schatz
01-36	Guidebook for Developing State Aviation System Plans	\$300,000(18)					Pending	C. Nutting J. Raymond A. Velayos	M. Salamone
01-37	Best Practices for State Aeronautics Division Performance Measures	\$250,000(18)					Pending	K. Erhard C. Fields B. Gearhart	M. Greenberger
01-38	Fair Market Values at Small Airports	\$200,000(18)					Pending	R. Eiter Loftus A. Walter	G. M. Greenberger
<b>02: 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	11/1/2006	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		

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
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		
02-06	Guidebook on Preparing Airport Greenhouse Gas (GHG) Emissions Inventories	\$200,000(07)	\$199,403	Wyle Laboratories, Inc.	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	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 - Published as Report 86		
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		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-14	Guidebook for Selecting Methods to Monitor Airport and Aircraft Deicing Materials	\$200,000(09)	\$150,000	Gresham, Smith and Partners	6/3/2010	2/28/2012	Completed - Published as Report 72		
02-15	Recycling Best Practices - A Guidebook for Advancing Recycling from Aircraft Cabins	\$300,000(09)	\$300,000	Cascadia Consulting Group	9/22/2010	7/15/2013	Completed - Published as Report 100		
02-16	Airport Ground Support Equipment (GSE) Inventory and Emission Reduction Strategies	\$600,000(09)	\$599,717	CDM	6/18/2010	6/30/2012	Completed - Published as Report 78		
02-17	Measuring PM Emissions from Aircraft Auxiliary Power Units, Tires and Brakes	\$500,000(09)	\$500,000	Missouri University of Science and Technology	9/3/2010	5/31/2013	Completed - Published as Report 97		
02-18	Guidelines for Integrating Alternative Jet Fuel into the Airport Setting	\$250,000(09)	\$249,982	Metron Aviation	6/17/2010	10/16/2011	Completed - Published as Report 60		
02-19	Winter Design Storm Factor Determination for Airports	\$300,000(09)	\$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	9/30/2013	Completed - Published as CRP-CD-137		
02-20A	Infectious Disease Mitigation in Airports and on Aircraft	\$200,000(11)	\$200,000	Environmental Health & Engineering	7/6/2011	5/31/2013	Completed - Published as Report 91		
02-21	Guidebook for Preparing Airport Emissions Inventories for State Implementation Plans	\$500,000(10)	\$499,805	KB Environmental Sciences	8/31/2010	2/28/2013	Completed - Published as Report 84		
02-22	Incorporating Sustainability into Traditional Airport Projects	\$300,000(09)	\$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.	7/6/2010	4/30/2012	Completed - Published as Web-Only Document 13		

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-24	Guidelines for Airport Sound Insulation Programs	\$200,000(10)	\$200,000	Jones Payne Group	8/27/2010	3/8/2013	Completed - Published as Report 89		
02-25	Evaluating Alternatives for Aircraft Ground Power, Heating, and Air Conditioning	\$200,000(10)	\$199,773	Environmental Science Associates	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	11/30/2013	Completed - Published as Web-Only Document 16		
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 - Published as Web-Only Document 9, Volume 1		
02-27A	Developing a Generic Commercial Jet Taxi Noise Directivity Pattern for AEDT	\$75,000(12)	\$74,767	Wyle Laboratories, Inc.	2/22/2012	3/29/2013	Completed - Published as Web-Only Document 9, Volume 2		
02-28	Prototype Airport Sustainability Rating System - Characteristics, Viability, and Implementation Options	\$800,000(11) \$87,104(14)	\$687,103	Vanasse Hangen Brustlin, Inc.	6/27/2011	12/31/2014	Completed - Published as Report 119		
02-29	Guidance for Treatment of Airport Stormwater Containing Deicers	\$600,000(11)	\$500,000	Gresham, Smith and Partners	5/31/2011	9/30/2013	Completed - Published as Report 99		
02-30	Enhancing the Airport-Industry Database of Sustainable Practices	\$500,000(11) \$196,320(14) \$224,823(15)	\$846,320	CDM	7/18/2011	9/29/2017	Completed- Transferred to DFW Airport		
02-31	Guidelines for Ensuring Longevity in Airport Sound Insulation Programs	\$350,000(11)	\$349,980	Wyle Laboratories, Inc.	7/8/2011	9/15/2013	Completed - Published as Report 105		
02-32	Understanding Microbial Biofilms in Receiving Waters Impacted by Airport Deicing Activities	\$400,000(11)	\$300,000	CH2M Hill	7/20/2011	5/30/2014	Completed - Published as Report 115		
02-33	Guidance for Estimating Airport Construction Emissions	\$350,000(11)	\$349,980	Wyle Laboratories, Inc.	7/1/2011	9/30/2013	Completed - Published as Report 102		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-34	Best Practices Guidebook for Preparing Lead (Pb) Emission Inventories from Piston-Powered Aircraft	\$500,000(11)	\$500,000	Sierra Research, Inc.	6/3/2011	10/21/2014	Completed - Published as Report 133; and Web-Only Document 21		
02-35	Research Methods for Understanding Aircraft Noise Annoyance and Sleep Disturbance	\$600,000(11)	\$599,993	Harris Miller Miller & Hanson Inc.	9/20/2011	6/30/2014	Completed - Published as Web-Only Document 17		
02-36	Assessing Opportunities for Alternative Fuel Distribution Programs	\$500,000(11)	\$400,000	Metron Aviation	5/26/2011	12/6/2012	Completed - Published as Report 83		
02-37	Integrated Noise Model Accuracy for General Aviation Aircraft	\$400,000(11)	\$350,000	Harris Miller Miller & Hanson Inc.	6/13/2011	9/30/2014	Completed - Published as Web-Only Document 19		
02-38	Guidebook for Energy Facilities Compatibility with Airports and Airspace	\$450,000(12)	\$449,850	Harris Miller Miller & Hanson Inc.	5/2/2012	11/2/2013	Completed - Published as Report 108		
02-39	Applying Whole Effluent Toxicity Testing to Aircraft Deicing Runoff	\$500,000(12)	\$339,603	NewFields Government Services, LLC	10/5/2012	1/30/2015	Completed - Published as Report 134		
02-40	Climate Change Adaptation Planning: Risk Assessment for Airports	\$500,000(12)	\$491,923	Dewberry & Davis, LLC	11/20/2012	3/20/2015	Completed - Published as Report 147		
02-41	Estimating Takeoff Thrust Settings for Airport Emissions Inventories	\$450,000(12)	\$449,998	The Cadmus Group, LLC	9/1/2012	10/31/2014	Completed - Published as CD-161		
02-42	Understanding Air Quality and Public Health Studies Related to Airports	\$200,000(12)	\$199,675	Wyle Laboratories, Inc.	9/25/2012	2/28/2015	Completed - Published as Report 135		
02-43	Development of NOx Chemistry Module for EMDS/AEDT to Predict NO2 Concentrations	\$400,000(13)	\$399,577	KB Environmental Sciences	7/10/2013	1/31/2017	Completed - Published as Web-Only Document 30		
02-44	Recommended Community Noise Model Enhancements to Improve Prediction of Helicopter Activity Impacts	\$250,000(13)	\$249,811	Wyle Laboratories, Inc.	5/2/2013	9/30/2015	Completed - Published as Research Results Digest 24		



## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-45	Methodology to Improve EDMS/AEDT Quantification of Aircraft Taxi/Idle Emissions	\$250,000(13)	\$249,959	KB Environmental Sciences	7/8/2013	1/29/2016	Completed - Published as Web-Only Document 26		
02-46	Improving Ground Support Equipment (GSE) Operational Data for Airport Emissions Modeling	\$275,000(13)	\$275,000	KB Environmental Sciences	7/5/2013	12/15/2015	Completed - Published as Report 149		
02-47	Assessing Aircraft Noise Conditions Affecting Student Achievement--Case Studies	\$600,000(14) \$75,429(17)	\$599,939	Harris Miller Miller & Hanson, Inc.	5/22/2014	8/31/2017	Completed - Published as Web-Only Document 34		
02-48	Assessing Community Annoyance of Helicopter Noise	\$700,000(14)	\$699,778	Landrum & Brown, Inc.	6/3/2014	6/30/2017	Completed - Published as Report 181		
02-49	Addressing Significant Weather Impacts on Airports	\$550,000(14)	\$550,000	ICF Incorporated, LLC	5/22/2014	2/29/2016	Completed - Published as Report 160		
02-50	Deriving Benefits from Alternative Aircraft-Taxi Systems	\$300,000(14)	\$300,000	The Cadmus Group, LLC	7/15/2014	4/30/2016	Completed - Published as Report 158		
02-51	Evaluating Methods for Determining Interior Noise Levels Used in Airport Sound Insulation Programs	\$300,000(14)	\$299,678	CSDA Design Group	6/9/2014	10/30/2015	Completed - Published as Report 152		
02-52	Improving AEDT Noise Modeling of Hard, Soft, and Mixed Ground Surfaces	\$250,000(14)	\$249,603	Wyle Laboratories, Inc.	6/11/2014	4/28/2017	Completed - Published as Web-Only Document 32		
02-53	Interpreting Airport Water Monitoring Results	\$250,000(14)	\$250,000	Gresham, Smith and Partners	8/8/2014	6/30/2016	Completed - Published as Report 166		
02-54	Measuring and Understanding Emission Factors for General Aviation (GA) Aircraft	\$500,000(14)	\$499,971	Aerodyne Research, Inc.	5/20/2014	6/30/2016	Completed - Published as Report 164		
02-55	Enhanced AEDT Modeling of Aircraft Arrival and Departure Profiles	\$350,000(14)	\$349,921	ATAC Corporation	6/9/2014	3/30/2018	Research in Progress	J. DiPardo	J. Navarrete

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-56	Developing a Business Case for Renewable Energy at Airports	\$300,000(14)	\$299,903	Harris Miller Miller & Hanson, Inc.	5/27/2014	10/26/2015	Completed - Published as Report 151		
02-57	Reducing the Impact of Lead Emissions at Airports	\$200,000(14)	\$199,971	Sierra Research, Inc.	7/28/2014	6/8/2016	Completed - Published as Report 162		
02-58	Dispersion Modeling Guidance for Airports Addressing Local Area Quality Health Concerns	\$400,000(14)	\$399,999	University of North Carolina	6/10/2014	7/31/2017	Completed - Published as Report 179		
02-59	Water Efficiency Management Strategies at Airports	\$450,000(14)	\$449,999	The Cadmus Group, LLC	6/4/2014	2/5/2016	Completed - Published as Report 154		
02-60	Use and Potential Impacts of AFFF Containing Per and Polyfluoroalkyl Substances (PFASs) at Airports	\$480,000(15)	\$299,995	Dillon Consulting Limited	7/29/2015	10/28/2016	Completed - Published as Report 173		
02-61	Airport Stormwater Management: Electronic Resource Library	\$450,000(15) \$39,056 (16)	\$489,056	Mead & Hunt, Inc.	5/11/2015	7/31/2017	Completed - Published as WebResource 3		
02-62	Green Stormwater Infrastructure Strategies for Airports	\$350,000(15)	\$299,970	The Cadmus Group, LLC	4/30/2015	11/21/2016	Completed - Published as Report 174, Volumes 1 & 2		
02-63	Quantifying Airport Ground Access Vehicle Activity for Emissions Modeling	\$300,000(15)	\$299,874	KB Environmental Sciences	5/11/2015	4/28/2017	Completed - Published as Report 180		
02-64	Guidance for Usage of Permeable Pavement at Airports	\$200,000(15)	\$199,906	Applied Pavement Technology, Inc.	6/19/2015	3/31/2017	Completed Published as Report 178		
02-65	Tracking Alternative Jet Fuel	\$250,000(15)	\$249,961	Metron Aviation	6/19/2015	7/29/2016	Completed - Published as Report 165		
02-66	Commercial Spaceport Noise and Sonic Boom	\$600,000(15)	\$600,000	Wyle Laboratories, Inc.	7/29/2015	5/29/2017	Completed - Publication Pending	N. Sizov	M. Greenberger
02-67	Airport Air Quality Management Guidebook and Resource Library	\$400,000(15)	\$399,944	Booz Allen Hamilton	8/7/2015	10/16/2017	Completed - Publication Pending	N. Didyk P. Wade	M. Greenberger

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-68	Strategies for Reducing Local Stormwater Utility Fees for Airports	\$350,000(16)	\$325,000	The Cadmus Group, LLC	9/21/2016	3/20/2018	Research in Progress	R. Zulauf	J. Navarrete
02-69	Integrating Airport Sustainability and the NEPA Process	\$400,000(16)	\$400,000	Vanasse Hangen Brustlin, Inc.	9/29/2016	3/28/2018	Research in Progress	J. Barrilleaux R. Solomon	J. Navarrete
02-70	Wetland Mitigation—A Guidebook for Airports	\$400,000(16)	\$399,996	The Smart Associates, Environmental Consultants, Inc.	9/29/2016	3/28/2018	Research in Progress	M. Lamprecht J. Weller	L. Goldstein
02-71	Guidebook and Decision Tool for Managing Airport Stormwater Containing Deicers	\$500,000(16)	\$400,000	Mead & Hunt, Inc.	8/19/2016	2/18/2018	Research in Progress	M. Lamprecht	J. Navarrete
02-72	Developing a Comprehensive Renewable Resources Strategy	\$300,000(16)	\$300,000	The Cadmus Group, LLC	9/29/2016	3/28/2018	Research in Progress	J. MacFarlane J. Weller	M. Greenberger
02-73	Interactive Tool for Understanding NEPA at General Aviation Airports	\$250,000(16)	\$249,864	RS&H, Inc.	8/5/2016	8/31/2018	Research in Progress	K.R. Bassarab F. Smigelski	M. Greenberger
02-74	Integrating Climate Change Risk Into Airport Management Systems	\$400,000(16)	\$399,971	ICF Incorporated	9/23/2016	3/22/2018	Research in Progress	T. Cuddy A. Freeburg	T. Schatz
02-75	Benefit-Cost Analyses Guidebook for Airport Stormwater	\$450,000(16)	\$325,000	The Cadmus Group, LLC	9/21/2016	3/20/2018	Research in Progress	S. Brown	J. Navarrete
02-76	Optimizing the Use of Electric Pre-Conditioned Air (PCA) and Ground Power Systems at Airports	\$300,000(17)	\$300,000	Harris Miller Miller & Hanson Inc.	7/6/2017	1/5/2019	Research in Progress	M. Lamprecht J. Upadhyay	T. Schatz
02-77	Revolving Funds for Sustainability Projects at Airports	\$350,000(17)	\$350,000	Rocky Mountain Institute	6/6/2017	12/5/2018	Research in Progress	J. Barrilleaux K. Partowazam	T. Schatz
02-78	Climate Resilience and Benefit Cost Analysis—A Handbook for Airports	\$450,000(17)	\$450,000		5/18/2017	11/10/2018	Research in Progress	T. Cuddy K. Partowazam	L. Goldstein
02-79	AEDT Noise Model Improvements to Account for Terrain and Man-made Structures	\$500,000(17)	\$399,995	Blue Ridge Research Consulting	8/1/2017	1/31/2019	Research in Progress	J. Byers B. He	J. Navarrete

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
02-80	Quantifying Emissions Reductions at Airports from the Use of Alternative Jet Fuel	\$500,000(17)	\$499,927	Booz Allen Hamilton	5/15/2017	11/14/2018	Research in Progress	M. Lai M. Lamprecht	J. Navarrete
02-81	Commercial Space Transportation Noise Measurements	\$600,000(17)	\$599,898	Blue Ridge Research Consulting	8/1/2017	7/31/2019	Research in Progress	J. Johnson N. Sizov	J. Navarrete
02-82	Advancing Airport Transportation to Achieve Zero-Emissions Status	\$350,000(18)					Pending	T. Cuddy	M. Greenberger
02-83	Measuring Quality of Life in Communities Surrounding Airports	\$400,000(18)					Pending	K. Andrus J. Sweatt-Essick	J. Navarrete
02-84	High Resolution Spatiotemporal Population Distribution Data and Modeling for Aviation Noise Research Studies	\$300,000(18)					Pending	B. He	J. Navarrete
02-85	Commercial Space Vehicle Emissions Modeling	\$450,000(18)					Pending	R. Halthore J. Johnson	J. Navarrete
02-86	Measuring the Impact of Temporary Flight Restriction on Airports	\$400,000(18)					Pending	K. Andrus K. Bassarab R. Didio	M. Greenberger
02-87	Methods for Evaluating Airfield Pavement Deicer Contributions to Airport Stormwater Quality	\$350,000(18)					Pending	M. Lamprecht	J. Navarrete
<b>03: 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	12/28/2006	9/15/2009	Completed - Published as Report 27, Volumes 1 and 2		

## APPENDIX B (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, LLC	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 Consulting Group	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	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	Preparing Peak Period and Operational Profiles - Guidebook	\$350,000(08)	\$347,044	HNTB	8/13/2008	10/30/2012	Completed - Published as Report 82		
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	TransSolutions, 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		



**APPENDIX B (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	7/15/2014	Completed - Published as Web-Only Document 20		
03-17	Evaluating Airfield Capacity	\$525,000(09)	\$525,000	Leigh Fisher	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	6/28/2013	Completed - Published as Report 93		
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	3/15/2015	Completed - Published as Web-Only Document 22		
03-20	Defining and Measuring Aircraft Delay and Airport Capacity Thresholds	\$250,000(10)	\$250,000	TransSolutions, LLC	8/30/2010	12/31/2013	Completed - Published as Report 104		
03-21	Developing and Maintaining Support for Your Airport Capacity Project	\$300,000(10)	\$299,980	Mead & Hunt	6/3/2010	3/29/2013	Completed - Published as Report 65		
03-22	Addressing Uncertainty About Future Airport Activity Levels in Airport Decision Making	\$350,000(10)	\$350,000	InterVISTAS Consulting	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	6/30/2014	Completed - Published as Report 118		
03-24	Guidebook for Air Cargo Facility Planning and Development	\$400,000(11)	\$400,000	CDMWilbur Smith	7/17/2011	5/31/2015	Completed - Published as Report 143		
03-25	Impact of Regulatory Compliance Costs on Small Airports	\$300,000(11)	\$299,987	Unison Consulting, Inc.	6/3/2011	1/31/2013	Completed - Published as Report 90 and Web-Only Document 15		
03-26	Understanding Airline and Passenger Choice in Regions with Multiple Airports	\$250,000(11)	\$250,000	InterVISTAS Consulting Group	8/4/2011	9/30/2013	Completed - Published as Report 98		

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No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
03-27	Evaluating Methods for Counting Aircraft Operations at Non-Towered Airports	\$400,000(11)	\$400,000	Woolpert	11/21/2011	11/28/2014	Completed - Published as Report 129		
03-28	The Role of U.S Airports in the National Economy	\$400,000(12)	\$399,984	Economic Development Research Group	7/17/2012	1/30/2015	Completed - Published as Report 132		
03-29	Effects of Airline Industry Changes on Small- and Non-Hub Airports	\$300,000(13)	\$299,972	GRA, Inc.	7/22/2013	4/30/2015	Completed - Published as Report 142		
03-30	Unmanned Aircraft Systems (UAS) at Airports: A Primer	\$150,000(13) \$50,000(14)	\$199,000	Futron Corporation	8/7/2013	6/19/2015	Completed - Published as Report 144		
03-31	Aligning Community Expectations with Airport Roles	\$500,000(14)	\$500,000	Mead & Hunt	6/16/2014	10/31/2016	Completed - Published as WebResource 1		
03-32	Guidance for Preparing and Using Airport Design Day Flight Schedules	\$400,000(14)	\$349,966	HNTB Corporation	7/17/2014	6/17/2016	Completed - Published as Research Report 163		
03-33	NextGen - Airport Planning and Development	\$500,000(14)	\$500,000	Leigh Fisher	7/11/2014	9/30/2016	Completed - Published as Report 150, Volume 5		
03-34	NextGen - Understanding the Airport's Role in Performance-Based Navigation (PBN)	\$500,000(14)	\$500,000	Saab Sensis Corporation	6/9/2014	2/8/2016	Completed - Published as Report 150, Volume 1		
03-35	Improving Airport Services for International Customers	\$600,000(14)	\$600,000	Landrum & Brown, Inc.	6/6/2014	6/10/2016	Completed - Published as Research Report 161		
03-36	Using Disaggregated Socioeconomic Data in Air Passenger Demand Studies	\$500,000(15)	\$499,747	GRA Incorporated	6/19/2015	4/30/2018	Research in Progress	P. Devoti	J. Navarrete
03-37	Using GIS for Collaborative Land Use Compatibility Near Airports	\$350,000(15)	\$350,000	Grafton Technologies	8/26/2015	5/31/2018	Research in Progress	M. Lawrance	J. Navarrete
03-38	Understanding FAA Grant Assurance Obligations	\$150,000(15)	\$150,000	Unison Consulting, Inc.	7/28/2015	11/30/2017	Draft Final Deliverable	D. Brooks S. Glasgow	L. Goldstein

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
03-39	Generating Revenue from Commercial Development On or Adjacent to Airports	\$375,000(15)	\$375,000	Mead & Hunt, Inc.	5/11/2015	1/31/2017	Completed- Published as Report 176		
03-40	Air Demand in a Dynamic Competitive Context with the Automobile	\$500,000(16)	\$499,816	Resource Systems Group, Inc.	7/14/2016	7/13/2018	Research in Progress	D. Anderson K. Warden	L. Goldstein
03-41	Common Performance Metrics for Airport Infrastructure and Operational Planning	\$400,000(16)	\$399,981	Booz Allen Hamilton	9/23/2016	3/22/2018	Research in Progress	K. Duffy	T. Schatz
03-42	Airports and UAS	\$1,000,000(17)	\$999,957	Booz Allen Hamilton	2/3/2017	12/2/2018	Research in Progress	M. Dipilato J. Raymond	T. Schatz
03-43	Integrating Airport Ground Access and Metropolitan Surface Transportation Planning Efforts	\$500,000(17)	\$326,173	WSP	4/27/2017	8/26/2018	Research in Progress	M. Lawrence D. Rinsler	J. Navarrete
03-44	Best Practices in Building Air Service Through Incentive Programs	\$400,000(17)	\$324,863	GRA, Inc.	4/11/2017	10/10/2018	Research in Progress	G. Mahns	J. Navarrete
03-45	Collecting and Sharing of Operational and Safety Data	\$400,000(17)	\$400,000	Booz Allen Hamilton	5/17/2017	8/16/2018	Research in Progress	P. Davenport S. Gardner	M. Greenberger
03-46	Implementing Privatization: Guidance for Airport Decision-Makers	\$350,000(18)					Pending	L. MacDonald S. Swigart	T. Schatz
03-47	Rethinking Airport Parking Facilities to Protect and Enhance Non-Aeronautical Revenue	\$450,000(18)					Pending	L. McDonald	T. Schatz
03-48	Automation of Airside Vehicle Operations	\$250,000(18)					Pending	F. Bonset N. Hoq	M. Greenberger

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
<b>04: Safety</b>									
04-01	Analysis of Aircraft Overruns and Undershoots for Runway Safety Areas	\$250,000(06)	\$249,986	Applied Research Associates	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	Guidebook for Approach Light System Hazard Assessment and Mitigation	\$300,000(07)	\$300,000	Virginia Polytechnic Institute and State University	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	Evaluating the Airport Emergency Response Operations Simulation (AEROS) Tool	\$300,000(12)	\$290,000	Futron Corporation	6/18/2013	9/17/2014	Terminated		
04-04B1	Emergency Management Training for Airport Critical Incidents	\$125,000(15)	\$25,000	Engineering and Computer Simulators, Inc.	3/30/2015	8/31/2015	Completed		
04-04B2	Emergency Management Training for Airport Critical Incidents	\$125,000(15)	\$219,000	Emergency Preparedness Solutions, LLC	6/8/2016	2/3/2018	Research in Progress	M. Tonnacliff	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		

**APPENDIX B (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, Inc.	7/6/2010	3/1/2012	Completed - Published as Report 73		
04-11	Guidebook on Integrating GIS in Emergency Management at Airports	\$350,000(11)	\$274,949	Barich, Inc.	7/12/2011	2/28/2013	Completed - Published as Report 88		
04-12	Integrating Web-Based Emergency Management Collaboration Tools into Airport Operations - A Primer	\$400,000(11)	\$400,000	Innovative Emergency Management	7/15/2011	7/31/2013	Completed - Published as Report 94		
04-13	Integrating Community Emergency Response Teams at Airports (A-CERTs)	\$400,000(11)	\$400,000	Innovative Emergency Management, Inc.	7/26/2011	7/26/2013	Completed - Published as Report 95		
04-14	Development of a Runway Veer-Off Location Distribution Risk Assessment Model and Reporting Template	\$200,000(12)	\$200,000	Airport Safety Management Consultants	6/6/2012	12/5/2013	Completed - Published as Report 107		
04-15	Airport Terminal Incident Response Planning	\$325,000(12)	\$325,000	Innovative Emergency Management, Inc	7/10/2012	4/2/2014	Completed - Published as Report 112		
04-16	Safety Risk Management for Airports	\$300,000(13)	\$299,992	Futron Corporation	6/18/2013	11/14/2014	Completed - Published as Report 131		
04-17	Applying an SMS Approach to Wildlife Hazard Management	\$250,000(13)	\$250,000	BASH Incorporated	1/17/2014	6/15/2015	Completed - Published as Report 145		



**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
04-18	Runway Protection Zone (RPZ) Risk Assessment Tool	\$400,000(14)	\$400,000	Applied Research Associates	6/4/2014	7/11/2016	Completed - Published as Report 168		
04-19	Airport Emergency Planning Template: NIMS - Incident Command System Compliance	\$300,000(15)	\$300,000	FTI Consulting, Inc.	12/3/2015	4/30/2018	Research in Progress	M. Tonnacliff	J. Navarrete
04-20	Design Considerations for Airport EOCs	\$400,000(16)	\$249,900	Faith Group, LLC	8/23/2016	3/30/2018	Research in Progress	P. Brace M. Tonnacliff	M. Greenberger
04-21	Emergency Communication Models for Persons with Disabilities and Non-English Speakers	\$400,000(17)	\$400,000	Innovative Emergency Management	5/18/2017	8/17/2018	Research in Progress	L. Miller	T. Schatz
04-22	Evaluating Compatibility Zoning at General Aviation Airports	\$350,000(17)	\$350,000	Mead & Hunt	5/23/2017	8/22/2018	Research in Progress	H. Cyrus M. Hovan	M. Greenberger
04-23	Guidebook for Creating and Maintaining Social Media for Emergency Management at Airports	\$350,000(18)					Pending	J. Showalter M. Tonnacliff	M. Greenberger
<b>05: 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	Guidebook on Best Practices for Airport Cybersecurity	\$350,000(13)	\$350,000	Grafton Technologies, Inc.	8/21/2013	3/31/2015	Completed - Published as Report 140		
<b>06: 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 - Published as Report 75		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
06-03	Establishing a Coordinated Local Family Assistance Program for Airports	\$300,000(15)	\$300,000	Tetra Tech, Inc.	5/8/2015	10/14/2016	Completed - Published as Report 171		
06-04	Identifying and Evaluating Airport Workforce Requirements	\$250,000(15) \$330,000(17)	\$580,760	ICF Incorporated	6/4/2015	1/31/2018	Research in Progress	R. Moseng	L. Goldstein
06-05	Guidance for Diversity in Airport Businesses Contracting and Workforce Programs	\$500,000(18)					Pending	L. Miller	T. Schatz
<b>07: 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 & 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 & 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		
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	6/3/2011	11/30/2013	Completed - Published as Report 109		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
07-09	Apron Planning and Design Guidebook	\$250,000(12)	\$250,000	Ricondo & Associates	6/15/2012	7/31/2013	Completed - Published as Report 96		
07-10	General Aviation Facility Planning	\$300,000(12)	\$300,000	Delta Airport Consultants	5/17/2012	2/28/2014	Completed - Published as Report 113		
07-11	Airport Escalators and Moving Walkways - Cost-Savings and Energy Reduction Technologies	\$250,000(12)	\$249,947	Project Performance Corp.	9/18/2012	7/31/2014	Completed - Published as Report 117		
07-12	Guidebook for Airport Terminal Restroom Planning and Design	\$250,000(12)	\$249,986	Architectural Alliance	3/25/2013	9/30/2014	Completed - Published as Report 130		
07-13	Enhancing Airport Wayfinding for the Aging Travelers and Persons with Disabilities	\$450,000(14)	\$450,000	Gresham Smith & Partners	6/9/2014	2/17/2017	Completed - Published as Report 177	R. Hendricks	
07-14	Improving Intelligibility of Airport Terminal Public-Address Systems	\$350,000(15)	\$350,000	Wilson Ihrig & Associates	7/7/2015	1/7/2017	Completed - Published as Report 175		
07-15	Airport Passenger Terminal Design: Electronic Resources Library	\$300,000(15)	\$300,000	Intermodal Logistics Consulting, Inc.	7/7/2015	5/15/2017	Completed - Published as WebResource 2		
07-16	Ancillary Airport Terminal Restroom Spaces Planning and Design	\$350,000(18)					Pending	W. Reinhardt M. Sedarous	J. Navarrete
<b>08: Construction</b>									
08-01	Sustainable Airport Construction Practices	\$150,000(09)	\$150,000	Ricondo & Associates	6/1/2009	6/22/2010	Completed - Published as Report 42		
08-02	Integrating Collaborative Partnering for Airport Projects	\$350,000(17)	\$350,000	Michigan State University	5/11/2017	7/10/2018	Research in Progress	H. Cyrus M. Hovan	M. Greenberger

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
<b>09: 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	11/6/2006	4/30/2010	Completed - Published as Report 39		
09-02	Best Practices Manual for Working in or Near Airport Movement Areas	\$500,000(11)	\$325,000	Ricondo & Associates	8/31/2011	11/30/2013	Completed - Published as Report 101		
09-03	Airport Parking Garage Lighting Solutions	\$300,000(12)	\$300,000	Virginia Polytechnic Institute and State University	6/4/2012	10/31/2014	Completed - Published as Report 124		
09-04	Optimizing Airport Building Operations and Maintenance Through Retrocommissioning: A Whole Systems Approach	\$250,000(12)	\$249,835	Sebesta Blomberg & Associates	12/14/2012	12/31/2014	Completed - Published as Report 139		
09-05	Guidance on Successful Computer Maintenance Management Systems (CMMS) Selection and Practices	\$300,000(12)	\$300,000	Ross & Barrunzini	7/12/2012	10/17/2014	Completed - Published as Web-Only Document 23		
09-06	Evaluating Impacts of Sustainability Practices on Airport Operations and Maintenance	\$300,000(12)	\$312,000	Booz Allen Hamilton	9/27/2012	4/25/2014	Completed- Published as Report 110		
09-07	Airport Maintenance Roles in Planning, Design, Construction, Commissioning, and Activation	\$200,000(12)	\$200,000	Michigan State University	11/13/2012	10/31/2014	Completed		
09-08	Balancing Airport Stormwater and Bird Hazard Management	\$250,000(12)	\$249,209	Environmental Resource Solutions	10/1/2012	8/29/2014	Completed - Published as Report 125		
09-09	LED Airfield Lighting System Operation and Maintenance	\$340,000(13)	\$340,000	Burns Engineering	8/9/2013	9/30/2015	Completed - Published as Report 148		
09-10	Benchmarking and Profiling Airport Terminal End Uses	\$400,000(13)	\$399,331	Texas A&M University	9/16/2013	9/30/2015	Completed - Published as CRP CD 178		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
09-11	Pavement Maintenance Guidelines for General Aviation Airport Management	\$350,000(14)	\$350,000	Texas A&M University Transportation Institute	6/16/2014	5/13/2016	Completed - Published as Report 159		
09-12	NextGen - Leveraging NextGen Spatial Data to Benefit Airports	\$200,000(14)	\$200,000	Woolpert, Inc.	6/13/2014	6/3/2016	Completed - Published as Report 150, Volume 4		
09-13	Considering Life Cycle Costs in Airport Asset Procurement	\$350,000(15)	\$349,897	CH2M Hill	5/19/2015	11/18/2016	Completed - Published as Report 172		
09-14	Advanced Computer Maintenance Management System (CMMS) Integration for Airports	\$375,000(16)	\$374,950	CH2M Hill	6/9/2016	9/8/2017	Completed - Published as Web-Only Document 23		
09-15	Building Information Modeling (BIM) Beyond Design	\$750,000(17)	\$400,000	CAD Concepts	5/12/2017	7/11/2018	Research in Progress	D. Rinsler	M. Greenberger
09-16	Best Practices for Airport Obstruction Management	\$300,000(17)	\$299,981	Hanson Professional Services	2/15/2017	4/13/2018	Research in Progress	G. Boles J. Carlini	M. Greenberger
09-17	Collecting, Applying, and Maintaining Pavement Condition Data at Airports	\$250,000(17)	\$250,000	Applied Pavement Technology, Inc.	4/17/2017	7/16/2018	Research in Progress	G. Cline A. Larkin	T. Schatz
<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		
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		



**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
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	InterVISTAS Consulting Group	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 - Training Sessions	\$300,000(12)	\$151,053	Mead & Hunt	2/24/2012	1/31/2013	Completed - Training Sessions Held		
10-11	Guidebook to Creating a Collaborative Environment Between Airport Operations and Maintenance	\$500,000(11)	\$399,840	Amadeus Consulting	7/27/2011	4/30/2013	Completed - Published as Report 92		
10-12	Guidebook for Through-the-Fence (TTF) Operations	\$350,000(12)	\$350,000	Mead & Hunt	7/30/2012	2/28/2014	Completed - Published as Report 114		
10-13	A Guidebook for Integrating NIMS for Personnel and Resources at Airports	\$200,000(12)	\$200,000	System Planning Corp.	5/23/2012	8/24/2013	Completed - Published as Report 103		
10-14	Being Prepared for IROPS: A Business Planning and Decision-Making Approach	\$300,000(12)	\$299,395	MCR Federal, LLC	8/2/2012	11/4/2013	Completed - Published as Report 106		

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
10-15	Guidebook for Airport Winter Operations	\$400,000(12)	\$400,000	Gresham, Smith and Partners	6/25/2012	8/29/2014	Completed - Published as Report 123		
10-16	Commercial Ground Transportation at Airports: Best Practices	\$300,000(13)	\$300,000	Leigh Fisher	7/10/2013	5/8/2015	Completed - Published as Report 146 and Web-Only Document 25		
10-17	Implementing Integrated Self-Service at Airports	\$450,000(13)	\$449,980	Barich, Inc.	8/5/2013	2/4/2015	Completed - Published as Report 136		
10-18	Preventative Maintenance at General Aviation Airports: Primer and Guidebook	\$400,000(13)	\$299,496	Delta Airport Consultants	9/18/2013	2/18/2015	Completed - Published as Report 138		
10-19	Guidebook for Advancing Collaborative Decision Making (CDM) at Airports	\$300,000(13)	\$299,783	Mosaic ATM, Inc.	9/3/2013	12/3/2014	Completed - Published as Report 137		
10-20	Guidance for Planning, Design, and Operations of Airport Communications	\$300,000(13)	\$251,700	TranSecure, Inc.	8/9/2013	1/15/2015	Terminated - Results to Project 10-20A		
10-20A	Guidance for Planning, Design, and Operations of Airport Communications	\$98,325(13)	\$98,325	Burns Engineering, Inc.	3/9/2016	4/1/2017	Completed - Published as Report 182		
10-21	Complying with Federal Regulations: An Integrated Approach	\$350,000(14)	\$350,000	Aviation Management Consulting	6/27/2014	12/31/2015	Completed - Published as Report 156		
10-22	Improving Stakeholder Engagement in Aircraft Accident Planning	\$500,000(14)	\$499,988	Futron Corporation	4/18/2014	1/15/2017	Completed - Published as Web-Only Document 31		
10-23	IROPS Stakeholder Communication and Coordination	\$400,000(14)	\$399,930	Metron Aviation, Inc.	6/9/2014	12/8/2015	Completed - Published as Report 153		
10-24	Guidance for Developing Ramp Control Facilities	\$400,000(15)	\$399,997	Metron Aviation, Inc.	4/24/2015	7/23/2016	Completed - Published as Report 167		
10-25	Public-Notification Programs at Airports	\$200,000(15)	\$194,600	SSI, Inc.	7/1/2015	8/31/2016	Completed- Published as Report 170		

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
10-26	Airport Microgrid Implementation Toolkit	\$450,000(18)					Pending	J. Wolfers-Lawrence	T. Schatz
<b>11: Special Projects</b>									
11-01	Legal Aspects of Airport Programs	\$200,000(06)		Transportation Research Board	2/1/2006		Continuing Project: See 11-01 Table	D. Fuller F. SanMartin	M. Greenberger
		\$475,000(07)							
		\$300,000(08)							
		\$600,000(09)							
		\$500,000(10)							
		\$50,000(11)							
		\$200,000(12)							
		\$50,000(13)							
		\$200,000(14)							
		\$350,000(15)							
		\$200,000(16)							
		\$75,000(17)							
		\$240,000(18)							
11-02	Quick Response for Special Needs	\$590,000(06)		Various	2/1/2006		Continuing Project: See 11-02 Table	L. Miller	M. Salamone
		\$467,000(07)							
		\$1,000,000(08)							
		\$25,000(09)							
		\$250,000(10)							
		\$100,000(11)							
		\$40,000(12)							
		\$216,000(13)							
		\$123,576(14)							
		\$250,000(15)							
		\$149,500(17)							
		\$230,000(18)							

## APPENDIX B (continued)

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
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) \$1,053,000(14) \$1,170,000(15) \$1,220,000(16) \$1,220,000(17) \$1,220,000(18)	Transportation Research Board	2/1/2006	Continuing Project: See 11-03 Table; Annual Status Reports Published as Research Results Digests 1, 3, 4, 8, 12, 13, 17, 18, 22, 23, and 26.	P. Devoti	T. Schatz		
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) \$140,000(14) \$568,779(15) \$907,580(16) \$507,409(17) \$632,627(18)	Transportation Research Board (08-13) Old Dominion University Research Foundation (14)		Continuing Project: Papers Published as TRB TRR 2184, 2206, 2266, 2325, 2400, and 2471; Status Reports Published as Research Results Digests 14, 19, and 25.	R. Samis	L. Goldstein		
11-04A	Airport Research Competition for Universities	included in 11-04 (15) (16) (17) (18)	Old Dominion University Research Foundation	5/9/2014	1/31/2018	Research in Progress	R. Samis	L. Goldstein	
11-05	Implementation of ACRP Strategic Plan	\$600,000(10) \$148,947(11) \$200,000(12) \$600,000(13) \$600,000(14) \$650,000(15) \$1,250,000(16) \$600,000(17) \$900,000(18)	Various		Continuing Project		J. Showalter	M. Salamone	
11-06	Evaluating ACRP Processes	\$250,000(10)	Transportation Research Board			Completed - Results to AOC			

**APPENDIX B (continued)**

No.	Title	Allocation	Contract Amount	Contractor	Start Date	End Date	Status	FAA Liaison(s)	Staff Officer
11-07	ACRP Problem Statement Development	\$500,000(13) \$300,000(14)		Transportation Research Board			Completed - Published as Research Results Digest 20		
11-08	ACRP Insight Events - Discussions on Critical Issues in the Airport Industry	\$600,000(16)		Transportation Research Board			Continuing Project		M. Salamone
11-08(16-01)	Forum on Challenges to Implementing Successful Land Use Strategies at Airports	\$100,000(16)	\$100,000	The Cadmus Group, LLC	11/9/2016	9/30/2018	Research in Progress		T. Schatz
11-08(16-02)	Forum on Economic and Social Sustainability at Airports	\$100,000(16)	\$100,000	The Cadmus Group, LLC	11/9/2016	9/30/2018	Research in Progress		J. Navarrete
11-08(16-03)	Forum on Airport Roles in Reducing Communicable Diseases Transmission	\$100,000(16)	\$100,000	Eastern Research Group, Inc.	12/13/2016	12/11/2019	Research in Progress		M. Greenberger
11-08(16-04)	Public Private Partnerships - What Are the Lessons Learned?	\$100,000(16)					In Development		M. Salamone

**APPENDIX B (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 LLP	December 2006	Completed - Published as Legal Research Digest 4 (CRP-CD-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			Canceled	
02-01	Obstructions Affecting Navigable Airspace	Cheek & Associates	July 2008	Incorporated into 02-05	
02-02	Use and Success of Avigation Easements 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 Howick, Esq.	October 2008	Completed - Published as Legal Research Digest 10	



**APPENDIX B (continued)**

No.	Title	Consultant	Start Date	Estimated Completion Date	Staff Officer
02-05	Practices to Achieve Airport-Compatible Land Uses and Minimize Obstructions 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 Kirsch Rockwell, LLP	July 2009	Completed - Published as Legal Research Digest 11	
03-04	Airport Rates and Charges: Law and Policy	Spiegel & McDiarmid LLP	November 2009	Completed - Incorporated into 4-05	
03-05	State and Federal Regulations That May Affect Initiatives to Reduce Airports' GHG Emissions	Kaplan Kirsch Rockwell, LLP	November 2009	Completed - Published as Legal Research Digest 17	
03-06	An Index and Digest of Decisions: Compilation of Airport Law Resources	Kaplan Kirsch Rockwell, LLP	December 2009	Completed - Published as Legal Research Digest 13 (CRP-CD-108)	
04-01	Airport Responsibility for Wildlife Management	Broad and Cassell	April 2011	Completed - Published as Legal Research Digest 20	
04-02	Legal Issues Related to Developing Safety Management Systems and Safety Risk Management at U.S. Airports	Foley & Lardner	December 2011	Completed - Published as Legal Research Digest 19	
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	ODM	September 2012	Completed - Published as Legal Research Digest 25	
04-04	Buy America Requirements for Federally Funded Airports	Conner Gwyn Schenk	March 2011	Completed - Published as Legal Research Digest 18	
04-05	Compilation of DOT and FAA Airport Legal Determinations and Opinion Letters Through December 2012	Spiegel & McDiarmid LLP	February 2012	Completed - Published as Legal Research Digest 21 (CRP-CD-141)	

## APPENDIX B (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	Completed - Published as Legal Research Digest 22	
04-07	Procurement of Airport Development and Planning Contracts	Broad and Cassell	April 2011	Completed - Published as Legal Research Digest 16	
05-01	Regulations Affecting the Exercise of First Amendment Activities at Airports	Jodi Howick, Esq.	August 2013	Completed - Published as Legal Research Digest 26	
05-02	Sovereign Immunity for Public Airport Operators	Seay Law International, PA	November 2013	Completed - Published as Legal Research Digest 24	
05-03	The Fourth Amendment and Airports	Jodi Howick	August 2014	Completed - Published as Legal Research Digest 27	
05-04	A Guide for Compliance with Grant Agreement Obligations to Provide Reasonable Access to an AIP-Funded Public Use General Aviation Airport	Kaplan Kirsch Rockwell, LLP	July 2013	Completed - Published as Legal Research Digest 23	
06-01	Operational and Legal Issues with Fuel Farms	Kaplan Kirsch Rockwell, LLP	September 2014	Completed - Published as Legal Research Digest 28	
06-02	Contract Risk Management for Airport Agreements	Broad & Cassell	May 2015	Completed - Published as Legal Research Digest 30	
07-01	Impact of Firearms Laws on Airports	The Thomas Law Firm	March 2015	Completed - Published as Legal Research Digest 29	
07-02	Preemption of Worker Retention and Labor Peace Agreements at Airports	Kaplan Kirsch Rockwell, LLP	October 2015	Completed - Published as Legal Research Digest 31	
08-01	Legal Issues Related to the Implementation and Operation of Safety Management Systems for Airports	Kaplan Kirsch Rockwell, LLP	June 2018	Research in Progress	M. Greenberger
08-02	Legal Risks of Operating a Public Airport	Jodi Howick	May 2016	Completed - Published as Legal Research Digest 33	
08-03	Evolving Law on Airport Implications by Unmanned Aerial Systems Operations	Ravich Law Firm, P.A.	May 2016	Completed - Published as Legal Research Digest 32	

**APPENDIX B (continued)**

No.	Title	Consultant	Start Date	Estimated Completion Date	Staff Officer
08-04	Legal Consideration in the Funding and Development of Multi-Modal Facilities	Timothy Karaskiewicz	May 2016	Research in Progress	M. Greenberger
09-01	Airport Public Health Preparedness & Response: Legal Rights, Powers & Duties	University of Arizona	February 2017	Research in Progress	M. Greenberger
09-02	Legal Issues Relating to Airports Promoting Competition	Kaplan Kirsch Rockwell, LLP	February 2017	Research in Progress	M. Greenberger
09-03	Permitted Airport Involvement in Economic Development Efforts	William J. Estes	April 2017	Research in Progress	M. Greenberger
10-01	Update of Compilation of FAA/DOT Airport Legal Determinations			In Development	M. Greenberger
10-02	Legal Issues Relating to Large Scale Airport Construction Projects	University of Nevada, Las Vegas		In Development	M. Greenberger
10-03	Legal Issues Relating to Airport Commercial Contracts			In Development	M. Greenberger
10-04	Updated Survey of Laws and Regulations Applicable to Airport Commercial Ground Transportation			In Development	M. Greenberger
11-01	Permissible Uses of Airport Revenue and Property			In Development	M. Greenberger
11-02	Accommodation of Federal Agencies Rights and Obligations of Host Airports			In Development	M. Greenberger
11-03	Analysis of Laws, Regulations, and Case Laws Regarding Airport Customer Facility Charges			In Development	M. Greenberger

**APPENDIX B (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 University 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	Transportation Research Board	2/15/2007	9/15/2007	Completed - Workshop Held - Published as TRB Conference Proceedings 41	
Task 07	Current and Emerging Issues Facing the Airport Industry	Transportation Research Board	8/1/2007	1/31/2009	Completed - Published as Research Results Digest 5	
Task 08	Enhanced Modeling of Aircraft Taxiway Noise - Scoping	Wyle Laboratories, Inc.	2/14/2008	8/31/2009	Completed - Published as Web-Only Document 9, Volume 1	
Task 09	Visibility of Airfield Signs and Markings from Aircraft and Ground Vehicles				Canceled	
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, A4A	
Task 11	A Summary of How Proposed Firefighting Standards Would Impact Airports	GFA, Inc.	12/23/2008	6/15/2009	Completed - Published as Web-Only 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	Transportation Research Board			Completed - Symposium Held - Published as TRB Conference Proceedings 47	

**APPENDIX B (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 Airport Consultants	1/19/2010	11/18/2010	Completed - Published as Report 58	
Task 16	Analysis, Scoping, and Prioritizing ACRP Deicing Problem Statements				Canceled	
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				Canceled	
Task 20	Developing Problem Statements on Information Technology Issues at Airports	Transportation Research Board	12/1/2011	12/1/2011	Completed - Workshop Held - Results to AOC	
Task 21	Innovative Airport Response to Threatened and Endangered Species	Environmental Science Associates	4/22/2013	8/29/2014	Completed - Published as Report 122	
Task 22	Best Practices for General Aviation Aircraft Fuel-Tank Sampling	Hagerty Environmental LLC	8/14/2013	4/13/2014	Completed - Published as Research Results Digest 21	
Task 23	Alternative IT Delivery Methods and Best Practices for Small Airports	Barich, Inc.	8/5/2013	7/31/2014	Completed - Published as Report 128	
Task 24	ACRP Electronic Product Options	Grafton Technologies, Inc.	7/27/2015	1/26/2016	Completed - Final deliverables available for download	
Task 25	Developing Environmental Problem Statements	Harris Miller Miller & Hanson, Inc.	9/12/2014	4/23/2015	Completed	
Task 26	AOC Strategic Planning	Ricondo & Associates	9/12/2014	8/24/2015	Completed	
Task 27	Update to Models for Risk Assessment of Runway Safety Areas	Airport Safety Management Consultants, LLC	11/1/2016	3/15/2017	Completed - Published on website	

**APPENDIX B (continued)**

No.	Title	Contractor	Start Date	End Date	Status	Staff Officer
Task 28	Recovering International Recyclables from In-flight Service	GeneraCycle, Inc.	6/16/2017	6/15/2018	Research in Progress	J. Navarrete
Task 29	ACRP Research Roadmap on Airport Operations and Maintenance	Harris Miller Miller & Hanson Inc.	7/17/2017	7/16/2018	Research in Progress	M. Greenberger
Task 30	ACRP Research Roadmap on Airport Design & Construction	Harris Miller Miller & Hanson Inc.	7/6/2017	7/5/2018	Research in Progress	M. Salamone
Task 31	ACRP Oversight Committee Workshop on Emerging Issues				In Development	M. Salamone
Task 32	ACRP Research Roadmap on Environmental Issues				In Development	J. Navarrete
Task 33	ACRP Research Roadmap on Policy and Planning Issues				In Development	T. Schatz
Task 34	Business Process Review for TRB's Cooperative Research Program				In Development	M. Salamone



**APPENDIX B (continued)****ACRP PROJECT 11-03****Synthesis of Information Related to Airport Practices**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
<b>01: 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	KRAMER aerotek, Inc.	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	AvAirPros	April 2010	Completed - Published as Synthesis 31		
S01-05	Issues with Airport Organization and Reorganization	Kim Kenville Consulting	February 2012	Completed - Published as Synthesis 40		
S01-06	How Airports Measure Customer Service Performance	KRAMER aerotek, Inc.	February 2012	Completed - Published as Synthesis 48		
S01-07	Conducting Airport Peer Reviews	CTC & Associates	February 2012	Completed - Published as Synthesis 46		
S01-08	Understanding the Value of Social Media at Airports for Customer Engagement	Leigh Fisher	March 2013	Completed - Published as Synthesis 56		
S01-09	Practices to Develop Effective Stakeholder Relationships at Smaller Airports	Delta Airport Consultants, Inc.	May 2014	Completed - Published as Synthesis 65		
S01-10	Strategies for Maintaining Air Service	Sixel Consulting Group, Inc.	May 2014	Completed - Published as Synthesis 68		
S01-11	Planning for Operational Recovery at Small Airports	North Dakota State University	April 2015	Completed - Published as Synthesis 78		
S01-12	Airport Participation in Oil & Gas Development	KRAMER aerotek, Inc.	May 2016	Research in Progress	R. Etter	G. Staba
S01-13	Food and Beverage and Retail Operators: The Costs of Doing Business at Airports	Unison Consulting, Inc.	June 2016	Research in Progress	J. Hebert	G. Staba

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S01-14	Funding Industrial Aviation Development	Smith-Woolwine Associates, Inc.	May 2016	Research in Progress	None	G. Staba
S01-15	Airport Operator Options for Delivery of FBO Services	KRAMER aerotek, Inc.	June 2016	Research in Progress	T. Vick	G. Staba
S01-16	Microgrids and Their Application at Airports	Arup North America	June 2017	Research in Progress	P. Magnotta	G. Staba
S01-17	Attracting Investment at General Aviation Airports Through Public-Private Partnerships and Leasing	Texas A&M Transportation Institute	May 2017	Research in Progress	K. Brockman	T. Helms
S01-18	Evaluating the Value, Benefits, and Limitations of Qualifications Based Selection (QBS)			In Development		
S01-19	Data Acquisition and Protocols for Risk Management			In Development		
S01-20	Compilation of Data on the State of FBOs			In Development		
<b>02: 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 North America	March 2007	Completed - Published as Synthesis 10		
S02-03	Compilation of Noise Programs in Areas Outside DNL 65	Harris Miller Miller, & Hanson, Inc.	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, Inc.	April 2010	Completed - Published as Synthesis 24		
S02-06	Airport Climate Adaptation and Resilience	AEA Group	April 2011	Completed - Published as Synthesis 33		
S02-07	Integrating Environmental Sustainability into Airport Contracts	Leigh Fisher	March 2012	Completed - Published as Synthesis 42		

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S02-08	Environmental Assessment of Air and High-Speed Rail Corridors	Arizona State University	March 2012	Completed - Published as Synthesis 43		
S02-09	Environmental Management System Development Process	First Environment, Inc.	March 2012	Completed - Published as Synthesis 44		
S02-10	Outcomes of Green Initiatives: Large Airport Experience	First Environment, Inc.	March 2013	Completed - Published as Synthesis 53		
S02-11	Lessons Learned from Airport Sustainability Plans	A Ripple Effect, PLC	May 2014	Completed - Published as Synthesis 66		
S02-12	Airport Sustainability Practices - Drivers and Outcomes of Green Initiatives for Small and General Aviation Airports	Dprather Airport Solutions, LLC	May 2015	Completed - Published as Synthesis 69		
S02-13	Helicopter Noise Information for Airport Noise Managers	Landrum & Brown	May 2015	Completed - Published as Synthesis 76		
S02-14	Airport Sustainability Practices	Haley & Aldrich, Inc.	March 2015	Completed - Published as Synthesis 77		
S02-15	Airport Experience with Alternative Fuels for Ground Transport	The Cadmus Group, LLC	June 2016	Research in Progress	P. Magnotta	G. Staba
S02-16	Airport Experience with Implementing Notifications Required by the Aircraft Drinking Water Rule	The Cadmus Group, LLC	April 2016	Research in Progress	M. Lamprecht	G. Staba
S02-17	Sustainability's Role in Airport Growth	The Cadmus Group, LLC	June 2017	Research in Progress	T. Cuddy	G. Staba
S02-18	Airport Waste Management and Recycling Practices	Mead & Hunt	June 2017	Research in Progress	J. Barrilleaux J. Weller	G. Staba
S02-19	Clean Vehicles, Fuels, and Practices for Airport Private Ground Transportation Providers	University of South Florida	June 2017	Research in Progress	P. Magnotta	G. Staba
S02-20	Lessons Learned from Airport Greenhouse Gas Reduction Efforts			In Development		

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
<b>03: 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	Economic Development Research Group	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		
S03-07	Integrating Airport GIS Data with Public Agency GIS	Grafton Technologies	March 2013	Completed - Published as Synthesis 59		
S03-08	Backcountry Airstrip Preservation	T-O Engineering, Inc.	March 2013	Completed - Published as Synthesis 55		
S03-09	Cell Phone Lots at Airports	KRAMER aerotek, Inc.	May 2014	Completed - Published as Synthesis 62		
S03-10	Practices in Preserving and Developing Public-Use Seaplane Bases	Stephen Quilty	May 2014	Completed - Published as Synthesis 61		
S03-11	Transportation Network Companies: Challenges and Opportunities for Airport Operators	IntervISTAS, Inc.	June 2016	Completed - Published as Synthesis 84		
S03-12	Response Considerations for Communicable Diseases on Arriving Flights	Smith-Woolwine Associates, Inc.	June 2016	Completed - Published as Synthesis 83		
S03-13	Estimating Truck Trip Generation for Airport Air Cargo Activity	Resource Systems Group, Inc.	May 2016	Completed - Published as Synthesis 80		

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S03-14	Simulation of Airside and Landside Operations in Airport Planning	Resource Systems Group, Inc.	May 2017	Research in Progress	W. Reinhardt	T. Helms
S03-15	How Airports Plan for Changing Aircraft Capacity- the Effects of Upgauging	DY Consultants	June 2017	Research in Progress	K. Duffy	T. Helms
<b>04: 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		
S04-05	Bird Repellant Techniques on Airports	Mississippi State University	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, LLC	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	Model Mutual Aid Agreements for Airports	Smith-Woolwine Associates, Inc.	March 2012	Completed - Published as Synthesis 45		
S04-10	Safety Reporting Systems at Airports	Landry Consultants, LLC	February 2013	Completed - Published as Synthesis 58		
S04-11	Effective Cooperation Among Airports and Local and Regional Emergency Management Agencies for Disaster Preparedness and Response	Smith-Woolwine Associates, Inc.	February 2013	Completed - Published as Synthesis 50		
S04-12	Airport Emergency Post-Event Recovery Practices	Smith-Woolwine Associates, Inc.	June 2014	Completed - Published as Synthesis 60		

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S04-13	Combining Mixed Use Flight Operations Safely at Airports	SMQ Airport Services	May 2015	Completed - Published as Synthesis 74		
S04-14	Airport Safety Risk Management Panel Activities and Outcomes	Airport Safety Management Consultants, LLC	April 2015	Completed - Published as Synthesis 71		
S04-15	Flight Operations Advisories at Non-Towered Airports	Dprather Aviation Solutions, LLC	May 2015	Completed - Published as Synthesis 75		
S04-16	Emergency Communications Planning for Airports	Smith-Woolwine Associates, Inc.	May 2015	Completed - Published as Synthesis 73		
S04-17	Tabletop and Full-Scale Emergency Exercises for General Aviation, Non-Hub, and Small Airports	Smith-Woolwine Associates, Inc.	May 2015	Completed - Published as Synthesis 72		
S04-18	Uses of Social Media to Inform Operational Response and Recovery During an Airport Emergency	Smith-Woolwine Associates, Inc.	June 2016	Completed - Published as Synthesis 82		
S04-19	Incorporating ADA and Functional Needs in Emergency Exercises	Smith-Woolwine Associates, Inc.	May 2017	Research in Progress	L. Miller	G. Staba
S04-20	Airport Incident Reporting Practices	AMQ Airport Services		Research in Progress	D. Williams	T. Helms
S04-21	Models for Law Enforcement at Airports			In Development		
S04-22	Airport Surface Weather Observation Options for General Aviation Airports			In Development		
S04-23	Airport Emergency Working Groups			In Development		
<b>05: Security</b>						
S05-01	Intelligent Transportation System (ITS) Sensor Technology for General Aviation			Canceled		
<b>06: Human Resources</b>						
S06-01	Aviation Workforce Development Practices	International Aviation Management Group	March 2009	Completed - Published as Synthesis 18		



**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S06-02	Airport Self-Inspection Practices and Training Procedures	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	Completed - Published as Synthesis 49		
S06-05	Promoting Aviation Career Education in High Schools and Community Colleges			In Development		
<b>07: Design</b>						
S07-01	Impacts of Aging Travelers on Airports	Corgan Associates, Inc.	February 2013	Completed - Published as Synthesis 51		
S07-02	Strategies for Airport Passenger Access and Mobility			In Development		
<b>08: Construction</b>						
S08-01	Airport Terminal Facility Activation Techniques	Arup	March 2009	Completed - Published as Synthesis 20		
<b>09: 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	Rensselaer Polytechnic Institute	May 2011	Completed - Published as Synthesis 35		
S09-05	Repairing and Maintaining Airport Parking Structures While in Use	Walker Parking Consultants	February 2012	Completed - Published as Synthesis 47		

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S09-06	Airside Snow Removal Practices for Small Airports with Limited Budgets	Stephan Quilty	June 2014	Completed - Published as Synthesis 67		
S09-07	Building Information Modeling for Airports	Arbor Services	May 2015	Completed - Published as Synthesis 70		
S09-08	Approaches to Mitigate Alkali Silica Reaction (ASR) Effects at Airports	Applied Pavement Technologies		In Development		T. Helms
<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, Inc.	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, Inc.	May 2010	Completed - Published as Synthesis 28		
S10-07	Expediting Aircraft Recovery at Airports	Prather Airport Solutions	May 2011	Completed - Published as Synthesis 38		
S10-08	Conducting Aeronautical Special Events at Airports	Prather Airport Solutions	February 2012	Completed - Published as Synthesis 41		
S10-09	Airport Wildlife Population Management	Savannah River Ecological Laboratory	February 2012	Completed - Published as Synthesis 39		
S10-10	Habitat Management to Deter Wildlife at Airports	Mississippi State University	March 2013	Completed - Published as Synthesis 52		

**APPENDIX B (continued)**

No.	Title	Topic Consultant	Start Date	Status	FAA Liaisons	Staff Officer
S10-11	Electric Vehicle Charging Stations at Airport Parking Facilities	Leigh Fisher	March 2013	Completed - Published as Synthesis 54		
S10-12	Airport Response to Special Events	KRAMER aerotek, Inc.	February 2013	Completed - Published as Synthesis 57		
S10-13	Overview of Airport Fueling System Operations	Stephan Quilty	May 2014	Completed - Published as Synthesis 63		
S10-14	Issues Related to Accommodating Animals Traveling through Airports	Smith-Woolwine Associates, Inc.	May 2014	Completed - Published as Synthesis 64		
S10-15	Evaluating Airport Performance with the Integration of UAS			In Development		

## **NOTICE TO READERS**

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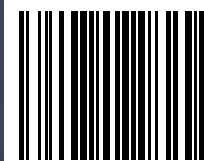
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